

**All India Coordinated Research Project
(Sugarcane)**

PRINCIPAL INVESTIGATOR'S REPORT

Varietal Improvement Programme

2017-18



**ICAR-SUGARCANE BREEDING INSTITUTE
(INDIAN COUNCIL OF AGRICULTURAL RESEARCH)
COIMBATORE-641007**



**ALL INDIA COORDINATED RESEARCH PROJECT ON
SUGARCANE**

VARIETAL IMPROVEMENT PROGRAMME

**PRINCIPAL INVESTIGATOR'S REPORT
2017-18**

COMPILED BY
Dr. BAKSHI RAM

DIRECTOR
ICAR - SUGARCANE BREEDING INSTITUTE

PRINCIPAL INVESTIGATOR
VARIETAL IMPROVEMENT PROGRAMME

WITH THE ASSISTANCE OF

**Dr. P. GOVINDARAJ
Dr. G. HEMAPRABHA**

Peninsular Zone	Dr. K. MOHANRAJ, Dr. SHEELA MARY Dr. V. VINU
East Coast Zone	Miss ADHINI S PAZHANY and Dr. C. APPUNU
North West Zone	Dr. R. KARUPPAIYAN Dr. C. MAHADEVAIAH
North Central and North East Zones	Dr. V. SREENIVASA Dr. K. ELAYARAJA
Fluff Supply Programme and weather report	Dr. A. ANNA DURAI
Simultaneous selection of high yielding and stable genotypes Identification of climate resilient clones	Dr. RAJESH KUMAR, ICAR-IISR Dr. H.K. MAHADEVA SWAMY Mr. T. LAKSHMI PATHY



**ICAR - SUGARCANE BREEDING INSTITUTE
COIMBATORE**



Acknowledgement

I wish to express my sincere appreciation and thanks to all the scientists of AICRP(S) centres who have conducted crop improvement trials effectively as per the technical programme and sent the data in time for compilation.

Compilation, analysis and interpretation of huge volume of data received from 39 AICRP(S) participating centres and preparation of annual report of AICRP(S) is a challenging task. I thank my colleagues Drs. P. Govindaraj, A. Anna Durai, R. Karuppaiyan, K. Mohanraj, C. Appunu, Adhini S Pazhani, V. Sreenivasa, C. Mahadevaiah, Sheela Mary, K. Elayaraja, H.K. Mahadeva Swamy, T. Laxmi Pathy and V. Vinu for effective compilation and verification of the data of Zonal Varietal Trials, fluff supply programme and weather data of all centres. I thank Dr. G. Hemaprabha, Head, Division of Crop Improvement for her help in coordinating the compilation and Dr. Rajesh Kumar, ICAR-IISR, Lucknow for statistical analysis of pooled data. Secretarial assistance rendered by Mrs. P. Bhuvana muzhuthudayal is also appreciated.

I am thankful to Dr A. D. Pathak, Director, ICAR-IISR, Lucknow for permitting Dr. Rajesh Kumar, PS (Statistics) to do the statistical analysis. The support received from Dr. S. K. Shukla, Project Co-ordinator AICRP(S) is gratefully acknowledged.

Coimbatore
25.09.18



(BAKSHI RAM)

Director,
ICAR - Sugarcane Breeding Institute,
Principal Investigator,
Crop Improvement (AICRP-S)

CONTENTS

	Executive summery	i
	ATR on the recommendations of the previous meeting	v
1	Weather condition and pest and diseases incidence	1
	Zonal Varietal Trials	
2	Peninsular Zone	11
2.1	Advanced Varietal Trial – Early – II plant	12
2.2	Advanced Varietal Trial – Early – Ratoon	26
2.3	Pooled Data	38
2.4	Advanced Varietal Trial – Midlate – II plant	52
2.5	Advanced Varietal Trial – Midlate – Ratoon	74
2.6	Pooled Data	91
2.7	Advanced Varietal Trial - I plant	105
2.8	Initial Varietal Trial	132
3	East Coast Zone	174
3.1	Advanced Varietal Trial – Early – II plant	175
3.2	Advanced Varietal Trial – Early – Ratoon	186
3.3	Pooled Data	195
3.4	Advanced Varietal Trial – Early – I plant	205
3.5	Initial Varietal Trial – Early	216
3.6	Advanced Varietal Trial – Midlate – II plant	229
3.7	Advanced Varietal Trial – Midlate – Ratoon	240
3.8	Pooled Data	249
3.9	Advanced Varietal Trial – Midlate – I plant	259
3.10	Initial Varietal Trial – Midlate	273
4	North West Zone	286
4.1	Advanced Varietal Trial – Early – II plant	287
4.2	Advanced Varietal Trial – Early – Ratoon	298
4.3	Pooled Data	307
4.4	Advanced Varietal Trial – Early – I plant	316
4.5	Initial Varietal Trial – Early	327
4.6	Advanced Varietal Trial – Midlate – II plant	340
4.7	Advanced Varietal Trial – Midlate – Ratoon	360
4.8	Pooled Data	376
4.9	Advanced Varietal Trial – Midlate – I plant	386
4.10	Initial Varietal Trial – Midlate	406
5	North Central Zone	426
5.1	Advanced Varietal Trial – Midlate – II plant	427
5.2	Advanced Varietal Trial – Midlate – Ratoon	438
5.3	Pooled Data	447
5.4	Advanced Varietal Trial – Early -I plant	456
5.5	Initial Varietal Trial – Early	467
5.6	Advanced Varietal Trial – Midlate – II plant	481
5.7	Advanced Varietal Trial – Midlate – Ratoon	492

5.8	Pooled Data	501
5.9	Initial Varietal Trial – Midlate	511
6	Fluff Supply Programme	525
7	Evaluation and identification of climate resilient ISH and IGH genetic stocks	
7.1	Drought – II Plant crop	574
7.2	Drought – Ratoon crop	613
7.3	Pooled data - Drought	639
7.4	Waterlogging– II Plant crop	644
7.5	Waterlogging– Ratoon crop	673
7.6	Pooled data – Water logging	692
	Appendix	698

**All India Coordinated Research Project (Sugarcane) – Year 2017-18
Principal Investigator's (Crop Improvement) report**

EXECUTIVE SUMMARY

Sugar production in India has reached the record level of 32 mil tonnes for the sugar year 2017-18 mainly due to new improved zonal/location specific varieties developed and released through All India Co-ordinated Research Project on Sugarcane (AICRP-S). New sugarcane varieties are developed under AICRP(S) through two major activities *viz.*, fluff supply programme and zonal varietal trials (ZVT). Sugarcane breeders from twenty three sugarcane research stations which are participating in the fluff supply and varietal development programme are making desired crosses at National Hybridization Garden functioning at ICAR-Sugarcane Breeding Institute, Coimbatore and crossed seeds (fluff) are sent to them for raising seedlings and identifying location specific varieties. Superior clones developed by the breeding centres of each zones are pooled and these common entries are evaluated in ZVT conducted by 39 sugarcane research stations located in five different agro-climatic zones. This provides the opportunity to a centre to exchange and evaluate the elite clones developed by other participating centres of the zone. Under the ZVT, the clones are evaluated for one year in Initial Varietal Trial (IVT) and better performing clones are forwarded to Advanced Varietal Trials (AVT) for evaluation in two plant and one ratoon crops in two years. The qualifying entries are identified based on the performance for cane yield, juice quality and reaction to pest and diseases across the centres in each zone and are proposed for identification in AICRP(S) workshop. The clones identified are proposed to Central Subcommittee for crop Standards, Notification and Release of Varieties for Agricultural Crops for varietal release and notification. The major activities under the crop improvement programmes of AICRP(S) during 2017-18 are summarized below.

Weather, pests and diseases situation:

Normal rainfall was observed in many centres during the year 2017-18. The lowest rainfall was reported by Rudrur (525.93 mm) followed by Padegaon (552.9 mm) and the highest rainfall was received at Buralikson (1942.5 mm). Perumalapalle in peninsular zone recorded the maximum temperature of 43°C during May, 2017 and Muzzafarnagar in North West Zone recorded the lowest temperature (4.7°C) during January, 2018. No major disease was reported by the centres. Minor incidence of insect pests like stem borer, shoot borer, top borer, stalk borer, root borer, plassey borer and other pest like mealy bug, pyrilla etc. were reported by centres. Sporadic incidence of Yellow Leaf Disease (Mandya, Pune and Padegaon), rust (Mandya and Padegaon), Pokkah boeng (Padegaon) and red rot (Perumalapalle) were noticed. General condition of the trials was good during the period under report.

AICRP – Varietal Trials:

Zone	No. of centres	Participating centres	
		Fluff receiving and ZVT centres	ZVT – centres alone
Peninsular Zone	18	Rudrur, Perumalapalle, Navasari, Mandya, Sankeshwar, Padegaon, Pune, Powarkheda, Thiruvalla	Sameerwadi, Akola, Pravaranagar, Kolhapur, Basmathnagar, Pugalur, Coimbatore, Raipur, Sirugamani
East Coast Zone	5	Anakapalle, Vuyyuru, Cuddalore Nayagarh	Nellikuppam
North West Zone	10	Faridkot, Lucknow, Shahjahanpur, Pantnagar, Uchani, Kapurthala	Muzaffarnagar, Karnal, Kota, Sriganaganagar
North Central Zone	5	Motipur, Pusa, Seorahi, Bethuadahari	Gorakhpur
North Eastern Zone	1	Buralikson	
Total	39		

Trials conducted and the number of entries evaluated:

A total of 29 Zonal Varietal Trials (14 in early, 13 in midlate and 2 trials combining early and midlate maturity groups) were conducted during the year 2017-18. There were 7 IVT and 22 AVT trials. A total of 47 entries in early group, 58 entries in midlate group and 45 entries combining both the maturity groups were evaluated. Of these 13 in early and 17 in midlate were promising. Details of the trials conducted, number of entries evaluated and the promising clones identified are given below.

Zone / Trials	No. of clones + standards		Promising clones	
	Early	Midlate	Early	Midlate
Peninsular Zone				
AVT II Plant	5 + 3	6 + 2	CoM 11082, Co 11004	CoM 11085, CoM 11086, Co 11009
AVT Ratoon	5 + 3	6 + 2	CoM 11082	-
Pooled analysis	5 + 3	6 + 2	CoM 11082	-
AVT I Plant	-	8 + 3	-	VSI 12121, CoM 12085, Co 12009
IVT	-	37 + 3	-	-
Total entries	5	51	2	6
North West Zone				
AVT II Plant	5 + 2	4 + 2	CoC 13336, CoV 13356	CoA 12324, CoC 13339
AVT Ratoon	5 + 2	4 + 2	CoC 13336, CoV 13356	CoA 12324, CoC 13339
Pooled analysis	5 + 2	4 + 2	CoC 13336	CoC 13339
AVT I Plant	5 + 3	6 + 3	CoA 14321, CoC 14336	Co 13031, CoA 14323, PI 14377
IVT	4 + 2	5 + 3	CoV 15356	-
Total entries	14	15	5	5
North West Zone				
AVT II Plant	4 + 2	6 + 3	-	Co 12029, CoS 12232
AVT Ratoon	4 + 2	6 + 3	-	Co 12029, CoS 12232
Pooled Analysis	4 + 2	6 + 3	-	Co 12029, CoS 12232
AVT I Plant	3 + 2	5 + 4	Co 13034	CoH 13263, Co 13035, CoPant 13224
IVT	7 + 3	13 + 4	Co 14034	-
Total entries	14	24	2	5
North Central & North East Zone				
AVT II Plant	3 + 2	4 + 2	CoLk 12207, CoSe 12451	CoLk 12209
AVT Ratoon	3 + 2	4 + 2	-	-
Pooled Analysis	3 + 2	4 + 2	-	CoLk 12209
AVT I Plant	3 + 3	-	CoSe 13451, CoSe 13452	-
IVT	8 + 3	9 + 3	-	-
Total Entries	14	13	4	1
Grand total (Entries)	47	103	13	17

* common entries in II Plant, ratoon and pooled analysis.

Qualifying entries in different trials:

Zone	Trial	Entries
North West Zone	AVT – Midlate (2 Plant + 1 Ratoon)	CoS 12232
East Coast Zone	AVT – Midlate (2 Plant + 1 Ratoon)	CoC 13339

The entries which recorded 10 % improvement for cane yield and numerically superior/onpar for juice sucrose % compared to the best standards or an entry which recorded 5 % improvement for juice sucrose % and numerically superior/onpar for cane yield were selected as qualifying entries which may be considered for identification. In East Coast zone CoC 13339 (Midlate) and in North West zone CoS 12232 (Midlate) were identified as the qualifying entries based on the mean performance in two plant and one ratoon crops.

Fluff Supply Programme:

National Hybridisation Garden (NHG) was planted with 607 parental clones during 2017-18. Flowering was delayed by more than 15 days and out of 607 parents, only 263 flowered. Per cent of clones flowered during 2017 was 43.33 % against 52.46 % during 2016 and 58.26 % during 2015.

Twenty one centres participated in the crossing programme. The centers were facilitated to make 453 bi-parental crosses and 2 selfs at NHG at ICAR-SBI, Coimbatore. Besides bi-parental crosses, 8 poly crosses, 187 general collections of open pollinated fluff (GCs) were also made for these centers. Further, 12 centers were facilitated to effect 55 bi-parental crosses and 24 general collections at National Distant Hybridization Facility (NDHF) available at ICAR-SBIRC, Agali. Altogether 508 bi-parental test crosses, 2 selfs, 8 poly crosses and 211 GCs were effected. Fluff weighing 17.26 kg of crosses made at NHG and NDHF during 2017 flowering season was supplied to the 23 participating centers of fluff supply programme (Fluff was supplied to Bethuadari and Buralikson centres on request).

Crosses made by the participating centres and the fluff (g) despatched from NHG during 2017-18

Zone / Centre	NHG, ICAR-SBI, Coimbatore						NDHF, ICAR-SBI RC, Agali				Total quantity of fluff sent (g)
	Station crosses		Poly crosses		General collections		Station crosses		General collections		
	No.	Fluff weight (g)	No.	Fluff weight (g)	No.	Fluff weight (g)	No.	Fluff weight (g)	No.	Fluff weight (g)	
PENINSULAR ZONE	145	2743.5	3	140.0	62	1010.5	20	243.0	12	287.5	4424.5
EAST COAST ZONE	77	1279.0	3	51.5	56	823.5	3	47.5	6	72.0	2273.5
NORTH WEST ZONE	137	2642.5	5	202.0	169	3007.0	16	230.5	3	30.0	6112.0
NORTH CENTRAL ZONE	94	2201	5	101.0	80	1818.5	16	306.0	3	33.0	4459.5
Grand total	453	8866.0	8*	494.5	187*	6659.5	55	827.0	24	422.5	17269.5

*excluding duplicates

Action Taken Report on the action points / recommendations of the group meeting conducted at Coimbatore during 2017

	Recommendation	Centres	Action taken
1	Several names for a single variety have created a lot of confusion in the seed chain. Nomenclature allotted by AICRP(S) during the workshop for the entries must be strictly adhered to avoid using several names for the same entry. The same name must be used in the state varietal trials also. Entries with other than the AICRP(S) assigned name will not be accepted for inclusion in National Active Germplasm (NAG) and index number will be not issued	All centres	The centres assured to use nomenclature allotted by AICRP(S). Sankeshwar: However there are some varieties which are specifically recommended to some agro climatic zones of the state but are not entered in AICRP zonal trials also needs to be conserved in NAGS. Hence, it is requested to accept such rare clones for conservation in NAGS
2	The elite clones identified at the fluff supply programme participating should be proposed for inclusion in ZVT of AICRP(S) and the slot number may be assigned. The clone might enter the state trials simultaneously retaining the same name	All centres	Compliance of the action point was communicated by all centres
3	In peninsular zone, new proposals must be compared with both the standards CoC 671 and Co 86032 and presented for consideration	All centres of Peninsular Zone	Centres informed that new proposals will be presented along with CoC 671 and Co 86032 as standards in the next workshop
4	The centres should not give the elite clones to the farmers before notification of the varieties. Supplying the seed materials before notification lead to the availability of non-released varieties in the farmer's field, with different / local names, which may be subsequently registered with PPVFRA. Care must be taken by the centres to avoid such situation	All centres	Centres communicated that only the released varieties will be given to the farmers Kapurthala: It is a standard procedure of station but material given for conduct of Adaptive Research Trials through KVKs, FASC and Mills which is pre-requisite for state variety release in Punjab.
5	Statistical analysis must be done properly before presentation of new proposals. Any proposal with improper statistical analysis will not be considered for inclusion in ZVT	All centres	Noted by the centres for follow up in future
6	Huge discrepancy between the reports submitted by the monitoring team and the centres on the assessment of entries was observed. Care must be taken to record the data and presented in the report	All centres	Enough care will be taken by the centres in recording data and presenting in the report.

7	Shortage of seed materials of CoS 16233 which is under multiplication at Karnal centre was reported. The entry will be multiplied along with the 17 series and supplied to the participating centres during the year 2019-20	Karnal centre	Karnal centre reported that CoS 16233 will be multiplied along with the 17 series and supplied to the participating centres during the year 2019-20
8	In Peninsular Zone, Co 85004 will be included as additional check in IVT (2018-19) to plant them in alpha design. Hence the IVT will be planted with 26 entries and four standards during the year 2018-19	All Peninsular Zone centres	The centres planted the IVT with Co 85004 as additional check.
9	In East Coast Zone, CoOr 03151 will be included as standard in AVT – I Plant (Early) during the year 2018-19	All East Coast Zone centres	The centres in ECZ included CoOr 03151 as standard in AVT – I Plant (Early) during the year 2018-19
10	In East Coast Zone, Co 06030 will be included as standard in AVT – II Plant (Midlate) at Anakapalle and Vuyyuru centres during the year 2018-19	Anakapalle centre	Compliance was informed by the Anakapalle and Vuyyuru centres
11	Shortage of seed materials were reported by some centres in North West Zone. The seed materials should be exchanged among the centres	All centres of North West Zone	Kapurthala: Cane seed of clone CoS 15231 received from Shahjahanpur Lucknow: It was decided during the Breeders Meet held at Lucknow that CoLk 15202 would be kept under seed multiplication at respective centres for one year and will be evaluated in the next year IVT, However the seed of CoLk 15205 has been supplied to the needy centres
12	The standard CoS 8436 will be excluded from the IVT (Midlate) trial from the year 2018-19 onwards in NWZ	All the centres of North West Zone	CoS 8436 was excluded from the IVT (Midlate) trial as reported by the centres of NWZ
13	Low germination in the seed materials supplied as single buds by Shajahanpur to Karnal centre was reported. Hence, Shajahanpur should send the seed materials as canes in future	Shajahanpur	Shajahanpur centre indicated that the seed materials will be sent as canes.
14	Centres should send sufficient seed materials of the new accepted entries for initial multiplication at Karnal centre in NWZ. One quintal of seed materials for each entry may be sent to the centre. If sufficient seed materials are not sent, the entries will be removed from evaluation	All centres of North West Zone	Centres informed that minimum one quintal of seed materials of the new entries will be sent for initial multiplication

15	Project Co-coordinator may discuss with the Director, UPCSR, Shahjahanpur for continuation of the trials at Gorakhpur	PC, AICRPS and Gorakhpur	As per discussion with the Director, UPCSR, Shahjahanpur, the land of SRS, Gorakhpur (UPCSR) has been acquired by the Government of U.P. The centre has been shifted at Pipraich
16	Quantity of fluff supplied does not match with the number of seedlings produced by the centres. Any failure in germination of certain cross/GC/PC should be intimated to the PI, Crop Improvement immediately. Centres must take care in raising the seedlings and the report should be submitted to the Principal Investigator (Crop Improvement).	All fluff receiving centres	Compliance was reported by the centres. Pantnagar: Still third year in a row experiencing very low germination of fluff. Kapurthala: Reporting on failure of germination of crosses and number of seedlings produced is communicated to concerned quarter as per format provided
17	Monitoring of trials may be shifted to Nov/Dec to have a realistic assessment of the performance of the entries for yield and quality traits. Members of the monitoring team may be constituted with the scientist of the same zone for better understanding of entries	PC, AICRP - S	Accepted
18	Some centres reported high number of seedlings which can be handled for evaluation. Centres can revise the number of seedlings to be handled, based on the manpower and resources available with the centre and report to the PI (Crop Improvement)	All fluff receiving centres	Centres have informed the number of seedlings which can be handled by them. Kapurthala: Due to curtailment of technical field staff positions, the quantum of work reduction will be conveyed from crop season 2018-19 accordingly
19	Soft copy of the all new proposals must be sent to the PI (Crop Improvement) in advance. Details on the new entries accepted in the group meeting conducted at Coimbatore during Sep, 2017 may be sent immediately	All centres	Only three centres viz., Perumalappalle, Pune and Buralikson have sent the details on the new entries accepted in the group meeting conducted at Coimbatore during Sep, 2017
20	While proposing new entries, essential traits viz., Cane yield (t/ha), CCS (t/ha), sucrose % juice, Pol % cane and reaction to red rot (Plug and nodal methods) may be presented. All other important traits and observation can be provided in the hard copy circulated during presentation	All centres	The procedure will be followed while proposing new entries as communicated by the centres

21	Many of the test entries could not qualify for identification due to poor in juice quality. Hence efforts must be taken to improve the juice quality and stage of evaluation of clones in different breeding cycle can be advanced to October for exploiting the variability and selection of high sucrose clones	All centres	Noted and accepted by centres. Care will be taken to advance the screening to improve the juice quality. Lucknow and Sankeshwar: Already followed
22	In Peninsular Zone, based on the yield and quality parameters, seventeen entries viz., Co 13002, Co 13003, Co 13004, CoN 13072, CoSnk 13101, MS 13081, Co 13006, Co 13008, Co 13009, Co 13013, Co 13014, Co 13018, Co 13020, CoN 13073, CoSnk 13103, CoSnk 13106 and PI 13132 were selected. Hence AVT will be conducted with 17 entries and three standards during the year 2018-19	All centres of Peninsular Zone	AVT was conducted with 17 entries and three standards during the year 2018-19 in PZ
23	Genetic stocks specific to important economic traits identified by the breeding centres during the different stages of selection may be sent to the NHG for utilizing them in crossing programmes	All fluff receiving centres	Centres assured to send trait specific elite clones to NHG PAU-RRS, Faridkot has been depositing the elite genetic stocks since long back; like CoPb 09181, CoPb 10181, CoPb 13181, CoPb 13182, CoPb 14181, CoPb 14182, CoPb 14183, CoPb 14184, CoPb 14185, CoPb 16181, etc.
24	The centres which were reported to have low Parental Diversity values should increase the number of diverse parents in their hybridization programmes	All fluff receiving centres	Care will be taken by the centres to involve diverse clones in the hybridization programme
25	New set of ISH and IGH clones will be evaluated for climate resilient traits viz., drought and water logging. Sankeshwar, Pune, Lucknow and Karnal were identified for conducting drought experiments while Motipur, Pantnagar and Pusa were identified for evaluating the clones under water logging conditions	Motipur, Pantnagar, Pusa, Sankeshwar, Pune, Karnal	Twenty eight new set of ISH/IGH clones were sent to seven centres for initial multiplication Pantnagar: It required at least one more cycle of multiplication to get sufficient seed for trials. Pune: 8 entries did not germinate and poor germination in 10 entries
26	Evaluation of elite clones/varieties under water logging condition (Motipur, Pusa and Pantnagar) and drought (Sankeshwar, Anakapalle and Lucknow) will be carried out to identify commercial hybrid for release varieties for cultivation under	Sankeshwar, Anakapalle and Motipur, Pusa and Pantnagar	Eighteen waterlogging tolerant and 8 drought tolerant clones are being multiplied at ICAR-SBI, Coimbatore during 2018-19 and will be sent to

	these stress conditions		participating centres for initial multiplication during the year 2019-20
27	CoSnk 03632 (Karnataka), CoN 03131, CoN 04131, CoN 05071, CoN 05072, CoN 07072, CoN 09072 (Gujarat), CoA 05323, CoA 08323 (Andhra Pradesh) and CoPb 09181 (Punjab) were notified by Central Sub Committee on Crop Standards, Notification and Release of Varieties for Agricultural Crops for cultivation in the respective states. The breeders who developed these varieties should communicate with Department of Agriculture Co-operation and Farmers Welfare (Union Ministry of Agriculture and farmers Welfare) for including them in seed chain for popularization and spread of these varieties	Sankeshwar, Navsari, Anakapalle, Faridkot	The centres communicated to include them in seed chain
28	Co 09004 (Amritha) and Co 09022 (Karan 12) were notified for cultivation by Central Sub Committee on Crop Standards, Notification and Release of Varieties for Agricultural Crops for cultivation in Peninsular zone and North West zone respectively. ICAR- SBI, Coimbatore may take efforts to include them in seed chain for popularization and spread of these varieties in the respective zones	Coimbatore	Both the varieties entered into seed chain and the breeders seeds were supplied to the farmers and sugar mills.

1. WEATHER CONDITIONS AND PEST AND DISEASES INCIDENCE DURING 2017-18 AT DIFFERENT ZONES

1.1 Peninsular Zone

Data received from the centers of Peninsular zone on weather parameters and pest diseases incidence are presented in Tables 1.1.1 to 1.1.9. The highest maximum monthly mean temperature (43.0°C) and the lowest (24.5°C) were recorded during May and December 2017 respectively at Perumallapalle. The lowest monthly mean minimum temperature of 11.5°C was recorded at Padegaon during February 2017 and the highest mean minimum temperature of 30.93°C was at Rudrur during April 2017. The rainfall in the zone ranged from 525.95 mm at Rudrur to 2028.8 mm at Thiruvalla. Incidence of pests and diseases noticed in the trials at Mandya were early shoot borer, top shoot borer, yellow leaf disease (YLD), leaf hoppers, woolly aphid, root grub, leaf spot, pyrilla, rust and internode borer. Diseases like YLD, smut, red rot, Bacterial leaf streak, grassy shoot and wilt, insect pests like early shoot borer, internode borer, top shoot borer, mealy bugs, smut, termites, nematodes and deficiency symptoms of Iron, Zinc and Boron were observed at Perumallapalle. Diseases like grassy shoot, rust, pineapple, pokkah boeng, mosaic, YLD were observed in the trials at Pune centre. Insects pests like early shoot borere, top borer, root borer, mealy bugs and scale insects were observed in the trial at Navsari centre. Diseases like rust, grasssy shoot disease, smut, brown spot, pokkah boeng, ring spot, pine apple disease and YLD and insect pests like early shoot borer, internode borer, top shoot borer, mealy bugs, scale insect, sugarcane pyrilla, white fly, sugarcane wooly aphids and *natural enemies like Epiricanea melanoleuca, Ablerus chionaspidis, Encarsia sp.* (Aphelinidae) and *Amitus sp.* (Platygastridae), *E. flavoscutellum, Micromus igorotus, D. aphidivora*; Syrphid; Lady bird beetle; *Ankylopteryx sp* were observed at Padegaon centre

1.1.1 Coimbatore

Month/ Year	Temperature (°C)		Relative humidity (%)		Wind velocity (km per hour)	Open pan evaporation (mm/day)	Rainfall (mm)	No. of rainy days
	Max.	Min.	AM	PM				
April, 2017	37.73	24.43	84.90	56.87	1.59	5.26	8.80	1
May, 2017	36.67	25.20	86.53	59.83	1.88	4.96	24.20	4
June, 2017	33.50	24.73	84.33	66.23	4.37	5.43	30.20	5
July, 2017	32.53	23.47	83.37	59.53	4.84	5.31	12.80	2
August, 2017	31.92	23.15	88.30	65.23	3.11	4.19	48.40	4
September, 2017	30.78	22.72	88.10	68.10	1.92	3.29	255.20	8
October, 2017	32.45	22.53	89.47	64.50	0.99	4.26	141.60	4
November, 2017	31.17	22.28	88.10	64.47	1.17	3.62	57.10	5
December, 2017	30.43	20.87	88.57	55.90	1.39	3.14	4.60	0
January, 2018	28.15	20.9	86.7	49.2	1.25	3.9	2.2	0
February, 2018	30.35	19.65	82.85	40.05	1.85	5.1	0	0
March, 2018	33.05	22.3	82.2	39.65	1.75	5.95	27.4	3
Mean / Total	32.39	22.69	86.12	57.46	2.18	4.53	612.50	36

1.1.2 Mandya

Month / Year	Temperature (°C)		Relative humidity (%)		Rainfall (mm)	Rainy days	Sun shine hours
	Max.	Min.	AM	PM			
April, 2017	36.4	21.8	90	37	85.5	5	7.4
May, 2017	35.3	18.4	91	70	222.4	10	5.9
June, 2017	32.1	19.5	90	81	10.5	1	4.4
July, 2017	31.5	20.0	92	87	21.2	3	4.0
August, 2017	31.1	19.7	93	93	206.3	10	3.5
September, 2017	31.2	19.4	93	71	216.0	14	4.9
October, 2017	30.5	20.4	94	75	63.5	6	4.2
November, 2017	30.2	19.2	92	75	36.7	3	5.8
December, 2017	29.1	16.8	92	76	18.0	1	2.2
January, 2018	29.9	19.0	92	80	0	0	7.9
February, 2018	32.0	16.6	85	69	0	0	8.8
March, 2018	32.5	16.8	82	62	30.2	2	7.8
Mean/ Total	31.82	18.96	90.5	73.0	910.3	55	5.57

1.1.3 Navsari

Month / Year	Temperature (°c)		Relative humidity (%)		Rainfall (mm)	Rainy days
	Max.	Min.	AM	PM		
March, 2017	35.0	18.1	80.7	30.1	0.0	0
April, 2017	35.6	22.1	80.2	45.7	0.0	0
May, 2017	35.0	26.2	83.9	57.6	4.0	1
June, 2017	33.0	26.1	89.3	73.5	295	14
July, 2017	30.2	25.2	92.8	83.5	611.0	22
August, 2017	30.3	25.0	92.9	81.5	303.0	14
September, 2017	32.4	24.3	94.6	74.1	80.0	5
October, 2017	35.5	22.1	91.5	56.2	28.0	4
November, 2017	33.7	15.3	79.7	32.4	0.0	0
December, 2017	29.5	15.2	79.0	46.4	37.0	2
January, 2018	30.3	12.5	82.6	32.3	0.0	0
February, 2018	33.3	14.4	81.6	32.0	0.0	0
Mean/ Total	32.82	20.54	85.7	53.8	1454	67

1.1.4 Padegaon

Month / Year	Temperature (°C)		Relative humidity (%)		Sunshine hours	Rainfall (mm)	Rainy days
	Max.	Min.	AM	PM			
February, 2017	34.6	11.5	91	68	0.0	0.0	0
March, 2017	37.7	12.0	91	75	0.0	0.0	0
April, 2017	39.5	15.9	86	77	4.6	0.0	0
May, 2017	37.9	23.7	89	81	6.5	42.1	3
June, 2017	32.7	23.3	92	87	5.5	54.4	3
July, 2017	30.7	22.6	94	90	6.0	25.5	5

August, 2017	31.3	22.0	92	88	4.0	56.5	6
September, 2017	31.5	21.8	92	84	09	308.01	10
October, 2017	32.4	20.5	94	86	0.4	66.4	4
November, 2017	30.6	15.4	92	83	0.0	0.0	0
December, 2017	30.2	13.4	93	88	0.2	0.0	0
January, 2018	31.6	11.9	91.1	73.9	8.2	0.0	0
Mean / Total	33.39	17.83	91.43	81.74	3.7	552.9	31

1.1.5 Perumallapalle

Month / Year	Temperature (°C)		Relative Humidity (%)		Rainfall (mm)	Rainy days
	Max.	Min.	AM	PM		
January, 2017	29.4	20.2	90.5	55.5	0.0	0
February, 2017	32.2	23.2	86.5	55.0	0.0	0
March, 2017	36.2	28.2	76.5	50.0	46.6	3
April, 2017	42.2	28.9	52.5	40.5	6.0	1
May, 2017	43.0	30.9	45.0	35.0	25.2	2
June, 2017	33.6	29.3	62.9	43.2	88.8	7
July, 2017	36.8	30.2	65.0	48.5	96.6	5
August, 2017	29.8	20.6	84.0	57.5	197.5	10
September, 2017	29.4	27.9	87.5	60.0	220.0	9
October, 2017	30.8	21.3	90.2	66.2	245.6	10
November, 2017	29.7	20.3	92.5	60.0	107.4	6
December, 2017	24.5	17.7	95.5	60.5	12.6	1
Mean / Total	33.13	24.89	77.38	52.66	1046.3	54

1.1.6. Pune

Month / Year	Temperature (°C)		Relative humidity (%)		Rainfall (mm)	Rainy Days	Wind Speed	Open Pan Evaporation
	Max.	Min.	AM	PM				
April 2017	38.64	20.30	59.40	15.40	0.00	0	5.50	9.50
May 2017	38.27	23.75	66.00	29.75	11.30	2	8.12	9.82
June 2017	31.72	23.57	80.50	65.25	208.50	11	8.37	5.52
July 2017	28.36	22.42	85.80	74.00	193.10	16	9.30	3.98
August 2017	27.97	21.57	87.50	72.25	158.30	8	7.10	3.67
September 2017	30.42	21.82	90.25	67.75	151.60	10	3.92	4.17
October 2017	31.66	19.54	91.60	50.20	180.90	9	2.18	3.86
November 2017	30.30	14.00	93.00	43.50	13.90	1	2.85	3.75
December 2017	29.20	13.65	91.50	43.50	2.80	1	3.22	3.47
January 2018	30.10	12.08	94.80	33.60	0.00	0	1.96	3.72
February 2018	32.62	14.25	85.75	24.75	0.00	0	2.45	5.10
March 2018	35.52	17.32	76.25	19.00	5.10	1	3.37	6.55
Mean / Total	31.23	18.69	83.53	44.91	925.50	59	4.86	5.26

1.1.7 Rudrur

Month / Year	Temperature		Relative humidity (%)		Rainfall (mm)	Rainy days
	Max.	Min.	AM	PM		
January, 2017	31.86	17.48	83.48	61.25	Nil	Nil
February, 2017	33.94	19.95	84.82	64.57	Nil	Nil
March, 2017	36.96	20.68	78.61	61.10	0.35	Nil
April, 2017	40.87	30.93	70.37	42.73	Nil	Nil
May, 2017	41.79	24.16	85.52	74.74	Nil	Nil
June, 2017	31.57	23.30	91.97	63.77	134.6	12
July, 2017	34.01	26.70	83.32	68.13	63.6	6
August, 2017	32.72	27.72	89.65	73.71	196.4	7
September, 2017	32.13	27.77	90.37	68.50	92.2	8
October, 2017	32.40	26.10	90.74	60.03	38.8	3
November, 2017	31.45	20.51	92.07	71.13	Nil	Nil
December, 2017	29.74	17.10	94.03	76.00	Nil	Nil
Mean / Total	34.12	23.53	86.25	65.47	525.95	36.00

1.1.8 Sankeshwar

Month	Temperature (°C)		Relative humidity (%)		Rainfall (mm)	Rainy days
	Max.	Min.	AM	PM		
January, 2017					0	0
February, 2017					0	0
March, 2017					0	0
April, 2017					10.2	1
May, 2017					8	2
June, 2017					97.8	13
July, 2017					186.4	23
August, 2017					60.6	12
September, 2017					338.6	15
October, 2017					155.4	8
November, 2017					0	0
December, 2017					0	0
Mean / Total					857	74

1.1.9 Thiruvalla

Month / Year	Temperature (°C)		Rain fall (mm)	Rainy days
	Max.	Min.		
January, 2017	31.9	22.4	5.2	1
February, 2017	32.2	22.9	0.0	0
March, 2017	32.5	24.2	18.8	7
April, 2017	33.0	26.0	6.8	2
May, 2017	32.0	27.0	207.5	15
June, 2017	30.0	25.0	556.7	24
July, 2017	31.0	27.0	270.2	20
August, 2017	31.0	26.0	253.6	14
September, 2017	31.6	25.8	386.2	22
October, 2017	32.0	26.8	183.3	17
November, 2017	32.2	26.3	106.4	9
December, 2017	32.1	25.2	34.1	4
Mean / Total	31.8	25.4	2028.8	135

1.2 East Coast Zone

Data received from the centers of East Coast Zone on weather parameters are presented in Tables 1.2.1 to 1.2.4. The highest maximum monthly mean temperature (41.1°C) was recorded at Vuyyuru during May 2017. Similarly the lowest monthly maximum temperature 29.42°C during December 2017 was recorded at Nayagarh. The lowest monthly mean minimum temperature of 15.3°C was recorded at Vuyyuru during December 2017 and January 2018 and the highest mean minimum temperature of 28.32°C was recorded at Nayagarh during July 2017. The rainfall in the zone ranged from 756.6 mm at Vuyyuru to 1194.16 mm at Nayagarh.

1.2.1 Anakapalle

Month / Year	Temperature (°C)		Relative humidity (%)		Rainfall	Rainy days	Sunshine hours	Wind velocity (kmph)	Evaporation (mm)
	Max.	Min.	AM	PM					
January, 2017	31.1	16.4	90	41	0.0	0	6.6	0.3	3.6
February, 2017	32.9	18.3	93	46	0.0	0	7.2	0.15	4.2
March, 2017	34.6	22.0	90	51	26.6	2	7.7	2.5	5.0
April, 2017	36.2	25.7	84	54	08.2	2	7.3	5.3	6.0
May, 2017	37.2	26.0	82	54	35.6	4	7.2	4.0	5.9
June, 2017	33.6	26.1	86	68	150.3	7	3.1	3.1	3.6
July, 2017	33.6	26.1	84	63	106.9	7	2.8	3.7	3.7
August, 2017	33.2	25.3	89	70	226.6	16	4.5	2.7	3.9
September, 2017	33.4	25.2	92	70	161.4	11	5.0	2.7	3.5
Oct, 2017	32.4	23.6	90	64	78.9	7	5.0	2.6	3.3
Nov, 2017	31.6	20.3	85	49	1.6	0	6.7	3.5	3.8
Dec, 2017	30.5	16.1	86	39	0.0	0	6.7	3.0	3.4
Mean /Total	33.36	22.59	87.58	55.75	796.10	56.0	5.82	2.80	4.16

1.2.2. Nayagarh

Month / Year	Temperature (°C)		Average relative humidity (%)	Rainfall (mm)	No. of rainy days
	Max.	Min.			
April, 2017	39.86	25.6	57.9	20.6	2
May, 2017	35.70	27.83	52.6	31.1	4
June, 2017	32.90	27.53	69.2	125.4	12
July, 2017	35.84	28.32	73.7	226.8	19
August 2017	35.35	28.23	78.3	323.06	23
September 2017	34.06	27.56	77.2	205.2	14
October, 2017	32.16	25.23	64.2	200.2	12
November, 2017	30.23	21.5	54.1	61.8	4
December, 2017	29.42	19.65	55.9	0	0
January 2018	30.61	18.61	52.1	0	0
February 2018	34.68	21.54	53.8	0	0
March 2018	37.80	24.52	54.3	0	0
Mean / Total	34.05	24.68	61.94	1194.16	90

1.2.3. Nellikuppam

Month/ Year	Temperature (°C)		Relative humidity (%)	Rainfall (mm)	Number of rainy days
	Max.	Min.	AM		
April 2017	38.6	25.6	81.7	-	-
May 2017	40.7	26.2	83.1	28.8	1
June 2017	39.6	26.1	87.4	48.6	5
July 2017	36.0	26.0	83.0	73.0	9
August 2017	37.3	25.2	91.4	174.4	15
September 2017	36.3	24.9	92.2	146.1	8
October 2017	34.2	23.7	94.1	233.2	12
November 2017	30.5	23.8	93.2	242.7	11
December 2017	30.6	21.7	90.6	84.1	1
January 2018	31.8	19.4	89.2	-	-
February 2018	32.8	19.6	87.3	-	-
March 2018	35.5	21.3	89.9	9.4	1
Mean / Total	35.03	23.63	88.59	1040.30	63

1.2.4 Vuyyuru

Month / Year	Temperature (°C)		Relative humidity (%)		Rainfall (mm)	No. of rainy days	Sunshi ne hours
	Max.	Min.	AM	PM			
January, 2017	30.1	15.9	87	47	Nil	-	7.6
February, 2017	33.8	18.0	88	44	Nil	-	7.3
March, 2017	35.7	21.3	83	45	38.0	2	6.3
April, 2017	38.7	24.6	82	45	Nil	-	4.8

May, 2017	41.1	25.2	76	44	19.8	2	7.6
June, 2017	36.0	23.8	82	60	134.0	8	2.8
July, 2017	34.4	22.7	83	60	213.6	12	4.6
August, 2017	33.6	22.1	87	61	115.81	12	3.6
September, 2017	34.6	22.5	86	59	78.4	5	5.4
October, 2017	32.8	21.6	87	66	130.0	6	5.2
November, 2017	32.7	19.1	86	54	14.2	1	7.1
December, 2017	31.0	15.3	83	49	Nil	-	7.3
January, 2018	30.8	15.3	88	40	Nil	-	7.3
February, 2018	33.4	15.9	87	39	Nil	-	7.7
March, 2018	36.3	19.1	87	42	12.8	1	7.6
Mean / Total	34.3	20.2	84.8	50.3	756.6	49.0	6.1

1.3. North West Zone

Data received from the centers of North West Zone on weather parameters are presented in Tables 1.3.1 to 1.3.4. The highest maximum monthly mean temperature (39.5°C) was recorded at Lucknow centre during May 2017 while the lowest maximum temperature 16.7°C was recorded at Pantnagar during January 2018. The lowest mean minimum temperature (4.7°C) during January 2018 and highest mean minimum temperature (34.1°C) during June 2017 were recorded at Muzaffarnagar. The rainfall in the zone ranged from 687.5 mm at Shahjahanpur to 1415.6mm at Pantnagar.

1.3.1 Lucknow

Month / Year	Temperature (°C)		Relative Humidity (%)		Evaporation (mm/day)	Wind speed	Bright sunshine hours/day	Rainfall (mm)	No. of rainy days
	Max	Min	AM	PM					
January, 2017	21.9	7.7	94.6	52.5	1.4	1.7	5.6	16.5	2
February, 2017	26.6	10.3	91.3	36.9	2.8	2.9	8.5	0.4	0
March, 2017	31.8	14.9	75.8	25.3	4.9	4.5	9.3	5.4	0
April, 2017	38.4	22.2	60.6	24.2	7.4	4.1	9.6	0	2
May, 2017	39.5	24.9	67.1	31.6	7.4	3.5	9.6	18.4	4
June, 2017	38.7	26.8	74.4	43.5	6.6	3.1	8.3	85	15
July, 2017	32.6	25.9	91.3	78	2.8	2.2	3.9	336.4	12
August, 2017	33.3	26.3	91.9	75.4	2.6	2.6	4	232.2	3
September, 2017	34.3	25.4	90.5	63.9	2.1	2.1	6.8	54	0
October, 2017	34.3	19.9	95.6	45.4	2.8	1	7.6	0	0
November, 2017	28.3	11.7	93.6	41.5	1.9	1.2	5.7	0	0
December, 2017	24.3	8.7	94.4	45	1.3	1.6	4.4	0.4	39
Mean/ Total	32	18.7	85.1	46.9	3.17	2.5	6.9	748.7	39

1.3.2 Muzaffarnagar

Month	Temperature (°C)		Relative humidity (%)		Rainfall (mm)	No. of rainy days
	Max.	Min.	AM	PM		
April, 2017	36.2	20.2	49	26	-	-
May, 2017	37.2	25.2	56	33	26.4	3
June, 2017	35.7	34.1	70	48	85.0	5
July, 2017	33.0	24.9	87	68	99.2	9
August, 2017	32.9	24.3	89	71	270.8	11
September, 2017	32.5	22.3	90	65	294.4	7
October, 2017	32.4	16.6	85	47	-	-
November, 2017	25.4	10.1	89	59	-	-
December, 2017	22.4	6.7	93	57	11.6	1
January, 2018	19.9	4.7	94	51	4.0	1
February, 2018	24.6	8.4	83	36	3.8	1
March, 2018	30.1	13.4	76	35	18.0	2
Mean / Total	30.2	17.6	80.1	49.7	813.2	40

1.3.3 Pantnagar

Month / Year	Temperature(°C)		Relative humidity (%)		Sunshine hours	Rainfall (mm)	No. of rainy days
	Max.	Min.	AM	PM			
March, 2017	28.9	11.8	85	39	8.3	3.6	1
April, 2017	35.9	19.4	65	28	8.5	4.0	2
May, 2017	37.4	22.8	64	36	9.1	39.0	1
June, 2017	36.9	25.2	71	50	7.4	73.0	5
July, 2017	32.3	25.8	90	78	4.6	505.0	21
August, 2017	32.0	25.7	90	75	4.0	440.6	19
September, 2017	32.5	24.3	89	69	6.4	336.8	7
October, 2017	32.5	18.7	85	51	7.5	0	0
November, 2017	27.1	10.9	92	46	6.0	0	0
December, 2017	22.7	9.3	94	63	5.3	2.8	1
January, 2018	16.7	5.6	97	74	3.2	6.8	1
February, 2018	24.6	8.9	93	54	6.9	4.0	1
Mean / Total	29.96	17.36	84.58	55.25	6.43	1415.6	59

1.3.4 Shahjahanpur

Month/ Year	Temperature (°C)		Relative humidity (%)		Rainfall (mm)	No. of rainy days
	Max.	Min.	AM	PM		
April 2017	37.5	22.0	57	28	Nil	Nil
May 2017	38.1	24.1	64	38	46.6	5
June 2017	37.5	26.3	71	47	69.0	4
July 2017	33.0	26.3	89	80	170.0	18
August 2017	32.9	26.3	90	80	246.4	13

September 2017	34.2	25.2	88	68	132.5	7
October 2017	33.7	19.9	87	54	Nil	Nil
November 2017	27.3	12.1	87	57	Nil	Nil
December 2017	23.5	9.1	90	58	Nil	Nil
January 2018	18.8	6.5	94	65	Nil	Nil
February 2018	25.6	11.4	84	46	22.0	1
March 2018	32.6	16.3	67	31	01.0	1
Mean /Total	31.23	18.8	80.67	54.33	687.5	49

1.4 North Central and North Eastern Zone

In this zone, the highest maximum monthly mean temperature (35.1°C) and the lowest monthly mean maximum temperature (16.0°C) was recorded at Pusa centre during June 2017 and January 2018 respectively. Seorahi recorded the lowest mean minimum temperature (6.28°C) during January 2018 while Pusa recorded the highest monthly mean minimum temperature of 26.70° C during June 2017. The rainfall in the zone ranged from 1124 mm at Pusa to 1942.5 mm at Buralikson. Incidence of pests and diseases noticed in the trials at Pusa reported were root borer , shoot borer, top borer, stalk borer, plassey borer, pyrilla, black bug, smut, pokkah boeng, wilt, red rot, grassy shoot disease, yellow leaf disease and ratoon stunting diseases.

1.4.1 Buralikson

Month/year	Maximum temperature (°C)	Relative humidity (%)	Rainfall (mm)	Rainy days
January,2017	23.4-27.8	85.1	4	1
February,2017	20.0-30.6	83.0	61	6
March, 2017	21.0-31.8	75.9	116.6	10
April, 2017	23.0-34.8	69.6	152.46	16
May, 2017	24.0- 35.0	87.9	386.6	20
June 2017	28.0-37.4	89.9	233	17
July,17	26.6-38.8	89.3	344	19
August,2017	27.2-36.6	91.3	303.6	19
Sptember,2017	31.0-39.0	92.5	155.8	13
October,2017	23.0-38.8	87.8	160.4	14
November.2017	22.6-31.6	57.4	7	2
December,2017	23.8-29.0	85.9	0	0
Mean / Total	-	82.97	1942.5	137

1.4.2 Pusa

Months /Year	Temperature (°C)		Relative humidity (%)		Rainfall (mm)	No. of rainy days
	Max.	Min.	AM	PM		
April 2017	34.2	21.8	76	54	63.6	2
May 2017	34.2	23.9	83	65	119.2	8
June2017	35.1	26.7	86	66	64.2	12
July 2017	32.5	26.3	89	75	442.2	18
August 2017	32.6	26.4	91	77	387.3	17

September 2017	33.8	26.3	89	68	44.0	7
October 2017	32.6	23.0	89	66	3.5	1
November 2017	28.7	15.3	87	59	0	0
December 2017	24.1	10.9	94	69	0	0
January 2018	16.0	7.7	93	77	0	0
February 2018	25.6	11.9	90	65	0	0
March 2018	32.2	16.0	79	55	0	0
Total	30.13	19.68	87.17	66.33	1124.0	65

1.4.3 Seorahi

Month	Temperature (°C)		Humidity (%)		Total Rainfall (mm)	No. of rainy days
	Max.	Min.	AM	PM		
April ,2017	33.79	21.00	76.17	53.60	6.4	1
May,2017	33.73	22.09	78.65	56.84	754	8
June,2017	34.90	25.90	74.60	52.97	67.2	7
July,2017	32.35	24.84	90.68	67.59	399.4	19
August,2017	31.71	25.43	94.58	70.96	230.8	17
Sept,2017	32.91	25.52	91.40	58.37	184.8	8
Oct,2017	32.21	21.65	90.91	57.16	19.8	3
Nov,2017	28.56	13.34	93.46	59.30	Nil	Nil
Dec,2017	22.84	7.34	94.97	65.58	Nil	Nil
Jan,2018	16.49	6.28	95.80	69.83	4.6	1
Feb,2018	24.67	9.91	90.25	52.19	Nil	Nil
March,2018	30.87	14.15	81.84	50.22	27.0	1
Average	29.58	18.12	87.77	59.55	1694.0	65

2. Peninsular Zone

Peninsular zone comprises of the states of Andhra Pradesh, Chhattisgarh, Gujarat, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Tamil Nadu and Telangana.

State	Centres
Andhra Pradesh	Perumalapalle
Chhattisgarh	Kawardha
Gujarat	Navsari
Karnataka	Mandya, Sankeshwar, Sameerwadi
Kerala	Thiruvalla
Madhya Pradesh	Powarkheda
Maharashtra	Akola, Basmathnagar, Kolhapur, Padegaon, Pune, Pravaranagar
Tamil Nadu	Coimbatore, Pugalur
Telangana	Rudrur

List of trials conducted during 2017-18

Sl.No.	Location	AVT Early II Plant	AVT Early Ratoon	AVT I Plant	AVT Midlate II Plant	AVT Midlate Ratoon	IVT
1	Akola	C	C	C	C	C	C
2	Basmathnagar	NC	NC	NC	NC	NC	C
3	Coimbatore	C	C	C	C	C	C
4	Kawardha	NC	NC	NC	NC	NC	C
5	Kolhapur	C	C	C	C	C	C
6	Mandya	C	C#	C	C	NC	C
7	Navsari	C	C	C	C	C	C
8	Padegaon	C	C	C	C	C	C
9	Powarkheda	NC	NC	NC	C#	C#	C#
10	Pravaranagar	C	C	C	C	C	C
11	Pune	C	C	C	C	C	C
12	Pugalur	C#	C#	C#	NC	NC	C#
13	Perumalapalle	C	C	C	C	C	C
14	Rudrur	NC	NC	C	NC	NC	C
15	Sankeshwar	C	C	C	C	C	C
16	Sameerwadi	C	C	C	C	C	C
17	Thiruvalla	C	C	C	C	C	C

C –Conducted NC-Not conducted C#: Data not received

2.1. Advanced Varietal Trial II Plant– Early (2017-18)

Centers where trial was conducted (12)	Coimbatore, Akola, Kolhapur, Navsari, Mandya, Padegaon, Perumallapalle, Pravaranagar, Pune, Sameervadi, Sankeshwar, Thiruvalla
Entries (5)	Co 11001, Co 11004, CoM 11081, CoM 11082 and CoM 11084
Standards (3)	CoC 671, Co 94008 and Co 85004
Design	RBD
Replications	Three
Plot size	6 m x 8 rows x 1.2 m (Gross) 5 m x 6 rows x 1.2 m (Net)
Seed rate	12 buds per meter
Planting time	December- January
Crop duration	10 months

Results of the previous year: Five early clones along with three checks were evaluated at 13 centres during 2016-17. The test entry CoM 11082 (13.63 t/ha) recorded higher sugar yield than the best standard CoC 671 (12.74 t/ha). Three entries viz., CoM 11082 (105.49 t/ha), Co 11001 (103.86 t/ha) and Co 11004 (94.09 t/ha) had higher cane yield than the best standard CoC 671 (93.71 t/ha). None of the entries were superior to the best standard CoC 671 for CCS% (13.42%) and sucrose per cent (19.05%).

Results of the current year: Five early clones were evaluated along with three standards at 12 centres during 2017-18. Basmathnagar, Kawardha, Powerkheda, Pugalur, Rudrur and Sirugamani centres didn't conduct the trial. Three test entries viz., CoM 11082 (13.37 t/ha), Co 11004 (12.64 t/ha) and Co 11001 (11.80 t/ha) recorded higher CCS yield than the best standard CoC 671 (11.69 t/ha). CoM 11082 ranked as first in the zone for sugar yield with 14.36% improvement over the best standard in the zone and had more than 10% improvement over the best standard at five locations. Co 11004 and Co 11001 recorded more than 10% improvement for sugar yield over the best standard at five and three locations respectively. Three entries viz., CoM 11082 (104.26 t/ha), Co 11001 (100.32 t/ha) and Co 11004 (96.71 t/ha) recorded higher cane yield than the best standard CoC 671 (92.36 t/ha). The entry CoM 11082 ranked first in the zone and recorded more than 10% improvement for cane yield over the best standard at four locations with 12.89% superiority over the best standard in the zone. Co 11001 and Co 11004 ranked as second and third respectively in the zone with more than 10% yield improvement in cane yield over the best standard at five and four locations respectively. Three test entries viz., Co 11004 (13.01%), CoM 11081 (12.85%) and CoM 11082 (12.81%) recorded higher CCS% than the best standard CoC 671 (12.68%) and were at first three positions in the zone for CCS%. Three test entries viz., Co 11004 (18.60%), CoM 11082 (18.34%) and CoM 11081 (18.29%) recorded higher sucrose per cent than the best standard CoC 671 (18.08%) and ranked as top three entries respectively in the zone for juice sucrose per cent. Co 11004, CoM 11081 and CoM 11082 recorded more than 5% improvement for CCS% and sucrose per cent over the best standard at Padegaon and Sankeshwar centres. CoM 11082 was identified as the qualifying entry as it recorded 12.89% improvement for cane yield and numerically superior for sucrose per cent compared to the best standard CoC 671. The data are presented in the tables **2.1.1 to 2.1.20**.

Varietal Improvement Programme- AICRP (Sugarcane)
Principal Investigator's Report (2017-18)
Peninsular zone AVT II -Early
2.1.1. CCS t/ha at harvest

S No	Entries	Coimbatore	Akola	Kolhapur	Mandya	Navsari	Padegaon#	Perumalepalle	Pravaranaagar	Pune	Sameerwadi	Sanke shwar	Thiruvalla	Mean	Rank
1	Co 11001	14.90	6.56	11.90	12.91	12.78*	9.71	9.05	21.94*	15.80	7.83	6.48	11.71	11.80	3
2	Co 11004	12.39	8.91	17.82	15.62*	12.91*	11.17*	11.67	20.42*	15.74	6.92	7.16	10.92	12.64	2
3	CoM 11081	8.95	6.15	16.05	9.05	11.18	11.60*	7.86	19.13*	11.76	5.84	7.20	12.16	10.58	
4	CoM 11082	15.91	6.95	18.91*	15.70*	12.33	12.88*	11.33	18.95*	17.29*	9.07	9.80*	11.31	13.37	1
5	CoM 11084	10.73	6.71	16.50	14.71*	10.08	7.74	9.17	19.26*	12.98	8.29	4.85	10.13	10.93	5
Standards															
1	CoC 671	16.70	7.56	14.68	11.77	11.51	8.31	11.51	17.49	14.51	9.10	5.94	11.21	11.69	4
2	Co 94008	11.89	9.38	13.52	12.01	9.71	7.34	11.58	14.97	13.06	9.06	5.02	9.53	10.59	
3	Co 85004	15.03	6.10	14.65	11.58	10.45	6.88	9.50	14.87	11.19	6.94	7.19	10.44	10.40	
	Grand Mean	13.31	7.29	15.50	12.92	11.37	9.46	10.21	18.38	14.04	7.88	6.71	10.93		
	SE	0.68	1.21	0.92	0.57	0.40	0.80		0.34	0.84	1.19	0.72	0.40		
	CD	2.08	3.67	2.78	1.72	1.22	1.72	NS	1.04	1.80	NS	2.18	1.12		
	CV	8.83	9.33	10.26	7.61	6.11	10.38		3.21	7.33	26.10	18.55	6.26		
Qualifying entries at each centre															
				CoM 11082	CoM 11082	Co 11004	CoM 11082		Co 11001	CoM 11082		CoM 11082		CoM 11082	
				Co 11004	Co 11004	Co 11001	CoM 11081		Co 11004						
				CoM 11084	CoM 11084		Co 11004		CoM 11084						

*Significant at 5% level # Only top three qualifying entries are mentioned

Qualifying entries: CoM 11082 (5), Co 11004 (5), Co 11001 (3), CoM 11084 (3), CoM 11081 (1)

Performance across locations: Three test entries viz., CoM 11082 (13.37 t/ha), Co 11004 (12.64 t/ha) and Co 11001 (11.80 t/ha) recorded higher sugar yield than the best standard CoC 671 (11.69 t/ha). CoM 11082 ranked as first in the zone with more than 10% improvement over the best standard at five locations and recorded 14.36% improvement over the best standard in the zone. Co 11004 and Co 11001 were at second and third positions respectively in the zone with more than 10% improvement over the best standard at five and three locations respectively. The other qualifying entries were CoM 11084 at three locations and CoM 11081 at Padegaon.

2.1.2. Cane yield t/ha at harvest

S. No.	Entries	Coimbatore	Akola	Kolhapur	Mandya#	Navsari	Padegaon#	Perumalepalle	Pravara nagar	Pune	Sameerwadi	Sanke shwar	Thiruvalla	Mean	Rank
1	Co 11001	126.19	49.26	100.86	103.60*	113.89	118.11*	72.93	142.31*	124.68*	65.43	88.07	98.54	100.32	2
2	Co 11004	89.79	69.53	124.05	110.97*	120.37*	105.21*	90.26	132.84*	112.76	53.01	66.76	85.00	96.71	3
3	CoM 11081	71.14	44.84	112.07	68.82	101.85	108.25*	58.15	125.56	84.05	46.37	73.73	93.96	82.40	
4	CoM 11082	126.96	54.90	131.89	115.25*	117.59*	118.41*	89.27	122.12	126.18*	72.84	90.77	85.00	104.26	1
5	CoM 11084	87.03	51.56	126.07	113.60*	107.40	90.78	73.49	128.95*	100.86	64.96	63.03	82.29	90.84	5
Standards															
1	CoC 671	125.65	53.59	110.60	88.50	104.26	86.48	80.21	124.12	102.09	73.77	76.84	82.19	92.36	4
2	Co 94008	103.84	66.12	124.60	86.17	103.70	81.04	94.42	112.29	96.18	72.53	62.78	79.48	90.26	
3	Co 85004	129.18	47.56	105.49	92.58	104.26	79.26	72.02	98.35	79.58	52.78	90.67	76.63	85.70	
	Grand Mean	107.47	54.67	116.95	97.44	109.17	98.44	78.85	123.32	103.30	62.71	76.58	85.39		
	SE	4.23	8.40	6.41	3.11	4.18	7.32	6.46	1.54	5.48	9.02	6.32	4.16		
	CD	12.95	25.48	19.43	9.44	12.68	15.71	19.78	4.69	11.76	NS	19.17	11.83		
	CV	6.82	8.33	9.49	5.54	6.63	9.11	14.19	2.17	6.50	24.91	14.29	8.44		
Qualifying entries at each centre															
					CoM 11082	Co 11004	CoM 11082		Co 11001	CoM 11082			Co 11001	CoM 11082	
					CoM 11084	CoM 11082	Co 11001			Co 11001			CoM 11081		
					Co 11004		CoM 11081			Co 11004					

*Significant at 5% level, # only top three qualifying entries are mentioned

Qualifying entries: Co 11001 (5), CoM 11082 (4), Co 11004 (4), CoM 11081 (2), CoM 11084 (1)

Performance across locations: Three entries viz., CoM 11082 (104.26 t/ha), Co 11001 (100.32 t/ha) and Co 11004 (96.71 t/ha) recorded higher cane yield than the best check CoC 671 (92.36 t/ha). The first ranked entry in the zone was CoM 11082 and yielded more than 10% over the best standard at four locations with 12.89% improvement over the best standard in the zone. Co 11001 and Co 11004 were at second and third positions respectively in the zone and had more than 10% improvement over the check at five and four centres respectively. The other qualifying entries were CoM 11081 at Padegaon and Thiruvalla and CoM 11084 at Mandya.

2.1.3. CCS % at harvest

S. No.	Entries	Coimbatore	Akola	Kolhapur	Mandya	Navsari	Padegaon	Perumalepalle	Pravara nagar	Pune	Sameerwadi	Sanke shwar	Thiruvalla	Mean	Rank
1	Co 11001	11.80	13.32	11.82	12.46	11.20	8.22	12.43	15.38	12.67	11.92	7.77	11.93	11.74	
2	Co 11004	13.80	12.85	14.33	14.03	10.70	10.60	12.96	15.37	13.96	13.14	11.56*	12.87	13.01	1
3	CoM 11081	12.58	13.77	14.30	13.15	10.95	10.73	13.53	15.24	14.00	12.58	10.37	12.97	12.85	2
4	CoM 11082	12.52	12.69	14.33	13.62	10.51	10.90*	12.72	15.52	13.70	12.54	11.38*	13.31	12.81	3
5	CoM 11084	12.32	12.89	13.11	12.99	9.40	8.52	12.49	14.94	12.87	12.85	8.39	12.38	11.93	
Standards															
1	CoC 671	13.28	14.02	13.28	13.28	11.06	9.61	14.30	15.01	14.22	12.21	8.28	13.65	12.68	4
2	Co 94008	11.45	14.13	10.85	13.93	9.38	9.08	12.21	13.73	13.57	12.30	8.84	11.99	11.79	
3	Co 85004	11.60	12.81	13.89	12.52	10.03	8.70	13.17	15.43	14.06	13.18	8.61	13.63	12.30	5
	Grand Mean	12.42	13.31	13.24	13.25	10.40	9.55	12.98	15.08	13.63	12.59	9.40	12.84		
	SE	0.24	0.44	0.23	0.37	0.26	0.37	0.38	0.16	0.28	0.50	0.74	0.40		
	CD	0.74	NS	0.68	NS	0.78	1.13	1.15	0.50	0.61	NS	2.26	1.15		
	CV	3.39	1.63	2.94	4.88	4.26	6.84	5.02	1.92	2.56	6.83	13.71	5.45		
Qualifying entries at each centre															
							CoM 11082					Co 11004			
							CoM 11081					CoM 11082			
							Co 11004					CoM 11081			

*Significant at 5% level

Qualifying entries: Co 11004 (2), CoM 11082 (2), CoM 11081 (2)

Performance across locations: Three test entries viz., Co 11004 (13.01%), CoM 11081 (12.85%) and CoM 11082 (12.81%) recorded higher CCS% than the best standard CoC 671 (12.68%) and ranked as top three entries respectively in the zone. These three entries recorded more than 5% improvement over the best standard at Padegaon and Sankeshwar centres.

2.1.4. Sucrose % at harvest

S. No.	Entries	Coimbatore	Akola	Kolhapur	Mandya	Navsari	Padegaon	Perumalepalle	Pravaranaagar	Pune	Sameerwadi	Sanakeshwar	Thiruvalla	Mean	Rank
1	Co 11001	17.05	18.96	16.91	17.94	16.17	12.48	17.71	21.53	17.87	17.18	12.20	17.04	16.92	
2	Co 11004	19.72	18.73	20.08	19.71	16.03	15.34*	18.38	21.58	19.57	19.02	16.67*	18.32	18.60	1
3	CoM 11081	18.00	19.75	19.77	18.71	15.99	15.41*	19.01	21.39	19.60	18.08	15.27	18.48	18.29	3
4	CoM 11082	17.96	18.76	19.84	19.12	15.77	15.72*	18.21	21.75	19.26	18.26	16.45*	18.98	18.34	2
5	CoM 11084	17.65	18.79	18.37	18.55	14.27	12.96	17.91	20.93	18.20	18.49	12.85	17.65	17.21	
Standards															
1	CoC 671	18.96	19.83	18.70	18.74	16.32	13.21	20.11	21.08	19.88	17.83	12.84	19.43	18.08	4
2	Co 94008	16.49	19.67	15.82	19.57	14.11	13.47	17.29	19.46	18.13	17.66	13.43	17.07	16.85	
3	Co 85004	16.76	18.55	19.36	17.95	15.18	12.90	18.74	21.64	19.66	19.09	13.17	19.43	17.70	5
	Grand Mean	17.82	19.12	18.61	18.79	15.48	13.94	18.42	21.17	19.02	18.20	14.11	18.30		
	SE	0.34	0.40	0.28	0.43	0.26	0.42	0.42	0.18	0.17	0.65	0.85	0.58		
	CD	1.04	NS	0.86	NS	0.79	1.27	1.29	0.56	0.37	NS	2.58	1.63		
	CV	3.30	1.02	2.63	3.96	2.93	5.21	3.95	1.51	1.13	6.16	10.44	5.44		
Qualifying entries at each centre															
							CoM 11082					Co 11004			
							CoM 11081					CoM 11082			
							Co 11004					CoM 11081			

*Significant at 5% level

Qualifying entries: Co 11004 (2), CoM 11082 (2), CoM 11081 (2)

Performance across locations: Three test entries viz., Co 11004 (18.60%), CoM 11082 (18.34%) and CoM 11081 (18.29%) recorded higher sucrose per cent than the best standard CoC 671 (18.08%) and ranked as top three entries in the zone. These three entries recorded more than 5% improvement over the best standard at Padegaon and Sankeshwar centres.

2.1.5. Brix % at harvest

S. No.	Entries	Coimbatore	Akola	Mandya	Kolhapur	Navsari	Padegaon	Perumallapalle	Pravara nagar	Pune	Sameerwadi	Sanke shwar	Thiruvalla	Mean
1	Co 11001	19.24	20.74	18.68	20.00	18.25	15.52	19.42	22.67	19.72	19.32	16.09	18.77	19.04
2	Co 11004	21.77	21.55	21.18	20.83	19.48	17.36	19.96	22.87	21.31	21.54	18.75	20.07	20.56
3	CoM 11081	19.93	21.97	20.55	20.33	18.46	17.19	20.19	22.64	21.33	20.21	17.92	20.27	20.08
4	CoM 11082	19.99	22.20	21.02	20.17	19.23	17.69	20.19	23.08	21.10	20.97	18.59	20.83	20.42
5	CoM 11084	19.58	21.28	19.38	20.33	17.78	16.19	19.89	22.08	20.04	20.71	16.25	19.37	19.41
Standards														
1	CoC 671	20.90	21.40	19.98	20.67	19.28	16.02	21.42	22.34	21.54	20.57	16.59	21.27	20.17
2	Co 94008	18.51	20.44	18.22	19.83	17.28	16.02	18.69	21.11	19.84	19.69	16.75	18.70	18.76
3	Co 85004	18.92	21.04	20.15	20.00	18.81	15.36	20.49	22.91	21.31	21.67	16.59	21.33	19.88
	Grand mean	19.86	21.33	19.90	20.27	18.57	16.42	20.03	22.46	20.77	20.59	17.19	20.08	
	SE	0.38	0.65	0.24	0.50	0.21	0.27	0.36	0.14	0.16	0.62	0.47	0.63	
	CD	1.17	NS	0.73	NS	0.63	0.82	1.09	0.45	0.35	NS	1.42	1.78	
	CV													

2.1.6. Purity % at harvest

S. No.	Entries	Coimbatore	Akola	Mandya	Kolhapur	Navsari	Padegaon	Perumallapalle	Pravara nagar	Pune	Sameerwadi	Sanke shwar	Thiruvalla	Mean
1	Co 11001	88.61	91.48	90.49	89.43	88.56	80.47	91.18	94.95	90.60	88.87	75.74	89.87	88.35
2	Co 11004	90.56	86.99	94.79	94.09	82.28	88.35	92.09	94.31	91.82	88.27	88.84	90.50	90.24
3	CoM 11081	90.34	89.94	96.18	91.55	86.58	89.65	94.23	94.44	91.92	89.48	84.79	90.37	90.79
4	CoM 11082	89.87	84.51	94.42	94.33	81.98	88.83	90.18	94.38	91.26	87.08	88.43	90.33	89.63
5	CoM 11084	90.16	87.86	94.79	90.89	80.31	79.98	90.04	94.82	90.80	89.40	78.74	90.27	88.17
Standards														
1	CoC 671	90.66	93.17	93.60	93.18	84.64	82.42	93.91	94.32	92.26	86.63	77.42	90.63	89.40
2	Co 94008	89.11	96.23	86.87	94.22	81.68	84.02	92.41	92.18	91.38	89.61	80.07	90.43	89.02
3	Co 85004	88.55	88.12	96.01	89.94	80.71	83.94	91.52	94.45	92.26	88.08	79.11	90.33	88.59
	Grand mean	89.73	89.79	93.39	92.20	83.34	84.71	91.95	94.23	91.54	88.43	81.64	90.34	
	SE	0.55	3.21	0.82	2.01	1.46	1.80		0.61	0.28	1.15	3.02	0.18	
	CD	NS	NS	2.49	NS	4.44	5.45	NS	1.85	0.60	NS	9.15	NS	
	CV	1.07	1.72	1.53	3.77	3.04	3.67		1.12	0.37	2.25	6.40	89.87	

2.1.7. Pol % Cane at harvest

S. No.	Entries	Coimbatore	Akola	Mandya	Kolhapur	Navsari	Padegaon	Perumallapalle	Pravara nagar	Pune	Sameerwadi	Sanke shwar	Thiruvalla	Mean
1	Co 11001	13.46		12.89	12.23	12.34	9.62			13.67	12.71	10.98		12.24
2	Co 11004	15.20		15.03	12.17	12.21	11.62			14.70	14.07	15.00		13.75
3	CoM 11081	14.58		15.10	11.91	12.15	11.85			15.01	13.38	13.74		13.46
4	CoM 11082	14.20		14.91	12.45	12.02	11.78			14.50	13.51	14.80		13.52
5	CoM 11084	13.77		13.82	13.31	10.81	10.00			13.62	13.68	11.57		12.57
Standards														
1	CoC 671	14.88		14.02	12.88	12.47	10.06			15.01	13.19	11.56		13.01
2	Co 94008	12.58		11.81	12.45	10.74	10.12			13.48	13.07	12.09		12.04
3	Co 85004	13.00		14.43	13.12	11.57	9.93			14.69	14.13	11.85		12.84
	Grand mean	13.96		14.00	12.57	11.79	10.62			14.34	13.47	12.70		
	SE			0.22	0.49	0.19	0.46			0.13	0.58	0.77		
	CD			0.67	NS	0.59	0.98			0.29	NS	2.32		
	CV													

2.1.8. Extraction % at harvest

S. No.	Entries	Coimbatore	Akola	Mandya	Kolhapur	Navsari	Padegaon	Perumallapalle	Pravara nagar	Pune	Sameerwadi	Sanke shwar	Thiruvalla	Mean
1	Co 11001	52.88		45.00	52.00	58.02	46.19	54.70	55.89	52.04		60.47	59.33	53.65
2	Co 11004	53.31		46.11	53.00	59.95	48.96	53.63	51.82	47.82		56.87	58.06	52.95
3	CoM 11081	50.71		44.22	54.67	56.18	48.41	53.00	53.04	48.23		62.27	60.20	53.09
4	CoM 11082	46.94		48.04	52.00	58.58	49.70	53.57	53.10	48.94		56.79	58.72	52.64
5	CoM 11084	52.74		50.24	56.33	57.32	37.92	52.07	49.49	46.66		57.25	57.52	51.75
Standards														
1	CoC 671	47.09		46.11	53.33	59.07	52.77	49.65	52.29	49.40		57.02	58.17	52.49
2	Co 94008	52.44		54.69	55.83	57.59	50.75	49.13	52.95	50.23		59.35	58.01	54.10
3	Co 85004	46.63		35.35	52.00	54.82	51.50	51.59	52.51	38.65		60.92	57.86	50.18
	Grand mean	50.34		46.22	53.65	57.69	48.27	52.17	52.64	47.75		58.87	58.48	
	SE	1.58		1.83	1.72	1.45	2.55		1.14	1.00		1.24	1.74	
	CD	4.83		5.56	NS	NS	3.47	NS	3.48	2.16		3.76	NS	
	CV	5.42		6.87	5.55	4.35	6.47		3.78	2.58		3.65	5.14	

Varietal Improvement Programme- AICRP (Sugarcane)
Principal Investigator's Report (2017-18)
Peninsular zone AVT II -Early
2.1.9. Fibre % at harvest

S. No.	Entries	Coimbatore	Akola	Mandya	Kolhapur	Navsari	Padegaon	Perumallapalle	Pravara nagar	Pune	Sameer wadi	Sanke shwar	Thiruvalla	Mean
1	Co 11001	11.08		13.74	14.34	13.68	12.97			13.47		12.59		13.12
2	Co 11004	12.89		15.17	14.07	13.83	14.22			14.86		15.81		14.41
3	CoM 11081	8.98		13.65	13.57	14.01	13.17			13.41		10.44		12.46
4	CoM 11082	10.93		14.82	14.05	13.73	15.06			14.71		13.57		13.84
5	CoM 11084	11.95		14.74	14.67	14.24	12.86			15.14		15.37		14.14
Standards														
1	CoC 671	11.53		15.04	14.56	13.58	13.86			14.46		13.98		13.86
2	Co 94008	13.72		15.35	13.07	13.87	14.86			15.65		15.27		14.54
3	Co 85004	12.39		15.48	13.90	13.75	13.04			15.30		12.34		13.74
	Grand mean	11.68		14.75	14.03	13.84	13.76			14.63		13.67		
	SE			0.30	0.30	0.09	0.64			0.15		0.54		
	CD			0.92	0.90	0.26	1.39			0.32		1.64		
	CV			3.57	3.65	1.08	5.77			1.26		6.83		

2.1.10. Number of millable canes (000'/ha) at harvest

S. No.	Entries	Coimbatore	Akola	Mandya	Kolhapur	Navsari	Padegaon	Perumallapalle	Pravara nagar	Pune	Sameer wadi	Sanke shwar	Thiruvalla	Mean
1	Co 11001	110.47	58.72	82.46	95.78	110.00	85.01	69.68	116.71	93.72	74.07	66.56	104.62	88.98
2	Co 11004	92.59	70.99	89.58	94.44	113.14	78.93	66.82	114.38	90.49	72.06	54.60	93.56	85.96
3	CoM 11081	98.21	53.78	98.43	82.58	98.98	78.29	56.07	119.58	81.29	61.18	70.45	101.20	83.34
4	CoM 11082	88.48	46.53	84.54	97.86	109.72	85.01	66.39	113.89	77.42	52.46	61.43	87.79	80.96
5	CoM 11084	108.91	54.17	87.84	91.88	96.76	70.48	71.50	126.14	84.31	76.46	60.95	88.38	84.82
Standards														
1	CoC 671	98.44	67.44	80.32	93.11	96.20	66.60	74.97	118.49	73.28	83.49	86.31	85.57	85.35
2	Co 94008	97.22	54.24	83.10	82.58	97.87	66.55	86.93	114.29	75.36	64.12	51.59	84.41	79.85
3	Co 85004	133.16	41.28	102.31	83.80	98.42	79.97	80.17	113.16	102.05	71.14	63.35	81.78	87.55
	Grand mean	103.44	55.89	88.57	90.25	102.64	76.36	71.57	117.08	84.74	69.37	64.40	90.91	
	SE	3.59	4.52	4.08	3.54	3.96	3.68	4.52	1.01	3.43	10.07	4.56	4.39	
	CD	10.99	13.73	12.38	10.72	12.02	7.89	13.85	3.07	7.36	NA	13.83	12.47	
	CV	6.01	5.17	7.98	6.79	6.69	5.90	10.94	1.49	4.96	25.14	12.27	8.35	

2.1.11. Stalk length (cm) at harvest

S. No.	Entries	Coimbatore	Akola	Mandya	Kolhapur	Navsari	Padegaon	Perumallapalle	Pravaranaagar	Pune	Sameerwadi	Sanke shwar	Thiruvalla	Mean
1	Co 11001	211.67	165.67	192.67	147.00	251.00	226.67	200.00	199.33	234.20	111.00	174.33	231.00	195.38
2	Co 11004	198.33	189.93	213.67	167.00	271.00	215.00	220.00	194.66	217.44	137.00	172.00	215.00	200.92
3	CoM 11081	190.00	152.87	180.67	143.00	241.67	226.67	190.00	202.66	172.60	114.00	170.33	168.00	179.37
4	CoM 11082	265.00	192.47	215.00	197.00	281.67	261.67	230.00	188.33	249.98	140.00	218.20	241.00	223.36
5	CoM 11084	223.33	161.80	211.33	188.00	261.00	183.33	210.00	178.33	242.44	129.00	173.33	230.00	199.32
Standards														
1	CoC 671	235.00	170.67	192.33	140.00	248.33	220.00	210.00	225.66	219.15	116.00	159.00	209.00	195.43
2	Co 94008	200.00	181.47	213.00	191.00	257.67	205.00	220.00	208.00	211.96	122.00	179.33	233.00	201.87
3	Co 85004	201.67	165.80	182.00	142.00	278.00	210.00	200.00	178.33	212.89	124.00	193.67	211.00	191.61
	Grand mean	215.63	172.59	200.08	164.38	261.29	218.54	210.00	196.91	220.08	124.13	180.03	217.25	
	SE	10.48	15.23	6.63	10.40	8.44	4.02	5.88	3.93	7.79	6.08	8.14	8.19	
	CD	32.09	46.21	20.12	31.00	25.59	8.62	18.02	11.93	16.72	18.47	24.70	23.00	
	CV	8.42	4.33	5.74	10.91	5.59	2.25	4.89	3.35	4.34	8.49	7.84	6.53	

2.1.12. Stalk diameter (cm) at harvest

S. No.	Entries	Coimbatore	Akola	Mandya	Kolhapur	Navsari	Padegaon	Perumallapalle	Pravaranaagar	Pune	Sameerwadi	Sanke shwar	Thiruvalla	Mean
1	Co 11001	2.61	3.08	2.79	3.45	2.68	3.73	3.03	2.66	3.18	2.80	2.95	3.04	3.00
2	Co 11004	2.82	2.59	2.97	3.22	2.77	3.83	2.96	2.53	3.15	2.80	2.86	2.85	2.95
3	CoM 11081	2.67	2.86	2.72	2.87	2.63	4.17	2.94	2.51	3.07	2.80	2.60	2.89	2.89
4	CoM 11082	2.77	2.90	2.97	3.25	2.68	3.83	2.94	2.64	3.29	2.90	2.85	2.73	2.98
5	CoM 11084	2.57	2.78	2.73	3.05	2.70	3.83	2.70	2.54	3.31	2.80	2.64	2.77	2.87
Standards														
1	CoC 671	3.05	2.65	3.04	3.17	2.73	4.27	2.48	2.55	3.25	2.60	2.48	2.67	2.91
2	Co 94008	2.98	3.30	3.19	3.15	2.64	4.13	2.81	2.56	3.10	3.00	2.82	3.02	3.06
3	Co 85004	2.42	3.10	2.50	2.94	2.53	3.10	2.65	2.46	2.73	2.80	2.97	2.85	2.75
	Grand mean	2.74	2.91	2.86	3.14	2.67	3.86	2.81	2.56	3.14	2.81	2.77	2.85	
	SE	0.10	0.13	0.06	0.17	0.02	0.08	0.08	0.03	0.05	0.08	0.08	0.07	
	CD	0.32	0.40	0.19	NS	0.07	0.17	0.24	0.10	0.12	NS	0.23	0.21	
	CV	6.59	2.01	3.89	9.55	1.55	2.55	4.76	2.28	2.32	5.05	4.72	4.45	

2.1.13. Single cane weight (kg) at harvest

S. No.	Entries	Coimbatore	Akola	Mandya	Kolhapur	Navsari	Padegaon	Perumallapalle	Pravara nagar	Pune	Sameerwadi	Sanke shwar	Thiruvalla	Mean
1	Co 11001	1.13	0.84	1.22	1.01	1.14	1.39	1.16	1.90	1.39	0.42	1.26	1.38	1.19
2	Co 11004	1.09	0.96	1.39	1.09	1.23	1.33	1.36	1.33	1.29	0.50	1.14	1.18	1.16
3	CoM 11081	0.93	0.81	1.14	0.92	1.14	1.38	1.07	1.61	1.06	0.39	0.97	1.01	1.04
4	CoM 11082	1.54	1.17	1.56	1.09	1.25	1.39	1.39	2.18	1.69	0.59	1.39	1.36	1.38
5	CoM 11084	1.07	0.93	1.44	1.13	1.11	1.29	1.06	1.26	1.26	0.50	0.97	1.16	1.10
Standards														
1	CoC 671	1.50	0.78	1.38	1.02	1.21	1.30	1.10	1.65	1.58	0.33	0.83	1.07	1.14
2	Co 94008	1.13	1.19	1.50	1.10	1.09	1.22	1.15	1.44	1.52	0.51	1.12	1.46	1.20
3	Co 85004	0.92	1.11	1.03	0.96	1.04	0.99	0.93	1.22	1.09	0.47	1.34	1.24	1.03
	Grand mean	1.16	0.97	1.33	1.04	1.15	1.29	1.15	1.57	1.36	0.46	1.13	1.23	
	SE	0.08	0.12	0.05	0.05	0.04	0.06	0.05	0.02	0.05	0.04	0.09	0.06	
	CD	0.24	NS	0.17	NS	0.11	0.14	0.17	0.06	0.11	0.12	0.27	0.16	
	CV	11.86	5.25	7.15	7.93	5.46	6.33	8.13	2.42	4.94	15.17	13.77	8.08	

2.1.14. Brix % at 8th month

S. No.	Entries	Coimbatore	Akola	Mandya	Kolhapur	Navsari	Padegaon	Perumallapalle	Pravara nagar	Pune	Sameerwadi	Sanke shwar	Thiruvalla	Mean
1	Co 11001	15.41	17.92	15.29	19.00	15.75	12.50	16.14	20.72		15.01	12.85	16.07	16.06
2	Co 11004	17.94	18.52	14.62	19.33	16.40	13.50	16.11	21.14		17.01	14.01	17.67	16.93
3	CoM 11081	18.17	19.22	15.79	19.17	15.45	13.67	17.21	21.04		15.57	13.68	17.63	16.96
4	CoM 11082	15.53	19.59	14.72	18.83	16.15	15.50	16.21	20.97		16.27	13.01	18.77	16.87
5	CoM 11084	16.59	17.69	15.22	18.50	14.68	15.00	15.11	21.00		14.81	13.51	17.80	16.36
Standards														
1	CoC 671	19.04	18.22	16.56	19.33	16.52	13.83	18.47	21.50		15.71	11.68	18.67	17.23
2	Co 94008	15.82	18.09	15.06	19.00	14.35	14.33	16.44	20.00		15.54	13.18	16.33	16.19
3	Co 85004	16.66	18.79	16.62	19.00	15.81	14.00	17.47	20.80		18.74	13.18	18.50	17.23
	Grand mean	16.90	18.51	15.49	19.02	15.64	14.04	16.64	20.90		16.08	13.14	17.68	
	SE	0.37	0.55	0.27	0.48	0.22	0.23	0.46	0.46		0.95	0.44	0.53	
	CD	1.14	1.67	0.81	NS	0.68	0.70	1.40	1.39		NS	1.33	1.51	
	CV	3.82	1.38	2.97	4.41	2.48	2.84	4.78	3.81		10.21	5.78	5.19	

2.1.15. Sucrose % at 8th month

S. No.	Entries	Coimbatore	Akola	Mandya	Kolhapur	Navsari	Padegaon	Perumallapalle	Pravara nagar	Pune	Sameer wadi	Sanke shwar	Thiruvalla	Mean
1	Co 11001	13.27		11.78	17.36	12.13	9.56	14.12	19.19		13.11	8.14	14.54	13.32
2	Co 11004	15.92		12.66	17.74	13.44	11.03	14.04	19.60		15.06	10.39	16.00	14.59
3	CoM 11081	16.33		14.25	17.83	13.00	11.59	15.59	19.59		13.80	9.92	16.00	14.79
4	CoM 11082	13.17		12.61	17.13	12.91	13.19	14.83	19.17		14.37	9.54	17.07	14.40
5	CoM 11084	14.61		13.18	17.15	11.57	12.59	12.94	19.73		12.90	9.58	16.15	14.04
Standards														
1	CoC 671	17.15		14.76	17.66	12.70	11.50	16.83	19.77		13.96	7.46	17.03	14.88
2	Co 94008	13.72		13.09	17.28	11.03	11.66	15.16	18.11		13.47	7.61	14.77	13.59
3	Co 85004	14.78		14.46	17.53	12.70	10.56	15.41	19.45		16.87	8.65	16.87	14.73
	Grand mean	14.87		13.35	17.46	12.44	11.46	14.86	19.33		14.19	8.91	16.05	
	SE	0.39		0.20	0.58	0.25	0.38	0.57	0.52		0.96	0.52	0.50	
	CD	1.21		0.62	NS	0.75	1.16	1.75	1.59		NS	1.59	1.42	
	CV													

2.1.16. Purity at 8th month

S. No.	Entries	Coimbatore	Akola	Mandya	Kolhapur	Navsari	Padegaon	Perumallapalle	Pravara nagar	Pune	Sameer wadi	Sanke shwar	Thiruvalla	Mean
1	Co 11001	86.12	93.04	77.12	92.09	77.08	76.46	87.43	94.05		87.19	63.49	89.50	83.96
2	Co 11004	88.73	94.57	86.56	92.52	81.96	81.67	87.13	92.85		88.49	74.21	89.67	87.12
3	CoM 11081	89.87	87.51	90.27	93.79	84.16	84.76	90.53	93.76		88.55	72.44	89.83	87.77
4	CoM 11082	84.79	90.38	85.69	91.76	79.92	85.12	91.69	91.86		88.18	73.05	90.13	86.60
5	CoM 11084	88.07	94.82	86.62	93.38	78.95	83.94	85.61	95.65		87.00	70.71	89.73	86.77
Standards														
1	CoC 671	90.03	90.88	89.16	92.10	76.90	83.08	91.12	91.96		88.70	63.92	90.37	86.20
2	Co 94008	86.63	90.83	86.92	91.69	76.94	81.37	92.17	90.49		86.65	57.81	89.47	84.63
3	Co 85004	88.69	95.68	86.97	93.01	80.32	75.34	88.23	94.49		90.04	65.69	90.30	86.25
	Grand mean	87.87	92.21	86.16	92.54	79.53	81.47	89.24	93.14		88.10	67.67	89.88	
	SE	0.69	2.88	0.93	0.99	1.49	2.03		0.69		0.85	2.91	0.30	
	CD	2.13	NS	2.82	NS	4.53	6.18	NS	2.10		NS	8.83	NS	
	CV	1.37	1.42	1.87	1.85	3.25	4.33		1.28		1.67	7.45	0.58	

Varietal Improvement Programme- AICRP (Sugarcane)
Principal Investigator's Report (2017-18)
Peninsular zone AVT II -Early

2.1.17. CCS% at 8th month

S. No.	Entries	Coimbatore	Akola	Mandya	Kolhapur	Navsari	Padegaon	Perumallapalle	Pravara nagar	Pune	Sameerwadi	Sanke shwar	Thiruvalla	Mean
1	Co 11001	9.06	11.79	7.58	12.24	7.81	6.12	9.72	13.56		9.34	4.57	10.17	9.27
2	Co 11004	11.03	12.48	8.67	12.53	8.95	7.33	9.65	13.87		10.35	6.52	11.19	10.23
3	CoM 11081	11.39	11.57	9.95	12.67	8.78	7.85	10.91	13.88		9.40	6.14	11.20	10.34
4	CoM 11082	8.93	12.34	8.59	12.06	8.48	8.96	10.43	13.41		11.05	5.95	11.97	10.20
5	CoM 11084	10.09	11.97	9.03	12.17	7.55	8.49	8.81	14.02		8.59	5.85	11.30	9.81
Standards														
1	CoC 671	11.96	11.60	10.25	12.45	8.16	7.71	11.81	13.93		8.82	4.21	11.95	10.26
2	Co 94008	9.40	11.48	8.59	12.16	7.09	7.74	10.69	12.68		9.18	3.93	10.33	9.39
3	Co 85004	10.24	12.89	9.92	12.41	8.37	6.71	10.65	13.81		12.31	4.99	11.84	10.38
	Grand mean	10.26	12.02	9.07	12.34	8.15	7.61	10.33	13.65		9.88	5.27	11.24	
	SE	0.30	0.41	0.09	0.46	0.23	0.35	0.49	0.42		0.53	0.46	0.36	
	CD	0.92	1.24	0.26	NS	0.70	1.06	1.49	1.29		1.63	1.39	1.02	
	CV	5.04	1.49	1.66	0.46	4.90	7.95	8.17	5.41		9.34	15.09	5.53	

2.1.18. Number of shoots (000'/ha) at 8 months

S. No.	Entries	Coimbatore	Akola	Mandya	Kolhapur	Navsari	Padegaon	Perumallapalle	Pravara nagar	Pune	Sameerwadi	Sanke shwar	Thiruvalla	Mean
1	Co 11001	101.97	59.41	114.23	106.90	132.57	77.61	86.60	123.99	96.44	58.49	76.26	107.10	95.13
2	Co 11004	78.01	72.22	94.38	107.21	127.68	71.73	73.80	120.00	93.37	71.30	65.05	97.34	89.34
3	CoM 11081	104.57	55.02	106.47	106.86	127.23	72.42	63.70	124.77	84.79	65.66	84.73	104.69	91.74
4	CoM 11082	88.31	47.53	99.18	114.38	135.01	78.59	68.70	119.07	78.49	53.32	65.19	90.28	86.51
5	CoM 11084	129.34	55.56	110.06	106.5	129.91	64.63	77.60	132.35	87.16	71.45	73.12	92.82	94.21
Standards														
1	CoC 671	113.66	68.98	95.65	100.21	118.19	61.34	85.30	129.52	76.6	77.45	106.60	87.79	93.44
2	Co 94008	90.97	55.09	98.14	101.54	124.59	59.95	90.00	120.51	79.17	57.64	67.51	90.26	86.29
3	Co 85004	132.41	41.67	103.06	111.85	117.87	71.15	92.60	119.11	103.05	52.78	68.74	85.67	91.67
	Grand mean	104.91	56.94	102.65	106.93	126.63	69.68	79.79	123.67	87.38	63.51	75.90	94.49	
	SE	3.69	4.49	3.69	2.669	3.74	4.13	5.0	1.3	3.83	10.99	6.75	4.303	
	CD	11.3	13.62	11.2	8.09	11.33	8.87	15.4	3.97	8.21	NS	20.48	12.232	
	CV	6.09	5.08	6.23	4.32	5.11	7.27	10.9	1.83	5.37	29.99	15.41	7.89	

Varietal Improvement Programme- AICRP (Sugarcane)
Principal Investigator's Report (2017-18)
Peninsular zone AVT II -Early

2.1.19. Number of tillers (000'/ha) at 120 days

S. No.	Entries	Coimbatore	Akola	Mandya	Kolhapur	Navsari	Padegaon	Perumallapalle	Pravara nagar	Pune	Sameerwadi	Sanke shwar	Thiruvalla	Mean
1	Co 11001	97.57	93.67	135.64	118.67	150.45	157.87	105.99	132.09	155.59	64.04	74.83	104.15	115.88
2	Co 11004	71.12	96.84	118.80	120.14	146.02	118.75	87.62	127.22	136.38	82.41	62.73	93.95	105.16
3	CoM 11081	101.68	97.61	132.40	116.69	146.08	138.66	92.30	132.10	162.21	78.55	102.30	101.78	116.86
4	CoM 11082	78.88	70.29	119.32	123.50	149.74	136.57	82.15	136.47	127.93	57.10	44.01	86.26	101.02
5	CoM 11084	121.07	111.65	146.52	117.68	150.03	118.29	99.06	141.39	163.76	69.83	94.64	89.66	118.63
Standards														
1	CoC 671	110.36	104.63	103.75	111.95	136.00	91.43	106.60	138.34	148.04	83.80	97.58	83.53	109.67
2	Co 94008	86.80	80.32	103.93	110.97	137.94	100.23	105.39	126.27	113.26	63.19	54.74	86.21	97.44
3	Co 85004	128.71	95.14	103.06	115.63	132.93	134.26	125.92	140.62	185.05	57.18	75.03	82.47	114.67
	Grand mean	99.52	93.77	120.43	116.90	143.65	124.51	100.63	134.31	149.03	69.51	75.73	91.00	
	SE	3.67	4.49	6.79	2.28	4.19	7.86	6.70	1.34	6.09	9.03	6.36	4.35	
	CD	11.24	13.62	20.61	6.92	12.71	16.85	20.60	4.08	13.07	NS	19.30	12.37	
	CV	6.39	5.08	9.77	3.38	5.05	7.73	11.60	1.73	5.01	22.50	14.55	8.28	

2.1.20. Germination % at 30 days

S. No.	Entries	Coimbatore	Akola	Mandya	Kolhapur	Navsari	Padegaon	Perumallapalle	Pravara nagar	Pune	Sameerwadi	Sanke shwar	Thiruvalla	Mean
1	Co 11001	42.87	67.14	43.63	53.11	43.78	42.01	43.20	42.32	49.74	59.84	41.73	54.55	48.66
2	Co 11004	50.73	70.08	27.66	56.79	42.40	38.19	42.90	46.74	47.12	57.93	43.43	46.33	47.52
3	CoM 11081	49.01	67.46	41.64	49.67	49.93	41.67	52.50	47.70	58.63	67.42	52.28	46.11	52.00
4	CoM 11082	49.53	45.87	33.22	51.00	43.98	42.36	39.60	48.66	46.35	38.60	20.94	53.50	42.80
5	CoM 11084	55.94	77.54	34.85	54.08	44.21	41.32	45.10	48.72	49.02	61.63	48.36	52.05	51.07
Standards														
1	CoC 671	60.21	71.75	28.19	48.15	46.79	40.28	41.40	50.04	49.95	63.31	49.51	70.39	51.66
2	Co 94008	54.69	56.83	31.58	51.33	51.67	37.85	57.30	53.25	45.47	50.35	38.96	50.89	48.35
3	Co 85004	58.59	66.67	26.96	53.7	46.57	44.44	69.80	45.45	60.53	55.44	35.42	53.94	51.46
	Grand mean	52.70	65.42	33.47	52.23	46.17	41.02	48.97	47.86	50.85	56.82	41.33	53.47	
	SE	3.5	3.39	2.33	1.951	1.67	6.63	3.3	1.59	2.44	3.3	2.72	2.566	
	CD	NS	10.29	7.08	5.92	5.05	14.22	10.2	4.83	5.23	10.02	8.24	7.295	
	CV	11.5	2.40	12.08	7.41	6.25	19.8	11.8	5.76	5.88	10.07	11.39	8.31	

Table 2.1.21: Assessment of performance of entries by monitoring team

S.No.	Genotype	Perumallapalle	Pugulur	Coimbatore	Thiruvalla	Mandya	Sankeshwar	Sameerwadi	Kolhapur
1	Co 11001	Poor	On Par	Better	On Par	Poor	Better	On Par	On Par
2	Co 11004	On Par	Poor	On Par	On Par	Poor	Poor	On Par	Better
3	CoM 11081	Poor	Poor	Poor	Better	Poor	On par	On Par	On Par
4	CoM 11082	Better	Better	Better	Better	On Par	Better	Better	Better
5	CoM 11084	On Par	On Par	On Par	On Par	Poor	On par	Better	On Par
6	Co 85004 (c)	–	–	Best	–	–	–	-	-
7	Co 94008 (c)	Best	Best	–	Best	–	Best	Best	Best
8	CoC 671 (c)	–	–	–	–	Best	–	-	-

S.No	Entry	Akola	Navsari	Powarkheda	Pune	Padegaon	Pravaranagar
1	Co 11001	Poor	On Par	Poor	Better	Poor	On Par
2	Co 11004	On Par	Poor	Poor	Better	Poor	Poor
3	CoM 11081	Poor	On Par	Poor	Poor	On Par	Poor
4	CoM 11082	On Par	Poor	On Par	Better	Poor (PG)	On Par
5	CoM 11084	Poor	Poor	Poor	Better	Poor	Poor
6	Co 85004	II	II	I	III	I	I
7	Co94008	I	I	III	II	III	II
8	CoC 671	III	III	II	I	II	III

2.2. Advanced Varietal Trial Ratoon– Early (2017-18)

Centers where trial was conducted (11)	Coimbatore, Akola, Kolhapur, Navsari, Padegaon, Perumallapalle, Pravaranagar, Pune, Sameervadi, Sankeshwar, Thiruvalla
Entries (5)	Co 11001, Co 11004, CoM 11081, CoM 11082 and CoM 11084
Standards (3)	CoC 671, Co 94008 and Co 85004
Design	RBD
Replications	Three
Plot size	6 m x 8 rows x 1.2 m (Gross) 5 m x 6 rows x 1.2 m (Net)
Seed rate	12 buds per meter
Planting time	January
Crop duration	9 months

Results of the previous year: Five early entries along with three checks were evaluated at 13 centres during 2016-17. The test entry CoM 11082 (13.63 t/ha) recorded higher sugar yield than the best standard CoC 671 (12.74 t/ha). Three entries *viz.*, CoM 11082 (105.49 t/ha), Co 11001 (103.86 t/ha) and Co 11004 (94.09 t/ha) had higher cane yield than the best standard CoC 671 (93.71 t/ha). None of the entries were superior to the best standard CoC 671 for CCS% (13.42%) and sucrose per cent (19.05%).

Results of the current year: Five early entries were evaluated along with three standards at 11 centres during 2017-18. Basmathnagar, Kawardha, Mandya, Powerkheda, Pugalur, Rudrur and Sirugamani centres didn't conduct the trial. The test entry CoM 11082 (11.64 t/ha) recorded higher sugar yield than the best standard Co 85004 (10.89 t/ha). It recorded more than 10% improvement in CCS yield over the best standard at four locations and ranked first in the zone. Co 11001 (9.90 t/ha) was the third best entry in the zone and recorded superior CCS yield over the best standard at Pune centre. Two entries *viz.*, CoM 11082 (87.47 t/ha) and Co 11001 (84.69 t/ha) had higher cane yield than the best standard Co 85004 (83.18 t/ha). The entry CoM 11082 ranked first in the zone and recorded more than 10% improvement in cane yield over the best standard at four locations. Co 11001 ranked second in the zone with more than 10% yield improvement over the best standard at five locations. The test entry CoM 11082 (12.88%) recorded higher CCS% than the best standard CoC 671 (12.77%) and ranked first in the zone. None of the entries recorded higher juice sucrose per cent than the best standard CoC 671 (18.92%) in this trial. CoM 11082 ranked second in the zone with 18.80% juice sucrose content. The best entry in the trial was CoM 11082 with highest CCS yield, cane yield and CCS% and second highest sucrose per cent in the zone but the sucrose per cent was inferior to the best standard CoC 671. Based on cane yield and juice quality parameters none of the entries was identified as qualifying entry. The data are presented in the tables 2.2.1 to 2.2.15.

Table 2.2.1 CCS t/ha at harvest

S. No.	Entries	Coimbatore	Akola	Kolhapur	Navsari	Padegaon	Perumallapalle	Pravaranagar	Pune	Sameerwadi	Sanke shwar	Thiruvalla	Mean	Rank
1	Co 11001	8.98	6.78	10.37	9.20	9.79	6.66	19.33	12.81	9.13	6.81	9.09	9.90	3
2	Co 11004	7.20	6.04	10.42	14.10	7.41	7.85	19.71	11.11	5.00	8.03	8.09	9.54	
3	CoM 11081	6.11	4.00	10.53	8.55	8.69	5.11	18.42	7.62	3.76	5.16	5.34	7.57	
4	CoM 11082	13.67	8.88	15.12	13.56	11.86*	9.75	21.06*	10.53	8.45	10.02	5.10	11.64	1
5	CoM 11084	6.18	6.53	13.45	12.28	9.27	8.21	18.26	11.11	5.85	6.92	9.40	9.77	4
Standards														
1	CoC 671	10.10	5.22	10.80	12.98	8.42	6.72	18.71	10.60	5.27	7.39	9.98	9.65	
2	Co 94008	8.16	6.91	14.62	11.01	8.92	10.69	15.19	8.16	5.70	8.20	9.22	9.71	5
3	Co 85004	13.58	5.40	12.37	12.49	9.58	11.69	15.03	9.57	8.77	12.37	8.89	10.89	2
	Grand mean	9.25	6.22	12.21	11.77	9.24	8.34	18.21	10.19	6.49	8.11	8.14		
	SE	1.06	1.16	0.90	0.42	0.59	0.80	0.53	0.96	0.11	0.52	0.53		
	CD	3.58	NS	2.72	1.28	1.81	2.44	1.61	2.90	NS	1.57	1.51		
	CV	16.13	10.5	12.73	6.20	11.22	16.50	5.06	16.26	0.97	11.04	11.32		
Qualifying entries at each centre														
	1		CoM 11082			CoM 11082		CoM 11082	Co 11001			CoM 11082		
	2													
	3													

*Significant at 5% level

Qualifying entries: CoM 11082 (4), Co 11001 (1)

Performance across locations: The test entry CoM 11082 (11.64 t/ha) recorded higher sugar yield than the best standard Co 85004 (10.89 t/ha) and ranked first in the zone. It recorded more than 10% improvement over the best standard at four locations and was significantly superior in sugar yield compared to the best standards at Padegaon and Pravaranagar centres. Co 11001 (9.90 t/ha) ranked as third in the zone and recorded more than 10% improvement over the best standard at Pune centre.

Varietal Improvement Programme- AICRP (Sugarcane)
Principal Investigator's Report (2017-18)
Peninsular zone AVT Ratoon- Early

Table 2.2.2 Cane yield t/ha at harvest

S. No.	Entries	Coimbatore	Akola	Kolhapur	Navsari	Padegaon	Perumallapalle	Pravaranagar#	Pune	Sameerwadi	Sanke shwar	Thiruvalla	Mean	Rank
1	Co 11001	80.74	60.57	87.58	100.55	89.84*	65.52	144.65*	97.52*	86.19	46.54	71.91	84.69	2
2	Co 11004	62.18	57.25	73.14	107.96*	67.18	85.97	142.65*	79.26	41.98	51.51	74.94	76.73	
3	CoM 11081	54.08	32.93	74.17	74.16	69.62	45.02	136.85*	54.87	32.18	35.37	41.49	59.16	
4	CoM 11082	111.82	73.30	100.52	106.11*	91.37*	91.74	138.54*	76.09	69.06	62.52	41.08	87.47	1
5	CoM 11084	50.33	56.58	96.18	95.92	73.37	87.66	132.36*	82.68	47.38	47.76	83.43	77.60	5
Standards														
1	CoC 671	74.71	47.71	74.78	88.05	72.38	60.71	123.49	74.83	46.36	45.30	80.83	71.74	
2	Co 94008	74.49	58.29	119.78	90.37	74.91	99.15	117.07	62.37	45.29	58.28	77.36	79.76	4
3	Co 85004	112.63	46.97	91.76	90.55	76.68	108.07	106.38	69.74	68.29	76.28	67.64	83.18	3
	Grand mean	77.62	54.20	89.74	94.21	76.92	80.48	130.25	74.67	54.59	52.95	67.33		
	SE	5.91	10.23	7.91	3.34	3.78	6.90	1.97	7.10	6.38	3.66	4.06		
	CD	20.88	NS	23.99	10.14	11.47	21.13	5.98	21.54	19.55	11.09	11.54		
	CV	10.76	10.11	15.27	6.15	8.52	14.85	2.62	16.47	20.25	11.96	10.45		
Qualifying entries at each centre														
1			CoM 11082		Co 11004	CoM 11082		Co 11001	Co 11001	Co 11001				
2					CoM 11082	Co 11001		Co 11004	CoM 11084					
3					Co 11001			CoM 11082						

*Significant at 5% level, # Only top three qualifying entries are mentioned

Qualifying entries: Co 11001 (5), CoM 11082 (4), Co 11004 (2), CoM 11084 (1), CoM 11081 (1)

Performance across locations: Two entries *viz.*, CoM 11082 (87.47 t/ha) and Co 11001 (84.69 t/ha) recorded higher cane yield than the best check Co 85004 (83.18 t/ha). The first ranked entry in the zone was CoM 11082 and it yielded more than 10% over the best standard at four locations. Co 11001 was at second position in the zone and had more than 10% improvement over the best check at five centres. The other qualifying entries were Co 11004 at Navsari and Pravaranagar, CoM 11084 at Pune and CoM 11081 at Pravaranagar.

Table 2.2.3 CCS % at harvest

S. No.	Entries	Coimbatore	Akola	Kolhapur	Navsari	Padegaon	Perumallapalle	Pravara nagar	Pune	Sameerwadi	Sanke shwar	Thiruvalla	Mean	Rank
1	Co 11001	11.11	11.28	11.83	9.74	10.81	10.20	13.36	13.13	10.60	14.66	12.65	11.76	
2	Co 11004	11.58	10.62	14.26	9.24	11.00	9.05	13.82	14.01	11.92	15.64	10.79	11.99	
3	CoM 11081	11.27	12.12	14.28	9.49	12.49	11.35	13.46	13.87	11.69	14.58	12.86	12.50	4
4	CoM 11082	12.17	12.15	15.05	9.05	12.98	10.58	15.20	13.83	12.23	15.97	12.42	12.88	1
5	CoM 11084	12.29	11.53	14.02	7.94	12.64	9.47	13.81	13.42	12.35	14.49	11.26	12.11	5
Standards														
1	CoC 671	13.52	10.93	14.46	9.60	11.63	11.03	15.14	14.15	11.36	16.31	12.36	12.77	2
2	Co 94008	10.95	11.79	12.24	7.92	11.91	10.78	12.99	13.07	12.59	14.06	11.90	11.84	
3	Co 85004	11.98	11.68	13.49	8.57	12.49	10.82	14.14	13.72	12.84	16.28	13.18	12.65	3
	Grand mean	11.86	11.51	13.70	8.94	11.99	10.41	13.99	13.64	11.95	15.25	12.18		
	SE	0.58	0.71	0.36	0.26	0.38	0.38	0.30	0.05	0.55	0.41	0.41		
	CD	NS	NS	1.08	0.78	1.14	1.15	0.93	0.16	NS	1.25	1.15		
	CV	6.91	3.05	4.50	4.96	5.45	6.25	3.80	0.66	4.79	4.69	5.77		
Qualifying entries at each centre														
	1													
	2													
	3													

Performance across locations: The test entry CoM 11082 (12.88%) recorded higher CCS% than the best standard CoC 671 (12.77%) and ranked first in the zone. None of the entries recorded more than 5% improvement over the best standard at any centre.

Table 2.2.4 Sucrose% at harvest

S. No.	Entries	Coimbatore	Akola	Kolhapur	Navsari	Padegaon	Perumallapalle	Pravaranaagar	Pune	Sameerwadi	Sanke shwar	Thiruvalla	Mean	Rank
1	Co 11001	16.05	16.42	16.87	13.80	15.83	14.48	19.15	18.40	15.46	20.77	18.04	16.84	
2	Co 11004	16.66	16.06	20.02	18.83	16.01	13.18	19.58	19.55	17.28	22.21	15.47	17.71	
3	CoM 11081	16.16	17.31	19.99	16.90	17.66	15.93	19.00	19.39	17.02	20.89	18.34	18.05	4
4	CoM 11082	17.49	17.83	21.01	18.71	18.43	14.88	21.25	19.38	17.65	22.44	17.73	18.80	2
5	CoM 11084	17.60	16.48	19.91	18.62	18.04	13.66	19.46	18.83	17.91	20.75	16.09	17.94	5
Standards														
1	CoC 671	19.25	16.74	20.35	21.06	16.78	15.54	21.20	19.72	16.71	23.06	17.66	18.92	1
2	Co 94008	15.80	16.93	17.62	17.92	17.14	14.96	19.04	18.25	18.05	20.28	16.98	17.54	
3	Co 85004	17.14	16.91	19.11	19.95	17.76	15.17	19.96	19.13	18.68	22.98	18.93	18.70	3
	Grand mean	17.02	16.84	19.36	18.22	17.21	14.73	19.83	19.07	17.35	21.68	17.41		
	SE	0.73	0.71	0.45	0.17	0.44	0.41	0.36	0.07	0.76	0.51	0.55		
	CD	NS	NS	1.36	0.51	1.33	1.26	1.09	0.21	NS	1.54	1.56		
	CV	6.08	2.00	4.02	1.59	4.43	4.85	3.14	0.64	7.54	4.07	5.45		
Qualifying entries at each centre														
	1													
	2													
	3													

Performance across locations: None of the entries recorded higher juice sucrose per cent than the best standard CoC 671 (18.92%). CoM 11082 (18.80%) ranked second in the zone with 18.80% sucrose. None of the entries had more than 5% improvement over the best standard for sucrose per cent at any of the centre.

Varietal Improvement Programme- AICRP (Sugarcane)
Principal Investigator's Report (2017-18)
Peninsular zone AVT Ratoon- Early

Table 2.2.5 Brix % at harvest

S. No.	Entries	Coimbatore	Akola	Kolhapur	Navsari	Padegaon	Perumalpal	Pravara nagar	Pune	Sameer wadi	Sanke shwar	Thiruvalla	Mean
1	Co 11001	18.13	18.87	18.52	16.98	18.38	15.71	21.25	20.02	17.82	22.51	19.80	18.91
2	Co 11004	18.67	19.84	21.22	21.23	18.38	15.15	21.18	21.11	19.66	24.18	17.20	19.80
3	CoM 11081	17.96	19.07	21.05	19.71	19.05	16.88	20.41	20.99	19.54	23.18	20.13	19.82
4	CoM 11082	19.56	20.81	22.02	21.69	20.05	15.85	22.31	21.11	19.89	23.85	19.50	20.60
5	CoM 11084	19.48	18.21	21.65	21.37	19.88	15.38	20.81	20.56	20.39	23.01	17.73	19.86
	Standards												
1	CoC 671	21.06	21.17	21.69	23.24	18.88	16.61	22.34	21.20	19.59	24.85	19.47	20.92
2	Co 94008	17.81	18.87	19.79	21.02	19.21	15.45	20.78	19.70	20.06	22.84	18.67	19.47
3	Co 85004	18.96	19.17	20.69	22.63	19.38	16.05	21.44	20.60	21.42	24.68	21.10	20.56
	Grand mean	18.95	19.50	20.83	20.98	19.15	15.88	21.32	20.66	19.80	23.64	19.20	
	SE	0.58	0.85	0.40	0.28	0.30	0.32	0.45	0.08	0.78	0.50	0.54	
	CD	NS	NS	1.21	0.84	0.89	0.97	1.37	0.24	NS	1.53	1.54	
	CV	4.34	1.89	3.33	2.30	2.67	3.44	3.69	0.68	6.84	3.69	4.89	

Table 2.2.6 Purity % at harvest

S. No.	Entries	Coimbatore	Akola	Kolhapur	Navsari	Padegaon	Perumalpal	Pravara nagar	Pune	Sameer wadi	Sanke shwar	Thiruvalla	Mean
1	Co 11001	87.64	86.94	91.03	81.29	86.00	92.09	90.11	91.88	86.76	92.33	90.30	88.76
2	Co 11004	89.23	81.37	94.36	88.68	87.05	87.10	90.31	92.70	87.89	91.84	89.03	89.05
3	CoM 11081	89.93	90.78	94.94	85.80	92.71	94.41	93.11	92.37	87.10	90.20	90.27	91.06
4	CoM 11082	89.39	85.82	95.43	86.25	91.91	93.87	96.61	91.84	88.74	94.08	90.00	91.27
5	CoM 11084	90.23	90.65	91.93	87.14	90.73	88.81	92.19	91.60	87.84	90.20	89.83	90.10
	Standards												
1	CoC 671	91.38	79.69	93.84	90.67	88.87	93.54	94.47	92.99	85.30	92.81	89.9	90.31
2	Co 94008	88.71	89.90	89.07	85.24	89.21	96.88	91.23	92.62	89.98	88.82	90.10	90.16
3	Co 85004	90.37	88.12	92.38	88.20	91.60	94.52	92.40	92.53	87.21	93.09	88.93	90.85
	Grand mean	89.61	86.66	92.87	86.66	89.76	92.65	92.55	92.32	87.60	91.67	89.80	
	SE	1.23	4.37	0.97	0.79	1.28		0.57	0.20		1.32	0.58	
	CD	NS	NS	2.94	2.40	3.88	NS	1.75	0.60	NS	4.01	1.648	
	CV	1.94	2.59	1.81	1.58	2.47		1.08	0.37		2.50	1.12	

Varietal Improvement Programme- AICRP (Sugarcane)
Principal Investigator's Report (2017-18)
Peninsular zone AVT Ratoon- Early

Table 2.2.7 Pol% Cane at harvest

S. No.	Entries	Coimbatore	Akola	Kolhapur	Navsari	Padegaon	Perumalpal	Pravara nagar	Pune	Sameer wadi	Sanke shwar	Thiruvalla	Mean
1	Co 11001	15.84		12.76	10.54	12.07			14.19	11.44	15.84		13.24
2	Co 11004	16.25		15.11	14.33	11.95			14.55	12.79	16.73		14.53
3	CoM 11081	16.24		15.20	12.83	13.72			14.71	12.59	16.24		14.51
4	CoM 11082	17.03		15.87	14.28	13.46			14.65	13.06	16.98		15.05
5	CoM 11084	17.32		15.09	14.11	13.24			14.05	13.25	15.70		14.68
Standards													
1	CoC 671	18.83		15.29	16.07	12.85			14.81	12.37	17.52		15.39
2	Co 94008	15.25		13.31	13.62	12.65			13.50	13.36	15.21		13.84
3	Co 85004	16.73		14.47	15.20	13.10			14.18	13.82	17.26		14.97
	Grand mean	16.69		14.64	13.87	12.88			14.33	12.84	16.44		
	SE			0.33	0.13	0.49			0.06	0.56	0.38		
	CD			1.01	0.38	1.05			0.17	NS	1.16		
	CV			3.95	1.57	4.69			0.69	5.58	4.03		

Table 2.2.8 Extraction % at harvest

S. No.	Entries	Coimbatore	Akola	Kolhapur	Navsari	Padegaon	Perumalpal	Pravara nagar	Pune	Sameer wadi	Sanke shwar	Thiruvalla	Mean
1	Co 11001	50.99		47.50	56.35	41.00	54.63	55.74	50.16		57.15	55.89	52.16
2	Co 11004	46.91		48.54	59.46	32.97	52.13	50.97	42.11		54.19	55.84	49.23
3	CoM 11081	47.09		53.92	55.88	40.41	53.28	53.01	49.46		58.95	62.09	52.68
4	CoM 11082	47.47		51.07	58.05	44.44	53.38	52.77	44.82		53.02	59.05	51.56
5	CoM 11084	49.55		54.84	58.13	40.01	53.43	50.48	48.09		52.75	54.80	51.34
Standards													
1	CoC 671	47.75		47.18	57.18	43.10	51.85	51.90	46.98		56.70	57.65	51.14
2	Co 94008	48.11		58.35	56.20	44.07	56.33	53.23	49.72		56.45	55.34	53.09
3	Co 85004	46.00		50.33	56.25	44.92	53.70	53.01	42.73		49.62	58.27	50.54
	Grand mean	47.98		51.47	57.19	41.37	53.59	52.64	46.76		54.85	57.37	
	SE	2.02		3.58	1.39	7.22		1.33	1.01		1.19	1.21	
	CD	NS		NS	NS	15.49	NS	4.04	3.06		3.61	3.43	
	CV	5.97		12.05	4.21	21.39		4.38	3.73		3.76	3.65	

Varietal Improvement Programme- AICRP (Sugarcane)
Principal Investigator's Report (2017-18)
Peninsular zone AVT Ratoon- Early

Table 2.2.9 Fibre % at harvest

S. No.	Entries	Coimbatore	Akola	Kolhapur	Navsari	Padegaon	Perumalpal	Pravara nagar	Pune	Sameer wadi	Sanke shwar	Thiruvalla	Mean
1	Co 11001	11.28		14.37	13.61	13.73			12.85		13.75		13.26
2	Co 11004	12.48		14.51	13.86	15.38			15.56		14.68		14.41
3	CoM 11081	9.50		13.95	14.06	12.31			14.14		12.27		12.71
4	CoM 11082	12.61		14.46	13.66	16.94			14.43		14.30		14.40
5	CoM 11084	11.60		14.22	14.20	16.59			15.42		14.33		14.39
Standards													
1	CoC 671	12.17		14.83	13.71	13.45			14.90		14.03		13.85
2	Co 94008	13.47		14.48	14.00	16.21			15.97		15.00		14.85
3	Co 85004	12.39		14.32	13.83	16.25			15.88		14.89		14.59
	Grand mean	11.94		14.39	13.87	15.11			14.89		14.15		
	SE			0.24	0.06	0.52			0.19		0.68		
	CD			NS	0.18	1.12			0.58		2.05		
	CV			2.94	0.74	4.24			2.23		8.28		

Table 2.2.10 Number of millable canes (000³/ha) at harvest

S. No.	Entries	Coimbatore	Akola	Kolhapur	Navsari	Padegaon	Perumalpal	Pravara nagar	Pune	Sameer wadi	Sanke shwar	Thiruvalla	Mean
1	Co 11001	80.73	48.23	79.15	92.31	68.06	81.29	141.00	80.70	86.19	25.46	85.89	79.00
2	Co 11004	70.69	41.98	78.29	99.53	60.71	79.39	143.15	67.39	41.98	33.98	86.98	73.10
3	CoM 11081	58.67	33.26	79.98	78.89	53.99	57.46	145.08	64.53	32.18	15.71	47.82	60.69
4	CoM 11082	79.86	36.96	89.30	97.40	68.40	75.75	139.73	62.55	69.06	38.19	53.47	73.70
5	CoM 11084	69.54	39.35	105.90	82.87	63.95	96.46	134.40	76.55	47.38	37.88	97.33	77.42
Standards													
1	CoC 671	75.63	46.68	103.18	72.22	55.38	65.78	145.74	61.65	46.36	25.26	90.56	71.68
2	Co 94008	81.09	38.97	99.18	78.05	57.75	95.59	148.05	59.92	45.29	32.75	87.11	74.89
3	Co 85004	121.47	48.23	77.66	77.22	74.19	112.32	153.36	80.33	68.29	61.81	74.90	86.34
	Grand mean	79.71	41.71	89.08	84.81	62.80	83.01	143.81	69.20	54.59	33.88	78.01	
	SE	4.17	2.72	3.63	5.40	3.68	4.53	1.18	2.72	6.38	5.45	2.814	
	CD	14.20	8.26	11.01	16.37	7.89	13.86	3.58	8.26	19.55	16.54	8.00	
	CV	7.41	2.75	7.06	11.02	7.17	9.44	1.42	6.81	20.25	27.87	6.25	

Varietal Improvement Programme- AICRP (Sugarcane)
Principal Investigator's Report (2017-18)
Peninsular zone AVT Ratoon- Early

Table 2.2.11 Stalk length (cm) at harvest

S. No.	Entries	Coimbatore	Akola	Kolhapur	Navsari	Padegaon	Perumalpal	Pravara nagar	Pune	Sameer wadi	Sanke shwar	Thiruvalla	Mean
1	Co 11001	158.00	125.00	163.00	246.67	180.00	158.00	210.66	161.96	129.33	125.67	220.00	170.75
2	Co 11004	165.00	135.33	168.67	259.00	181.67	225.00	207.66	170.82	135.00	174.00	236.00	187.10
3	CoM 11081	163.00	171.33	158.67	236.67	165.00	177.00	206.00	146.21	129.00	139.33	209.00	172.84
4	CoM 11082	220.00	156.33	182.33	279.67	195.00	222.00	230.66	196.63	208.00	199.67	225.00	210.48
5	CoM 11084	148.00	135.33	172.67	259.33	161.67	190.00	182.00	180.50	103.00	160.67	255.00	177.11
Standards													
1	CoC 671	188.00	135.33	157.67	237.33	153.33	196.00	223.00	169.30	117.67	163.33	206.00	177.00
2	Co 94008	180.00	137.33	182.00	241.67	170.00	191.00	224.00	170.82	130.33	177.00	250.00	186.74
3	Co 85004	195.00	124.67	168.33	258.67	163.33	183.00	187.66	184.28	156.00	187.00	243.00	186.45
	Grand mean	177.13	140.08	169.17	252.38	171.25	192.75	208.96	172.57	138.54	165.83	230.50	
	SE	15.00	21.86	5.12	7.73	5.04	9.37	2.20	3.83	9.92	5.39	9.01	
	CD	NS	NS	15.54	23.46	10.82	28.70	6.70	11.61	30.38	16.35	25.60	
	CV	12.54	7.62	5.25	5.31	3.61	8.42	1.83	3.84	12.39	5.63	6.77	

Table 2.2.12 Stalk diameter (cm) at harvest

S. No.	Entries	Coimbatore	Akola	Kolhapur	Navsari	Padegaon	Perumalpal	Pravara nagar	Pune	Sameer wadi	Sanke shwar	Thiruvalla	Mean
1	Co 11001	2.78	2.54	3.06	2.64	3.60	2.81	2.59	2.81	3.00	2.75	2.35	2.81
2	Co 11004	2.58	2.61	2.65	2.70	3.00	2.72	2.54	2.92	2.83	2.64	2.67	2.71
3	CoM 11081	2.70	2.61	2.86	2.59	3.43	2.72	2.46	2.83	2.93	2.69	2.55	2.76
4	CoM 11082	2.92	2.75	2.78	2.64	3.57	2.72	2.51	2.94	3.13	2.87	2.44	2.84
5	CoM 11084	2.68	2.75	2.54	2.64	3.37	2.35	2.55	2.88	2.57	2.31	2.32	2.63
Standards													
1	CoC 671	2.89	2.79	2.42	2.65	3.37	2.59	2.47	3.10	2.67	2.73	2.42	2.74
2	Co 94008	2.77	2.66	3.16	2.57	3.40	2.72	2.53	2.95	2.97	2.90	2.55	2.83
3	Co 85004	2.77	2.34	3.00	2.48	3.37	2.71	2.42	2.79	2.60	2.55	2.65	2.70
	Grand mean	2.76	2.63	2.81	2.61	3.39	2.67	2.51	2.90	2.84	2.68	2.49	
	SE	15.00	0.12	0.09	0.02	0.08		0.02	0.04	0.11	0.08	0.09	
	CD	NS	NS	0.28	0.07	0.18	NS	0.08	0.12	0.34	0.23	NS	
	CV	7.52	2.07	5.73	1.58	3.18		1.92	2.42	6.63	4.93	6.10	

Varietal Improvement Programme- AICRP (Sugarcane)
Principal Investigator's Report (2017-18)
Peninsular zone AVT Ratoon- Early

Table 2.2.13 Single cane weight (kg) at harvest

S. No.	Entries	Coimbatore	Akola	Kolhapur	Navsari	Padegaon	Perumallapalle	Pravara nagar	Pune	Sameerwadi	Sanke shwar	Thiruvalla	Mean
1	Co 11001	1.13	1.25	1.11	1.08	1.27	0.87	1.67	1.26	0.63	0.75	1.15	1.11
2	Co 11004	0.95	1.35	0.94	1.09	1.06	1.11	1.28	1.23	0.57	0.96	1.41	1.09
3	CoM 11081	0.91	0.99	0.93	0.94	1.23	0.84	1.40	0.90	0.56	0.75	1.27	0.98
4	CoM 11082	1.49	1.96	1.13	1.22	1.29	1.29	1.96	1.30	1.03	1.13	1.33	1.38
5	CoM 11084	0.83	1.43	0.91	1.06	1.10	0.93	1.33	1.13	0.39	0.76	1.23	1.01
Standards													
1	CoC 671	1.01	1.02	0.73	1.16	1.22	1.00	1.47	1.28	0.40	1.01	1.07	1.03
2	Co 94008	0.96	1.53	1.21	1.05	1.32	1.08	1.33	1.11	0.55	1.17	1.62	1.17
3	Co 85004	0.92	0.99	1.18	0.97	1.03	0.99	1.13	1.00	0.70	0.91	1.39	1.02
	Grand mean	1.03	1.32	1.02	1.07	1.19	1.01	1.45	1.15	0.60	0.93	1.31	
	SE	0.04	0.22	0.07	0.03	0.05	0.06	0.04	0.03	0.08	0.07	0.05	
	CD	0.15	0.67	0.22	0.10	0.11	0.19	0.12	0.09	0.26	0.20	0.13	
	CV	6.12	10.22	12.60	5.31	5.36	10.66	4.78	4.41	24.07	12.34	6.13	

Table 2.2.14 Number of shoots (000'/ha) at 180 days

S. No.	Entries	Coimbatore	Akola	Kolhapur	Navsari (120 days)	Padegaon (120 days)	Perumallapalle (120 days)	Pravara nagar (120 days)	Pune (120 days)	Sameerwadi	Sanke shwar (120 days)	Thiruvalla (120 days)	Mean
1	Co 11001	94.46	93.06		146.72	183.33	85.28	149.91	153.24	61.58	49.49	91.88	110.89
2	Co 11004	87.71	96.53		151.20	149.77	90.83	152.84	103.96	38.43	70.63	92.54	103.44
3	CoM 11081	56.24	72.84		127.45	149.31	56.94	150.74	97.04	27.93	36.14	51.14	82.58
4	CoM 11082	74.24	89.51		144.09	175.23	101.31	145.40	95.89	52.39	54.62	62.00	99.47
5	CoM 11084	71.23	120.29		139.86	205.32	133.29	137.95	168.91	54.40	108.42	107.13	124.68
Standards													
1	CoC 671	73.01	52.08		134.87	136.81	93.34	152.79	111.93	55.94	47.53	96.80	95.51
2	Co 94008	74.01	70.06		132.24	164.81	132.86	153.95	90.37	36.88	47.95	93.88	99.70
3	Co 85004	102.64	114.35		135.51	208.10	151.84	152.62	146.34	52.39	127.41	80.37	127.16
	Grand mean	79.19	88.59		138.99	171.59	105.71	149.53	120.96	47.49	67.77	84.47	
	SE	4.04	11.10		4.51	7.75	6.97	1.42	3.58	6.86	9.41	3.38	
	CD	13.73	33.68		13.68	16.63	21.34	4.32	10.87	21.02	28.55	9.60	
	CV	7.21	10.05		5.62	5.53	11.42	1.65	5.13	25.03	24.06	6.93	

Varietal Improvement Programme- AICRP (Sugarcane)
Principal Investigator's Report (2017-18)
Peninsular zone AVT Ratoon- Early

Table 2.2.15 Number of tillers (000'/ha) at 90 days

S. No.	Entries	Coimbatore	Akola	Kolhapur	Navsari	Padegaon	Perumallapalle	Pravara nagar	Pune	Sameerwadi	Sanke shwar	Thiruvalla	Mean
1	Co 11001	96.88	78.86	101.14	123.16	153.24	88.05	142.48		81.64	48.46	90.47	100.44
2	Co 11004	100.00	81.48	108.19	137.21	122.45	76.35	144.95		77.32	76.38	91.09	101.54
3	CoM 11081	54.63	58.41	110.99	112.53	87.27	60.93	138.99		43.75	50.20	44.08	76.18
4	CoM 11082	86.23	75.00	118.05	130.22	125.93	102.70	135.91		68.75	47.12	59.20	94.91
5	CoM 11084	87.18	106.40	131.82	125.25	196.30	124.11	129.51		100.92	108.21	104.57	121.43
	Standards												
1	CoC 671	76.62	39.66	109.66	116.83	80.79	91.17	145.96		79.48	51.95	94.37	88.65
2	Co 94008	72.13	54.94	126.21	120.34	116.67	128.87	145.96		40.82	49.49	91.89	94.73
3	Co 85004	140.40	101.00	100.34	124.51	199.07	165.10	148.21		70.75	129.15	78.16	125.67
	Grand mean	89.26	74.47	113.30	123.76	135.21	104.66	141.50		70.43	70.12	81.73	
	SE	5.51	11.06	7.23	4.40	14.48	7.20	1.13		10.13	7.16	3.61	
	CD	18.73	33.54	NS	13.33	31.06	22.04	3.43		31.07	21.71	10.27	
	CV	8.72	13.14	11.06	6.15	13.11	11.91	1.38		24.91	17.68	7.66	

Table 2.2.16: Assessment of performance of entries by monitoring team

S.N.	Genotype	Perumallapalle	Pugulur	Coimbatore	Thiruvalla	Mandya	Sankeshwar	Sameerwadi	Kolhapur
1	Co 11001	On Par	Poor	Better	On Par	Not Conducted	Poor	On Par	Poor
2	Co 11004	Poor	Poor	On Par	On Par		Poor	Poor	Poor
3	CoM 11081	On Par	Poor	Poor	On Par		Poor	Poor	Poor
4	CoM 11082	Better	Poor	Better	On Par		On par	Better	On Par
5	CoM 11084	On Par	Poor	On Par	Better		On par	Poor	On Par
6	Co 85004 (c)	-	Poor	Best	-		Best	-	-
7	Co 94008 (c)	Best	Poor	-	Best		-	Best	Best
8	CoC 671 (c)	-	Poor	-	-		-	-	-

S.N.	Entry	Akola	Navsari	Powarkheda	Pune	Padegaon	Pravaranagar
1	Co 11001	On Par	On Par	Poor	Better	On Par	On Par
2	Co 11004	Poor	Poor	On Par	Poor	Poor	Poor
3	CoM 11081	Poor	Poor	Poor	Poor	Poor (Wilt)	Better
4	CoM 11082	On Par	On Par	On Par	Better (Smut)	On Par	Better
5	CoM 11084	On Par	Poor	Poor	On Par	Better	Poor
6	Co 85004	II	I	I	I	I	II
7	Co94008	I	III	III	III	II	I
8	CoC 671	III	II	II	II	III	III

2.3 Advanced Varietal Trial – Early: Peninsular Zone

2.3 Mean performance of two plant and one ratoon crops (2016—2018)

Thirteen centers conducted Advanced Varietal Trial Early I Plant Crop during 2016-17 and 12 centers conducted AVT II Plant crop during 2017-18. Basmathnagar, Kawardha, Powerkheda, Rudrur and Sirugamani centres did not conduct any of the Advanced Varietal Trials. AVT ratoon trial was conducted in only 11 centers in the zone. Pugalur centre did not conduct AVT II and AVT ratoon trials. In Mandya centre AVT ratoon trial was discarded due to the infection of yellow leaf disease. Mean performance of five early entries in relation to zonal standards at 13 centers in terms of weighted average is presented in tables 2.3.1 to 2.3.4 and figures 2.3.1 to 2.3.4. The salient results pertaining to CCS t/ha, cane yield t/ha, CCS% and sucrose % are discussed below:

2.3.1 Commercial Cane Sugar t/ha:

Three test entries *viz.*, CoM 11082 (12.85 t/ha), Co 11004 (11.52 t/ha) and Co 11001 (11.44 t/ha), recorded higher sugar yield (t/ha) compared to the best standard CoC 671 (11.32 t/ha). The entry CoM 11082 ranked first in the zone and has shown an improvement of 13.52% over the best standard CoC 671. It performed well in all the locations except Mandya, Pravaranagar, Pugalur and Thiruvalla.

2.3.2 Cane yield t/ha:

For cane yield, all the test entries except CoM 11081 performed better than the best standard Co 94008 (86.64 t/ha). The entry CoM 11082 was best in the zone with a cane yield of 98.91 t/ha followed by Co 11001 (96.23 t/ha). The entry CoM 11082 has shown an improvement of 14.15% in cane yield over the best standard Co 94008 and the entry Co 11001 recorded 11.07% improvement over the best standard.

2.3.3. CCS %:

None of the test entries performed better than the best standard CoC 671 (12.93%) for CCS per cent. Among the entries, CoM 11082 recorded the highest CCS% of 12.90.

2.3.4. Sucrose %:

For juice sucrose, none of the test entries performed better than the best standard CoC 671 (18.67%). Among the entries, CoM 11082 recorded the highest sucrose of 18.60% followed by Co 11004 (18.41%).

Overall performance: Based on the weighted average of two plant and one ratoon crop at 13 centres, the entry CoM 11082 recorded 13.52% and 14.15% improvement over the best standard for sugar yield and cane yield respectively and for juice quality parameters its performance was comparable to the best standard. None of the test entries were numerically superior to the standards for juice quality. Hence no qualifying entry was identified from this trial.

Table 2.3.1 Pooled Mean CCS t/ha at harvest

S. No.	Entries	Coimbatore				Akola				Kolhapur			
		AVT IP	AVT IIP	AVT Ratoon	Mean	AVT IP	AVT IIP	AVT Ratoon	Mean	AVT IP	AVT IIP	AVT Ratoon	Mean
1	Co 11001	17.79	14.90	8.98	13.89	11.90	6.56	6.78	8.41	12.00	11.90	10.37	11.42
2	Co 11004	16.76	12.39	7.20	12.12	9.64	8.91	6.04	8.20	10.50	17.82	10.42	12.91
3	CoM 11081	11.92	8.95	6.11	8.99	8.09	6.15	4.00	6.08	12.59	16.05	10.53	13.06
4	CoM 11082	18.28	15.91	13.67	15.95	9.87	6.95	8.88	8.57	14.44	18.91	15.12	16.16
5	CoM 11084	12.72	10.73	6.18	9.88	10.62	6.71	6.53	7.95	13.89	16.50	13.45	14.61
Standards													
1	CoC 671	18.56	16.70	10.10	15.12	9.84	7.56	5.22	7.54	12.59	14.68	10.80	12.69
2	Co 94008	14.52	11.89	8.16	11.52	9.20	9.38	6.91	8.50	12.35	13.52	14.62	13.50
3	Co 85004	19.06	15.03	13.58	15.89	8.29	6.10	5.4	6.60	10.15	14.65	12.37	12.39
	Grand mean	16.20	13.31	9.25	12.92	9.68	7.29	6.22	7.73	12.31	15.50	12.21	13.34

Mandya				Navsari				Padegaon				Perumallapalle			
AVT IP	AVT IIP	AVT Ratoon	Mean	AVT IP	AVT IIP	AVT Ratoon	Mean	AVT IP	AVT IIP	AVT Ratoon	Mean	AVT IP	AVT IIP	AVT Ratoon	Mean
9.95	12.91		11.43	16.37	12.78	9.20	12.78	9.81	9.71	9.79	9.77	16.15	9.05	6.66	10.62
12.21	15.62		13.92	15.81	12.91	14.10	14.27	9.49	11.17	7.41	9.36	14.21	11.67	7.85	11.24
6.74	9.05		7.90	13.62	11.18	8.55	11.12	12.28	11.60	8.69	10.86	13.33	7.86	5.11	8.77
10.32	15.70		13.01	17.11	12.33	13.56	14.33	16.80	12.88	11.86	13.85	17.94	11.33	9.75	13.01
10.96	14.71		12.84	15.01	10.08	12.28	12.46	12.10	7.74	9.27	9.70	12.08	9.17	8.21	9.82
10.84	11.77		11.31	14.14	11.51	12.98	12.88	10.59	8.31	8.42	9.11	17.00	11.51	6.72	11.74
10.84	12.01		11.43	13.62	9.71	11.01	11.45	9.53	7.34	8.92	8.60	17.11	11.58	10.69	13.13
9.45	11.58		10.52	13.03	10.45	12.49	11.99	9.78	6.88	9.58	8.75	15.83	9.50	11.69	12.34
10.16	12.92		11.54	14.84	11.37	11.77	12.66	11.30	9.46	9.24	10.00	15.46	10.21	8.34	11.33

Pravaranagar				Pugalur				Pune				Sameerwadi			
AVT IP	AVT IIP	AVT Ratoon	Mean	AVT IP	AVT IIP	AVT Ratoon	Mean	AVT IP	AVT IIP	AVT Ratoon	Mean	AVT IP	AVT IIP	AVT Ratoon	Mean
18.95	21.94	19.33	20.07	8.57			8.57	13.23	15.80	12.81	13.95	5.33	7.83	9.13	7.43
18.19	20.42	19.71	19.44	9.57			9.57	13.05	15.74	11.11	13.30	6.49	6.92	5.00	6.14
16.34	19.13	18.42	17.96	3.93			3.93	9.70	11.76	7.62	9.69	5.71	5.84	3.76	5.10
16.81	18.95	21.06	18.94	5.98			5.98	14.58	17.29	10.53	14.13	6.97	9.07	8.45	8.16
16.91	19.26	18.26	18.14	7.79			7.79	11.91	12.98	11.11	12.00	3.93	8.29	5.85	6.02
17.15	17.49	18.71	17.78	10.95			10.95	12.81	14.51	10.60	12.64	5.97	9.10	5.27	6.78
13.60	14.97	15.19	14.59	8.04			8.04	9.24	13.06	8.16	10.15	5.09	9.06	5.70	6.62
11.95	14.87	15.03	13.95	11.32			11.32	9.31	11.19	9.57	10.02	4.47	6.94	8.77	6.73
16.24	18.38	18.21	17.61	8.27			8.27	11.73	14.04	10.19	11.99	5.50	7.88	6.49	6.62

Sankeshwar				Thiruvalla				Overall Mean			Weighted Average	Rank
AVT IP	AVT IIP	AVT Ratoon	Mean	AVT IP	AVT IIP	AVT Ratoon	Mean	AVT IP	AVT IIP	AVT Ratoon		
9.92	6.48	6.81	7.73	11.25	11.71	9.09	10.68	12.40	11.80	9.90	11.44	3
10.59	7.16	8.03	8.59	11.64	10.92	8.09	10.22	12.17	12.64	9.54	11.52	2
12.75	7.20	5.16	8.37	8.36	12.16	5.34	8.62	10.41	10.58	7.57	9.60	
14.51	9.80	10.02	11.44	10.66	11.31	5.10	9.02	13.41	13.37	11.64	12.85	1
9.00	4.85	6.92	6.92	11.02	10.13	9.40	10.18	11.38	10.93	9.77	10.74	5
12.38	5.94	7.39	8.57	8.31	11.21	9.98	9.83	12.39	11.69	9.65	11.32	4
10.46	5.02	8.20	7.90	9.43	9.53	9.22	9.39	11.00	10.59	9.71	10.47	
8.98	7.19	12.37	9.51	9.07	10.44	8.89	9.47	10.82	10.40	10.89	10.70	
11.07	6.71	8.11	8.63	9.97	10.93	8.14	9.68	11.75	11.50	9.83	11.08	

Table 2.3.2 Pooled Mean Cane yield t/ha at harvest

S. No.	Entries	Coimbatore				Akola				Kolhapur			
		AVT IP	AVT IIP	AVT Ratoon	Mean	AVT IP	AVT IIP	AVT Ratoon	Mean	AVT IP	AVT IIP	AVT Ratoon	Mean
1	Co 11001	136.87	126.19	80.74	114.60	100.66	49.26	60.57	70.16	85.82	100.86	87.58	91.42
2	Co 11004	118.35	89.79	62.18	90.11	78.55	69.53	57.25	68.44	71.21	124.05	73.14	89.47
3	CoM 11081	89.01	71.14	54.08	71.41	63.19	44.84	32.93	46.99	88.41	112.07	74.17	91.55
4	CoM 11082	133.88	126.96	111.82	124.22	84.51	54.90	73.30	70.90	98.72	131.89	100.52	110.38
5	CoM 11084	97.22	87.03	50.33	78.19	85.55	51.56	56.58	64.56	97.80	126.07	96.18	106.68
Standards													
1	CoC 671	125.03	125.65	74.71	108.46	77.87	53.59	47.71	59.72	86.22	110.60	74.78	90.53
2	Co 94008	115.58	103.84	74.49	97.97	72.51	66.12	58.29	65.64	89.66	124.60	119.78	111.35
3	Co 85004	146.19	129.18	112.63	129.33	71.05	47.56	46.97	55.19	68.01	105.49	91.76	88.42
	Grand mean	120.27	107.47	77.62	101.79	79.24	54.67	54.20	62.70	85.73	116.95	89.74	97.48

Mandya				Navsari				Padegaon				Perumallapalle			
AVT IP	AVT IIP	AVT Ratoon	Mean	AVT IP	AVT IIP	AVT Ratoon	Mean	AVT IP	AVT IIP	AVT Ratoon	Mean	AVT IP	AVT IIP	AVT Ratoon	Mean
105.20	103.60		104.40	128.61	113.89	100.55	114.35	97.80	118.11	89.84	101.91	124.93	72.93	65.52	87.79
112.30	110.97		111.64	121.94	120.37	107.96	116.76	80.73	105.21	67.18	84.38	111.43	90.26	85.97	95.89
69.82	68.82		69.32	118.24	101.85	74.16	98.08	96.80	108.25	69.62	91.56	104.43	58.15	45.02	69.20
116.25	115.25		115.75	133.98	117.59	106.11	119.23	126.22	118.41	91.37	112.00	135.33	89.27	91.74	105.45
114.60	113.60		114.10	114.07	107.40	95.92	105.80	91.75	90.78	73.37	85.30	101.63	73.49	87.66	87.60
84.50	88.50		86.50	106.76	104.26	88.05	99.69	85.77	86.48	72.38	81.54	119.57	80.21	60.71	86.83
93.25	86.17		89.71	101.39	103.70	90.37	98.49	78.23	81.04	74.91	78.06	145.30	94.42	99.15	112.96
89.50	92.58		91.04	104.35	104.26	90.55	99.72	72.93	79.26	76.68	76.29	120.80	72.02	108.07	100.30
98.18	97.44		97.81	116.17	109.17	94.21	106.51	91.28	98.44	76.92	88.88	120.43	78.85	80.48	93.25

Pravaranagar				Pugalur				Pune				Sameerwadi			
AVT IP	AVT IIP	AVT Ratoon	Mean	AVT IP	AVT IIP	AVT Ratoon	Mean	AVT IP	AVT IIP	AVT Ratoon	Mean	AVT IP	AVT IIP	AVT Ratoon	Mean
143.46	142.31	144.65	143.47	72.97			72.97	103.61	124.68	97.52	108.60	61.85	65.43	86.19	71.16
134.04	132.84	142.65	136.51	77.14			77.14	89.77	112.76	79.26	93.93	55.93	53.01	41.98	50.31
121.17	125.56	136.85	127.86	32.35			32.35	68.32	84.05	54.87	69.08	53.89	46.37	32.18	44.15
121.24	122.12	138.54	127.30	51.27			51.27	105.68	126.18	76.09	102.65	63.33	72.84	69.06	68.41
127.55	128.95	132.36	129.62	64.75			64.75	89.32	100.86	82.68	90.95	48.52	64.96	47.38	53.62
120.74	124.12	123.49	122.78	96.64			96.64	87.36	102.09	74.83	88.09	50.46	73.77	46.36	56.86
105.70	112.29	117.07	111.69	69.79			69.79	72.89	96.18	62.37	77.15	51.39	72.53	45.29	56.40
92.42	98.35	106.38	99.05	91.26			91.26	64.74	79.58	69.74	71.35	41.30	52.78	68.29	54.12
120.79	123.32	130.25	124.79	69.52			69.52	85.21	103.30	74.67	87.73	53.33	62.71	54.59	56.88

Sankeshwar				Thiruvalla				Overall Mean			Weighted Average	Rank
AVT IP	AVT IIP	AVT Ratoon	Mean	AVT IP	AVT IIP	AVT Ratoon	Mean	AVT IP	AVT IIP	AVT Ratoon		
84.49	88.07	46.54	73.04	82.64	98.54	71.91	84.36	102.22	100.32	84.69	96.23	2
77.63	66.76	51.51	65.30	84.37	85.00	74.94	81.44	93.34	96.71	76.73	89.39	3
81.88	73.73	35.37	63.66	64.24	93.96	41.49	66.56	80.90	82.40	59.16	74.76	
95.52	90.77	62.52	82.94	81.39	85.00	41.08	69.16	103.64	104.26	87.47	98.91	1
62.81	63.03	47.76	57.87	82.57	82.29	83.43	82.76	90.63	90.84	77.60	86.72	4
83.65	76.84	45.30	68.60	63.68	82.19	80.83	75.57	91.40	92.36	71.74	85.71	
85.19	62.78	58.28	68.75	77.78	79.48	77.36	78.21	89.13	90.26	79.76	86.64	5
62.78	90.67	76.28	76.58	71.53	76.63	67.64	71.93	84.37	85.70	83.18	84.45	
79.24	76.58	52.95	69.59	76.03	85.39	67.33	76.25	91.95	92.86	77.54	87.85	

Table 2.3.3 Pooled Mean CCS % at harvest

S. No.	Entries	Coimbatore				Akola				Kolhapur			
		AVT IP	AVT IIP	AVT Ratoon	Mean	AVT IP	AVT IIP	AVT Ratoon	Mean	AVT IP	AVT IIP	AVT Ratoon	Mean
1	Co 11001	12.96	11.80	11.11	11.96	11.86	13.32	11.28	12.15	11.97	11.82	11.83	11.87
2	Co 11004	14.19	13.80	11.58	13.19	12.32	12.85	10.62	11.93	12.51	14.33	14.26	13.70
3	CoM 11081	13.40	12.58	11.27	12.42	12.78	13.77	12.12	12.89	13.30	14.30	14.28	13.96
4	CoM 11082	13.66	12.52	12.17	12.78	11.71	12.69	12.15	12.18	12.16	14.33	15.05	13.85
5	CoM 11084	13.08	12.32	12.29	12.56	12.43	12.89	11.53	12.28	12.16	13.11	14.02	13.10
Standards													
1	CoC 671	14.85	13.28	13.52	13.88	12.54	14.02	10.93	12.50	12.68	13.28	14.46	13.47
2	Co 94008	12.56	11.45	10.95	11.65	12.62	14.13	11.79	12.85	12.25	10.85	12.24	11.78
3	Co 85004	13.04	11.60	11.98	12.21	11.78	12.81	11.68	12.09	13.39	13.89	13.49	13.59
	Grand mean	13.47	12.42	11.86	12.58	12.26	13.31	11.51	12.36	12.55	13.24	13.70	13.16

Mandya				Navsari				Padegaon				Perumallapalle			
AVT IP	AVT IIP	AVT Ratoon	Mean	AVT IP	AVT IIP	AVT Ratoon	Mean	AVT IP	AVT IIP	AVT Ratoon	Mean	AVT IP	AVT IIP	AVT Ratoon	Mean
12.61	12.46		12.54	12.72	11.20	9.74	11.22	10.04	8.22	10.81	9.69	12.93	12.43	10.20	11.85
14.62	14.03		14.33	12.93	10.70	9.24	10.96	13.03	10.60	11.00	11.54	12.75	12.96	9.05	11.59
13.36	13.15		13.26	11.50	10.95	9.49	10.65	12.54	10.73	12.49	11.92	12.77	13.53	11.35	12.55
13.91	13.62		13.77	12.77	10.51	9.05	10.78	13.71	10.90	12.98	12.53	13.26	12.72	10.58	12.19
13.07	12.99		13.03	13.17	9.40	7.94	10.17	12.74	8.52	12.64	11.30	11.89	12.49	9.47	11.28
13.85	13.28		13.57	13.25	11.06	9.6	11.30	12.83	9.61	11.63	11.36	14.22	14.30	11.03	13.18
12.25	13.93		13.09	13.43	9.38	7.92	10.24	12.54	9.08	11.91	11.18	11.78	12.21	10.78	11.59
13.71	12.52		13.12	12.49	10.03	8.57	10.36	12.76	8.70	12.49	11.32	13.10	13.17	10.82	12.36
13.42	13.25		13.34	12.78	10.40	8.94	10.71	12.52	9.55	11.99	11.35	12.84	12.98	10.41	12.07

Pravaranagar				Pugalur				Pune				Sameerwadi			
AVT IP	AVT IIP	AVT Ratoon	Mean	AVT IP	AVT IIP	AVT Ratoon	Mean	AVT IP	AVT IIP	AVT Ratoon	Mean	AVT IP	AVT IIP	AVT Ratoon	Mean
13.21	15.38	13.36	13.98	11.73			11.73	12.74	12.67	13.13	12.85	8.44	11.92	10.60	10.32
13.58	15.37	13.82	14.26	12.41			12.41	14.51	13.96	14.01	14.16	11.72	13.14	11.92	12.26
13.48	15.24	13.46	14.06	12.20			12.20	14.19	14.00	13.87	14.02	10.50	12.58	11.69	11.59
13.87	15.52	15.20	14.86	11.69			11.69	13.80	13.70	13.83	13.78	11.00	12.54	12.23	11.92
13.26	14.94	13.81	14.00	12.03			12.03	13.33	12.87	13.42	13.21	8.17	12.85	12.35	11.12
14.20	15.01	15.14	14.78	11.34			11.34	14.65	14.22	14.15	14.34	11.80	12.21	11.36	11.79
12.86	13.73	12.99	13.19	11.52			11.52	12.66	13.57	13.07	13.10	9.55	12.30	12.59	11.48
13.21	15.43	14.14	14.26	12.41			12.41	14.39	14.06	13.72	14.06	10.87	13.18	12.84	12.30
13.46	15.08	13.99	14.18	11.92			11.92	13.78	13.63	13.64	13.69	10.26	12.59	11.95	11.60

Sankeshwar				Thiruvalla				Overall Mean			Weighted Average	Rank
AVT IP	AVT IIP	AVT Ratoon	Mean	AVT IP	AVT IIP	AVT Ratoon	Mean	AVT IP	AVT IIP	AVT Ratoon		
11.76	7.77	14.66	11.40	13.61	11.93	12.65	12.73	12.04	11.80	11.76	11.88	
13.63	11.56	15.64	13.61	13.77	12.87	10.79	12.48	13.23	12.84	11.99	12.72	4
15.62	10.37	14.58	13.53	13.01	12.97	12.86	12.95	12.97	12.84	12.50	12.78	3
15.20	11.38	15.97	14.18	13.11	13.31	12.42	12.95	13.07	12.74	12.88	12.90	2
14.33	8.39	14.49	12.40	13.39	12.38	11.26	12.34	12.54	11.84	12.11	12.17	
14.78	8.28	16.31	13.12	13.04	13.65	12.36	13.02	13.39	12.58	12.77	12.93	1
12.28	8.84	14.06	11.72	12.14	11.99	11.9	12.01	12.19	11.78	11.84	11.94	
14.30	8.61	16.28	13.06	12.65	13.63	13.18	13.15	12.93	12.27	12.65	12.62	5
13.99	9.40	15.25	12.88	13.09	12.84	12.18	12.70	12.79	12.34	12.31	12.49	

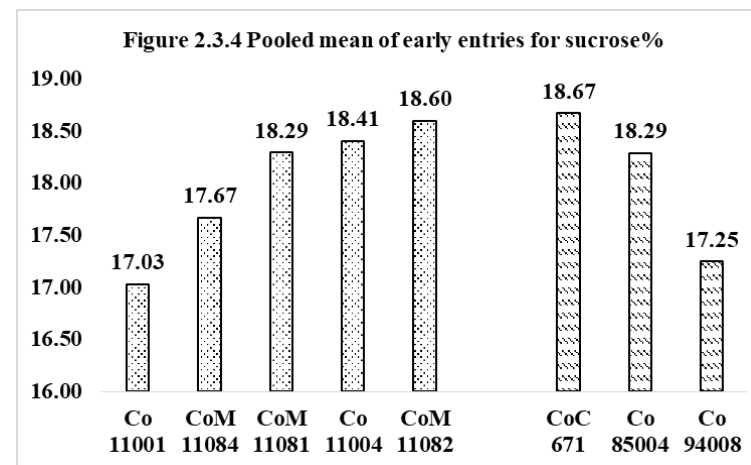
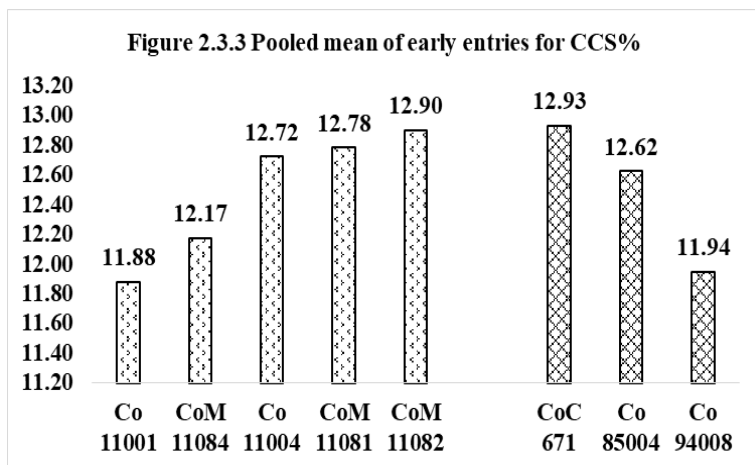
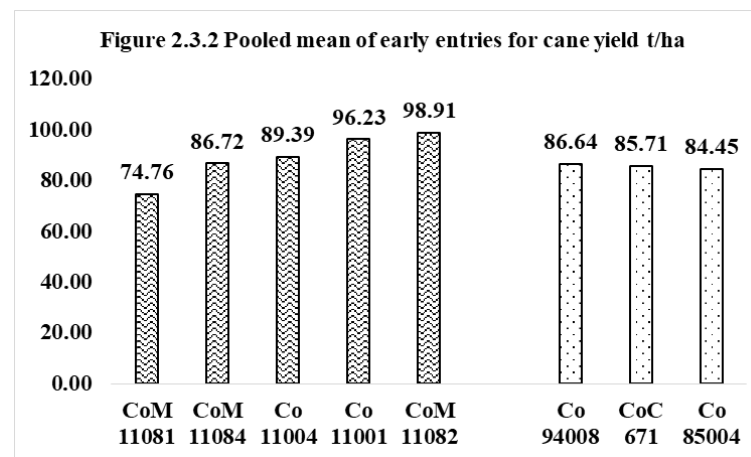
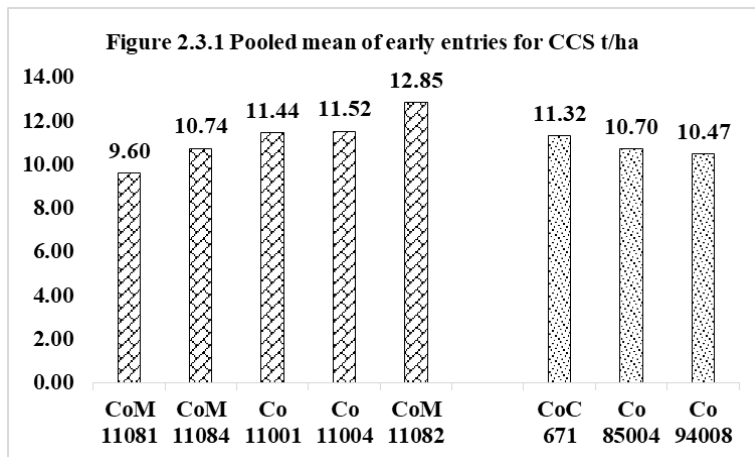
Table 2.3.4 Pooled Mean Sucrose % at harvest

S. No.	Entries	Coimbatore				Akola				Kolhapur			
		AVT IP	AVT IIP	AVT Ratoon	Mean	AVT IP	AVT IIP	AVT Ratoon	Mean	AVT IP	AVT IIP	AVT Ratoon	Mean
1	Co 11001	18.17	17.05	16.05	17.09	17.38	18.96	16.43	17.59	17.18	16.91	16.87	16.99
2	Co 11004	20.07	19.72	16.66	18.82	17.92	18.73	16.06	17.57	17.99	20.08	20.02	19.36
3	CoM 11081	18.85	18.00	16.16	17.67	18.53	19.75	17.31	18.53	19.12	19.77	19.99	19.63
4	CoM 11082	19.38	17.96	17.49	18.28	17.68	18.76	17.83	18.09	17.39	19.84	21.01	19.41
5	CoM 11084	18.53	17.65	17.60	17.93	17.88	18.69	16.48	17.69	17.45	18.37	19.91	18.58
Standards													
1	CoC 671	20.92	18.96	19.25	19.71	18.47	19.83	16.74	18.35	18.20	18.70	20.35	19.08
2	Co 94008	17.98	16.49	15.80	16.76	17.81	19.67	16.93	18.13	17.54	15.82	17.62	16.99
3	Co 85004	18.48	16.76	17.14	17.46	17.81	18.55	16.91	17.75	19.23	19.36	19.11	19.23
	Grand mean	19.05	17.82	17.02	17.96	17.94	19.12	16.84	17.96	18.01	18.61	19.36	18.66

Mandya				Navsari				Padegaon				Perumallapalle			
AVT IP	AVT IIP	AVT Ratoon	Mean	AVT IP	AVT IIP	AVT Ratoon	Mean	AVT IP	AVT IIP	AVT Ratoon	Mean	AVT IP	AVT IIP	AVT Ratoon	Mean
18.22	17.94		18.08	18.37	16.17	13.80	16.11	14.84	12.48	15.83	14.38	17.40	17.71	14.48	16.53
20.53	19.71		20.12	18.49	16.03	18.83	17.78	18.43	15.34	16.01	16.59	17.20	18.38	13.18	16.25
19.01	18.71		18.86	17.36	15.99	16.90	16.75	17.71	15.41	17.66	16.93	17.30	19.01	15.93	17.41
19.50	19.12		19.31	18.40	15.77	18.71	17.63	19.19	15.72	18.43	17.78	17.80	18.21	14.88	16.96
18.82	18.55		18.69	18.63	14.27	18.62	17.17	18.05	12.96	18.04	16.35	16.30	17.91	13.66	15.96
19.49	18.74		19.12	18.99	16.32	21.06	18.79	18.24	13.21	16.78	16.08	19.20	20.11	15.54	18.28
17.64	19.57		18.61	18.88	14.11	17.92	16.97	17.71	13.47	17.14	16.11	16.30	17.29	14.96	16.18
19.21	17.95		18.58	18.12	15.18	19.95	17.75	18.02	12.90	17.76	16.23	17.60	18.74	15.17	17.17
19.05	18.79		18.92	18.41	15.48	18.22	17.37	17.77	13.94	17.21	16.31	17.39	18.42	14.73	16.84

Pravaranagar				Pugalur				Pune				Sameerwadi			
AVT IP	AVT IIP	AVT Ratoon	Mean	AVT IP	AVT IIP	AVT Ratoon	Mean	AVT IP	AVT IIP	AVT Ratoon	Mean	AVT IP	AVT IIP	AVT Ratoon	Mean
18.85	21.53	19.15	19.84	16.76			16.76	17.93	17.87	18.40	17.74	12.80	17.18	15.46	15.15
19.42	21.58	19.58	20.19	17.76			17.76	20.19	19.57	19.55	19.27	17.13	19.02	17.28	17.81
19.01	21.39	19.00	19.80	17.43			17.43	19.88	19.60	19.39	19.08	15.46	18.08	17.02	16.85
20.49	21.75	21.25	21.16	16.87			16.87	19.38	19.26	19.38	18.72	16.27	18.26	17.65	17.39
18.94	20.93	19.46	19.78	17.26			17.26	18.59	18.20	18.83	18.22	12.46	18.49	17.91	16.29
20.21	21.08	21.20	20.83	16.32			16.32	20.37	19.88	19.72	19.07	17.12	17.83	16.71	17.22
18.20	19.46	19.04	18.90	16.64			16.64	17.81	18.13	18.25	17.71	14.25	17.66	18.05	16.65
19.27	21.64	19.96	20.29	17.73			17.73	20.05	19.66	19.13	19.14	16.11	19.09	18.68	17.96
19.30	21.17	19.83	20.10	17.10			17.10	19.28	19.02	19.07	18.62	15.20	18.20	17.35	16.92

Sankeshwar				Thiruvalla				Overall Mean			Weighted Average	Rank
AVT IP	AVT IIP	AVT Ratoon	Mean	AVT IP	AVT IIP	AVT Ratoon	Mean	AVT IP	AVT IIP	AVT Ratoon		
17.41	12.20	20.77	16.80	19.49	17.04	18.04	18.19	17.29	16.92	16.84	17.03	
19.77	16.67	22.21	19.55	19.71	18.32	15.47	17.83	18.82	18.60	17.71	18.41	3
22.20	15.27	20.89	19.45	18.60	18.48	18.34	18.47	18.50	18.29	18.05	18.29	4
21.55	16.45	22.44	20.15	18.76	18.98	17.73	18.49	18.67	18.34	18.80	18.60	2
20.16	12.85	20.75	17.92	19.19	17.65	16.09	17.64	17.87	17.21	17.94	17.67	5
20.90	12.84	23.06	18.93	18.69	19.43	17.66	18.59	19.01	18.08	18.92	18.67	1
17.64	13.43	20.28	17.12	17.35	17.07	16.98	17.13	17.37	16.85	17.54	17.25	
20.42	13.17	22.98	18.86	18.10	19.43	18.93	18.82	18.47	17.70	18.70	18.29	4
20.01	14.11	21.68	18.60	18.74	18.30	17.41	18.15	18.25	17.75	18.06	18.03	



Simultaneous selection of high yielding and stable sugarcane genotypes using AMMI stability criterion under AICRP(S) during 2016-17 and 2017-18 Crop Seasons

Genotype x Environment (GE) interaction continues to be a challenging issue among plant breeders, geneticists and agronomists in conducting varietal trials across diverse environments. Methods of partitioning GE interaction into components measure the contribution of each genotype in GE interaction. Whenever an interaction is significant, use of main effects e.g., overall genotype means across environments is often questionable. Stability performance of genotype is considered as an important aspect in varietal trials. Researchers need a statistics that provides a reliable measure of stability or consistency of performance of a genotype across a range of environments, particularly one that reflects the contribution of each genotype to the total GE interaction and helps in identifying the best genotype. For a successful breeding or genotype testing programme, both stability and yield (or any other trait) must be simultaneously considered. Also integration of stability of performance with yield through suitable measures will help in selecting genotypes in a more precise manner. In this study, it is proposed to use simultaneous selection indices using Additive Main Effects and Multiplicative Interaction (AMMI) model. This model is appropriate when main effects (genotypic, environmental) and genotype x environment interaction (GE) effects are both important in yield trials.

AMMI model offers a more appropriate statistical analysis to deal with such situations, compared to traditional methods like ANOVA, Principal Component Analysis (PCA) and linear regression. Currently, selection of sugarcane genotypes is based on the performance of cane yield across the location in a zone and ranking of genotypes is done on the basis of mean data. Ranking of genotypes based on simultaneous selection of high yielding and stable genotypes gives better and reliable picture in identifying a variety for release.

Simultaneous selection approach proposed by Kumar & Sinha (2015 & 2016) is used in this study which selects genotypes for both high yield and stability in multi-environmental trials using AMMI model by assigning 80% weight to yield and 20% to stability values of the genotype. This method is used for selection of superior genotypes under Advance Varietal Trial of early and midlate maturity group in Plant I & II and ratoon crops conducted during 2016-17 and 2017-18 in Peninsular Zone, East Coast Zone, North West Zone and North Central Zone. In each zone, ranking of varieties is done based on the above mentioned criterion for commercial cane sugar (CCS t/ha), cane yield (t/ha) and sucrose (%).

Kumar, Rajesh and Sinha, O. K. (2015) : Simultaneous selection of high yielding and stable mid-late maturing sugarcane genotypes of East Coast Zone in India using AMMI Model : A new approach *Indian. Journal of Sugarcane Technology*,30(01): 19-27.

Kumar, Rajesh and Sinha, O.K. (2016) :A new approach of simultaneous selection of high sugar yielding and stable genotypes of East Coast Zone in India using AMMI model. Paper presented and published in the Proceedings of 74th Annual Convention of The Sugar Technologists' Association of India held from 28-30 July 2016 at Delhi.

1. Simultaneous selection of high yielding and stable genotypes in Advance Varietal Trial (Early)– Plant I, II and Ratoon

Five entries, Co 11001, Co 11004, CoM 11081, CoM 11082 and CoM 11084 and three standards, Co 85004, Co 94008 and CoC 671 were evaluated during three crop cycles (I & II Plant crop and ratoon crop) at 13 locations in Peninsular Zone. The data on CCS (t/ha), cane yield (t/ha) and sucrose (%) were subjected to stability analysis using AMMI model. Simultaneous selection of high yielding and stable genotypes was done by estimated index value based ranking. Estimated index values, CCS (t/ha), cane yield (t/ha) and sucrose (%) values and stability values of different genotypes along with their ranks are presented in Tables 5.1 to 5.3.

Results based on index of simultaneous selection of high CCS (t/ha) and stable genotypes revealed that three entries, Co 11001, CoM 11082 and Co 11004 were at first, second and third rank, respectively. Such a ranking differs with the ranking based only on mean data of CCS(t/ha) presented in Table 5.1. Considering top three entries for high CCS (t/ha) and stable genotype, Co 11001, CoM 11082 and Co 11004 were superior among the entries. These entries were better than the best standard CoC 671.

Results based on index of simultaneous selection for high cane yield (t/ha) and stable genotypes revealed that three entries, Co 11001 and Co 11004 and CoM 11081, were at first, second and third rank, respectively. Such a ranking differs with the ranking based only on mean data of cane yield (Table 5.2). Considering top three high cane yielding and stable genotypes, only Co 11001 and Co 11004 and CoM 11081 were superior among entries. These entries were also superior than the best standard Co 94008.

Results based on index of simultaneous selection for high sucrose (%) and stable genotypes revealed that only two entries, CoM 11084 and CoM 11081 were at first place and third ranks respectively. Such a ranking differs with the ranking based only on mean data of sucrose content (Table 5.3). None of the entries was found to be superior to the best standard CoC 671.

From the above analysis, it may be concluded that entries, Co 11001 and CoM 11082, were the most stable genotype with superiority for CCS (t/ha) and cane yield (t/ha) in early maturing group of Peninsular zone. These entries were also better than the best standard, CoC 671 for CCS (t/ha) and Co 94008 for cane yield (t/ha). However the values of sucrose (%) is lower than the best standard CoC 671.

Table 5.1 - Ranking of genotypes of AVT (E) of Peninsular Zone according to their (i) mean performance, (ii) stability and (iii) simultaneous index value in respect of CCS (t/ha)

Variety	Estimated value			Rank based on estimated value		
	Index Value	CCS (t/ha) value	Stability value	Index value based rank	CCS (t/ha) based rank	Stability based rank
Co 11001	1.37	11.29	22.42	1	3	1
Co 11004	1.33	11.33	25.72	3	2	3
CoM 11081	1.03	9.10	38.41	8	8	7
CoM 11082	1.36	12.35	32.67	2	1	6
CoM 11084	1.22	10.61	29.42	6	6	5
Standards						
CoC 671	1.31	11.25	26.30	4	4	4
Co 94008	1.26	10.40	24.23	5	7	2
Co 85004	1.13	10.79	54.59	7	5	8

Table 5.2 - Ranking of genotypes of AVT (E) of Peninsular Zone according to their (i) mean performance, (ii) stability and (iii) simultaneous index value in respect of cane yield (t/ha)

Variety	Estimated value			Rank based on estimated value		
	Index Value	Cane Yield (t/ha) value	Stability value	Index value based rank	Cane Yield (t/ha) based rank	Stability based rank
Co 11001	1.45	94.51	1275.30	1	2	1
Co 11004	1.38	88.47	1280.56	2	3	2
CoM 11081	1.00	71.36	2660.15	8	8	7
CoM 11082	1.35	97.08	2054.76	3	1	6
CoM 11084	1.23	85.68	1931.88	5	4	4
Standards						
CoC 671	1.21	85.37	2023.11	6	5	5
Co 94008	1.28	85.29	1584.02	4	6	3
Co 85004	1.10	84.34	3605.95	7	7	8

Table 5.3 - Ranking of genotypes of AVT (E) of Peninsular Zone according to their (i) mean performance, (ii) stability and (iii) simultaneous index value in respect of sucrose (%)

Variety	Estimated value			Rank based on estimated value		
	Index Value	Sucrose (%) value	Stability value	Index value based rank	Sucrose (%) based rank	Stability based rank
Co 11001	0.10	17.02	7.03	8	8	8
Co 11004	1.22	18.38	5.27	5	3	6
CoM 11081	1.28	18.22	3.92	3	5	3
CoM 11082	1.24	18.48	5.00	4	2	5
CoM 11084	1.43	17.65	2.34	1	6	1
Standards						
CoC 671	1.19	18.49	6.55	6	1	7
Co 94008	1.19	17.22	4.57	7	7	4
Co 85004	1.34	18.23	3.23	2	4	2

2.4. Advanced Varietal Trail II plant-Midlate (2017-18)

Centre where trial was conducted (12)	Coimbatore, Akola, Kolhapur, Mandya, Navsari, Padegaon, Perumalapalle, Pravaranagar, Pune, Sameerwadi, Sankeshwar and Thiruvalla
Entries(6)	Co 11005, Co 11007, Co 11012, Co 11019, CoM 11085 and CoM 11086
Standards (2)	Co 86032 and Co 99004
Design	RBD
Replications	Three
Plot size	6m x 8 rows x 1.2m (Gross) 5m x 6 rows x 1.2m (Net)
Seed rate	12 buds per meter
Planting time	November -December
Crop duration	12 months

Results of the previous year: Six test entries and two standards (Co 86032 & Co 99004) were evaluated in Randomized Block Design with three replications at 12 locations in peninsular zone. None of the entries had recorded >10% improvement for CCS (t/ha) over the best standard Co 86032 (14.46 t/ha) across the zone. Among the test entries, CoM 11086 was the best, however the entry Co 11007 recorded >10% improvement for CCS t/ha over the best standard at four locations and Co 11019 and CoM 11086 recorded at three locations each. For cane yield, none of the test entries had recorded more than 10% cane yield over the best standard Co 86032 (109.24t/ha) across the zone. Among the entries CoM 11086 was the best entry followed by Co 11019. The entries Co 11007 and Co 11019 recorded more than 10% improvement for the cane yield over the best standard at three locations, which was followed by Co 11012 and CoM 11086 at two locations each. For CCS%, none of the entries had recorded >5% improvement over the best standard Co 99004 (13.21) across the zone, however the entry Co 11012 (13.25) had recorded numerically higher CCS% as compared with the best standard across the zone. The entries Co 11005 and Co 11012 recorded more than 5% improvement for CCS% over the best standard at two locations. For sucrose % at harvest, none of the entries recorded >5% improvement over the best standard Co 99004 (18.83) across the zone and among the entries CoM 11085 was the best. Entry Co 11005 had recorded more than 5% improvement for sucrose % over the best standard at two locations. Although none of the test entries were better than best standards for cane and juice parameters, Co 11007 recorded >10% improvement over the best standard Co 86032 for CCS and cane yield at four and three locations respectively.

Results of the current year: Six test entries and two standards (Co 86032 & Co 99004) were evaluated in Randomized Block Design with three replications at 12 locations in peninsular zone. Co 86032 (14.76 t/ha) was the better standard for CCS yield. None of the test entries had recorded >10% improvement for CCS yield across the locations however CoM 11086 (15.88 t/ha) ranked first, numerically superior across the locations over Co 86032 and recorded >10% improvement over the better standard at two locations. Co 11019 ranked second in this zone with the mean CCS yield of 15.53 t/ha followed by CoM 11085 (15.19 t/ha). These two entries recorded numerically superior CCS yield across locations and recorded >10% CCS yield improvement over the better standard at three locations each. For cane yield (t/ha), CoM 11086 (112.79 t/ha) was the best test entry in this zone followed by Co 11019 (112.64 t/ha) and CoM 11085 (111.58 t/ha) while the better standard Co 86032 recorded 109.72 t/ha. None of the entries had recorded >10% cane yield improvement over the better standard in this zone across locations. CoM 11086 recorded >10% yield improvement at five locations followed by CoM 11085 at three locations. Co 99004 was the better standard for CCS % (13.62) at harvest. None of the entries had recorded >5% improvement across the locations for CCS %. The test entry CoM 11085 (13.78) ranked first followed by Co 11019 (13.60) and numerically superior over the better standard across locations. Co11007 recorded >5% improvement in CCS% over the better standard Co 86032 at Coimbatore centre. Other entries Co 11005, Co 11012 and Co 11019 recorded >5% improvement over the better standard Co 99004 at Sankeshwar centre. CoM 11085 (19.59%) was the best test entry across the locations and better standard Co 99004 (19.33%). The test entry Co 11007 (19.73) recorded > 5% sucrose improvement at Coimbatore centre. At Sankeshwar centre, the entries Co 11005 (23.05%), Co 11019 (21.24%) and Co 11012 (21.20%) recorded >5% improvement over the better standard Co 99004 (19.96%). No qualifying entry was identified in this zone. The data are presented in the **Table 2.4.1 to 2.4.20.**

2.4.1. CCS yield t/ha at harvest

S No	Entries	Coimbatore	Akola#	Kolhapur	Mandya	Navsari	Padegaon	Perumalapalle	Pravara nagar	Pune	Sameerwadi	Sanke shwar	Tiruvalla	Mean	Rank
1	Co 11005	10.67	4.76	19.63	10.90	13.27	24.52*	10.85	20.51	14.25	7.27	14.20	12.31	13.39	
2	Co 11007	14.24	6.52	13.76	12.59	14.78	20.50	15.12	19.07	15.17	8.58	12.68	12.69	14.47	
3	Co 11012	12.02	6.90	17.50	13.64	15.49	20.02	15.85	22.39	14.08	5.11	9.63	12.41	14.38	
4	Co 11019	14.04	6.39	19.39	14.12	14.88	23.05	10.09	18.89	18.58	9.84	15.25	12.70	15.53	2
5	CoM 11085	12.80	5.32	18.34	13.65	15.17	25.77*	17.67*	20.69	16.22	9.94	16.59	13.33	15.19	3
6	CoM 11086	14.01	6.63	19.97	14.67	16.72*	23.40	14.62	20.54	15.52	8.92	14.34	12.79	15.88	1
	Standards														
1	Co 86032	13.12	5.10	17.30	14.05	13.46	20.56	9.77	21.88	17.06	8.30	14.40	12.49	14.76	
2	Co 99004	11.75	6.37	19.50	13.81	14.21	20.16	12.94	18.72	16.23	9.93	11.16	10.85	14.48	
	GM	12.83	6.00	18.17	13.43	14.47	21.28	12.75	20.34	15.89	8.49	13.53	12.45		
	SE	0.78	0.62	0.83	0.58	0.63	0.96	0.61	0.82	0.65	1.11	1.01	0.59		
	CD	2.35	NS	2.53	1.76	1.91	2.93	1.9	2.5	1.97	NS	3.08	NS		
	CV	10.46	4.61	7.94	7.48	7.39	7.52	7.9	7.04	7.08	22.55	12.98	8.26		
	Qualifying entries at each location														
	1	-	-	-	-	CoM 11086	CoM 11085	CoM 11085	-	-	-	CoM 11085	-	-	
	2	-	-	-	-		Co 11005	Co 11012	-	-	-	-	-	-	
	3	-	-	-	-		CoM 11086	Co 11007	-	-	-	-	-	-	

*Significant over the best standard # Not considered for calculating mean as the cane yield was less than the state average

Qualifying entries: CoM 11085 (3), CoM 11086 (2), Co 11012(1), Co 11007 (1) & Co 11005 (1)

Performance across the locations: Co 86032 (14.76 t/ha) was the better standard for CCS yield. None of the test entries had recorded > 10% improvement for CCS yield across the locations over Co 86032 however CoM 11086 (15.88 t/ha) ranked first, numerically superior across the locations and recorded >10% improvement over the better standard at Navsari and Padegaon. Co 11019 ranked second in this zone with the mean CCS yield of 15.53 t/ha followed by CoM 11085 (15.19 t/ha). These two entries recorded numerically superior CCS yield across locations and recorded >10% CCS yield improvement over the better standard at Padegaon, Perumalapalle and Sankeshwar. Co 11005 and Co 11007 recorded superior yield over the better standard at Padegaon and Perumalapalle respectively.

2.4.2. Cane yield t/ha at harvest

S No	Entries	Coimbatore	Akola#	Kolhapur	Man dya	Nav sari	Pade gaon	Perumalalle	Pravara nagar	Pune	Sameer wadi	Sanke shwar	Tiru valla	Mean	Rank
1	Co 11005	93.11	35.98	126.62	82.81	116.48*	173.10*	90.87	134.62	109.87	60.65	86.75	94.58	97.76	
2	Co 11007	102.75	50.34	110.33	92.36	114.90*	152.41	132.97*	137.47	119.68	70.14	114.62	97.50	110.81	
3	Co 11012	92.57	56.62	112.30	99.13	113.70	157.33	130.23	145.12	95.35	39.81	64.52	100.49	104.60	
4	Co 11019	120.95	46.93	121.72	102.31	116.26*	155.82	86.57	127.50	131.44	77.62	102.91	99.58	112.64	2
5	CoM 11085	96.53	40.74	116.47	101.79	118.71*	176.45*	128.57	142.84	120.36	80.02	112.11	105.49	111.58	3
6	CoM 11086	112.72	51.79	138.84	103.14	124.14*	162.49*	130.50	142.40	118.09	67.05	102.55	99.86	112.79	1
	Standards														
1	Co 86032	100.59	38.79	123.24	101.18	104.16	147.63	76.87	154.06	121.56	63.74	118.61	95.27	109.72	
2	Co 99004	91.04	53.11	124.79	101.04	100.46	141.52	117.82	120.56	115.62	75.69	81.07	87.09	105.15	
	GM	101.28	46.79	121.79	97.97	106.11	150.94	108.77	138.07	116.50	66.84	97.89	97.48		
	SE	5.67	5.67	5.05	3.824	3.51	3.77	4.7	1.63	7.41	9.12	7.51	3.826		
	CD	17.36	17.2	15.31	11.6	10.64	11.43	14.3	4.96	14.28	NS	22.77	NS		
	CV	9.69	5.03	7.18	6.76	5.35	4.13	7.2	2.05	7	23.62	13.28	6.8		
Qualifying entries at each location															
	1	Co 11019		CoM 11086		CoM 11086	CoM 11085	Co 11007					CoM 11085		
	2	CoM 11086				CoM 11085	Co 11005	CoM 11086							
	3					Co 11005	CoM 11086	Co 11012							
<i>Significant over the best standard # Not considered for calculating the mean as the cane yield was less than the state average</i>															

Qualifying entries: CoM 11086 (5), CoM 11085(3), Co 11005 (2), Co 11007 (1) &Co 11019 (1)

Performance across the locations: CoM 11086 (112.79 t/ha) was the best test entry in this zone followed by Co 11019 (112.64 t/ha) and CoM 11085 (111.58 t/ha) while the better standard Co 86032 recorded 109.72 t/ha. None of the entries had recorded > 10% cane yield improvement over the better standard across the locations in this zone. However, CoM 11086 recorded >10% yield improvement over the better standard at five locations followed by CoM 11085 at three locations. Other superior entries were Co 11005 which recorded >10% improvement for cane yield in two locations and Co 11019 and Co 11007 at one location each.

2.4.3. CCS % at harvest

S No	Entries	Coimbatore	Akola	Kolhapur	Mandya	Navsari	Padegaon	Perumalapalle	Pravara nagar	Pune	Sameerwadi	Sanke shwar	Tiruvalla	Mean	Rank
1	Co 11005	11.46	13.25	15.51	13.16	11.4	14.17	11.37	15.24	12.94	11.96	16.74*	13.03	13.04	
2	Co 11007	13.85	12.88	12.48	13.63	12.84	13.44	11.62	14.46	12.68	12.29	11.00	13.02	12.85	
3	Co 11012	12.99	12.37	15.59	13.74	13.63	12.76	12.21	15.43	14.76*	12.91	14.90	12.37	13.54	
4	Co 11019	11.61	13.63	15.91	13.79	12.81	14.79	10.99	15.42	14.12	12.64	14.74	12.75	13.60	3
5	CoM 11085	13.31	13.09	15.75	13.44	12.79	14.60	13.74	15.33	13.47	12.41	14.80	12.64	13.78	1
6	CoM 11086	12.41	12.73	14.39	14.21	13.48	14.40	11.20	15.36	13.15	13.34	13.96	12.78	13.45	
	Standards														
1	Co 86032	13.04	13.05	14.04	13.88	12.88	13.93	12.71	15.16	14.05	13.00	12.17	13.13	13.42	
2	Co 99004	12.90	12.19	15.62	13.67	14.15	14.24	11.95	15.31	14.02	13.09	13.77	12.5	13.62	2
	GM	12.70	12.90	14.91	13.69	13.00	14.04	11.97	15.21	13.49	12.71	13.62	12.78		
	SE	0.26	0.61	0.21	0.193	0.33	0.52	0.40	0.1	0.18	0.43	0.75	0.402		
	CD	0.8	NS	0.65	NS	1.01	1.59	1.21	0.32	0.56	NS	2.27	NS		
	CV	3.56	2.35	2.49	2.44	4.46	6.49	5.72	1.22	2.33	5.82	9.25	5.45		
	Qualifying entries at each location														
	1	Co 11007	-	-	-	-	-	-	-	-	-	Co 11005	-	-	
	2	-	-	-	-	-	-	-	-	-	-	Co 11012	-	-	
	3	-	-	-	-	-	-	-	-	-	-	Co 11019	-	-	

Qualifying entries: Co 11005 (1), Co 11007 (1), Co 11012 (1) & Co 11019 (1)

Performance across the locations: Co 99004 was the better standard for CCS % (13.62) at harvest. None of the entries had recorded >5% improvement across the locations for CCS %. The test entry CoM 11085 (13.78) ranked first followed by Co 11019 (13.60) and numerically superior over the better standard across the locations. Co11007 recorded >5% improvement in CCS% over the better standard Co 86032 at Coimbatore centre. Other entries Co 11005, Co 11012 and Co 11019 recorded >5% improvement over the better standard Co 99004 at Sankeshwar centre.

2.4.4. Sucrose % at harvest

S No	Entries	Coimbatore	Akola	Kolhapur	Man dya	Nav sari	Pade gaon	Peruma lapalle	Pravara nagar	Pune	Sameer wadi	Sanke shwar	Tiru valla	Mean	Rank
1	Co 11005	16.44	18.88	21.62	18.60	16.85	20.04	16.27	21.35	18.06	16.65	23.05*	18.57	18.48	
2	Co 11007	19.73	18.49	17.71	19.30	18.75	19.22	16.71	20.49	17.70	17.14	16.34	18.55	18.34	
3	Co 11012	18.56	17.95	21.63	19.46	19.61	18.58	17.34	21.72	20.48*	17.18	21.20	17.61	19.17	3
4	Co 11019	16.69	19.21	22.22	19.41	18.34	20.83	16.07	21.66	19.64	18.25	21.24	18.17	19.13	
5	CoM 11085	18.90	18.79	21.86	19.02	18.64	20.60	19.21	21.53	18.91	18.45	21.15	18.03	19.59	1
6	CoM 11086	17.71	18.40	20.06	20.06	19.37	20.31	16.17	21.56	18.49	18.13	20.14	18.19	19.05	
	Standards														
1	Co 86032	18.42	18.97	19.53	19.50	18.55	19.85	18.08	21.21	19.56	17.52	18.11	18.71	19.00	
2	Co 99004	18.51	17.90	21.84	19.19	20.37	20.21	17.03	21.50	19.60	18.04	19.96	17.82	19.33	2
	GM	18.12	18.57	20.81	19.32	18.81	19.95	17.11	21.38	18.85	17.67	19.48	18.21		
	SE	0.34	-	0.28	0.23	0.44	0.57	0.49	0.13	0.23	0.50	0.74	0.57		
	CD	1.03	-	0.85	0.70	1.32	1.74	1.49	0.42	0.70	NS	2.25	NS		
	CV	3.20	-	2.33	2.06	4.02	4.97	4.92	1.13	2.09	4.91	6.38	5.38		
	Qualifying entries at each location														
	1	Co 11007	-	-	-	-	-	-	-	-	-	Co 11005	-	-	
	2	-	-	-	-	-	-	-	-	-	-	Co 11019	-	-	
	3	-	-	-	-	-	-	-	-	-	-	Co 11012	-	-	

Qualifying entries: Co 11007 (1), Co 11005 (1), Co 11012 (1) & Co 11019 (1)

Performance across the locations: Co 99004 (19.33%) was the better standard and performed well for juice sucrose at harvest across the locations. CoM 11085 (19.59%) was the best test entry followed by Co 11012 (19.17 %) across the locations over the better standard Co 99004 (19.33). The test entry Co 11007 (19.73) recorded > 5% sucrose improvement over the better standard Co 99004 (18.51) at Coimbatore centre. At Sankeshwar centre, the entry Co 11005 (23.05%) , Co 11019 (21.24%) and Co 11012 (21.20%) recorded >5% improvement over the better standard Co 99004 (19.96%).

2.4.5. Brix% at harvest

S No	Entries	Coimbatore	Akola	Kolhapur	Mandya	Navsari	Padegaon	Perumalapalle	Pravara nagar	Pune	Sameerwadi	Sanke shwar	Tiruvalla	Mean
1	Co 11005	18.30	20.72	22.55	20.00	19.95	21.59	18.00	22.53	19.49	19.70	23.35	20.37	20.55
2	Co 11007	21.63	20.62	19.25	20.83	21.67	21.20	18.67	22.20	19.10	20.33	19.51	20.33	20.45
3	Co 11012	20.47	20.45	22.31	21.00	22.00	21.32	18.87	23.17	21.83	20.59	23.19	19.27	21.21
4	Co 11019	18.66	20.55	23.28	20.67	20.34	22.27	18.60	23.00	21.02	21.10	23.85*	19.93	20.86
5	CoM 11085	20.57	20.92	22.58	20.50	21.47	22.11	20.17	22.87	20.67	20.53	23.35	19.80	21.30
6	CoM 11086	19.48	20.82	20.95	21.50	21.63	21.78	18.24	22.33	20.19	21.49	22.69	19.90	20.92
	Standards													
1	Co 86032	19.82	21.69	20.28	20.67	20.83	21.10	19.74	22.33	21.00	20.86	21.70	20.53	20.88
2	Co 99004	20.59	20.92	22.95	20.33	22.87	21.98	18.67	22.83	21.20	21.37	22.70	19.57	21.33
	Grand Mean	19.94	20.84	21.77	20.69	21.35	21.67	18.87	22.66	20.56	20.75	22.36	19.96	
	SE	0.342	0.37	0.29	0.224	0.49	0.37	0.4	0.14	0.21	0.53	0.23	0.6	
	CD	1.049	NS	0.88	0.68	1.49	1.11	1.3	0.44	0.64	NS	0.71	NS	
	CV	2.98	0.84	2.31	1.87	3.97	2.94	4.0	1.12	1.77	4.42	1.81	5.23	

2.4.6. Purity % at harvest

S No	Entries	Coimbatore	Akola	Kolhapur	Mandya	Navsari	Padgaon	Perumalalle	Pravara nagar	Pune	Sameer wadi	Sanke shwar	Tiruvalla	Mean
1	Co 11005	89.84	91.13	95.87	92.77	84.45	92.81	90.35	94.64	92.67	87.97	98.81*	90.37	91.17
2	Co 11007	91.21	89.73	92.00	92.48	86.56	90.62	89.45	92.13	92.64	87.74	83.71	90.43	89.89
3	Co 11012	90.66	87.86	96.92	92.49	89.14	87.02	91.86	93.76	93.84	89.78	91.44	90.53	91.27
4	Co 11019	89.47	93.49	95.43	93.76	90.26	93.51	86.45	94.16	93.43	87.20	89.01	90.37	91.38
5	CoM 11085	91.77	89.87	96.83	92.59	86.80	93.18	95.17	94.17	91.47	87.73	90.55	90.23	91.70
6	CoM 11086	91.35	88.37	95.81	93.11	89.54	93.27	88.68	94.30	91.44	89.32	88.76	90.57	91.21
	Standards													
1	Co 86032	91.45	87.39	96.31	94.17	89.06	91.16	91.60	94.99	93.16	89.55	83.47	90.33	91.05
2	Co 99004	89.62	85.89	95.19	94.22	89.13	91.98	91.17	94.18	92.42	88.47	87.90	90.23	90.87
	GM	90.67	89.22	95.55	93.20	88.12	91.69	90.59	94.04	92.63	88.47	87.83	90.38	
	SE	0.594	2.9	0.62	0.803	1.18	2.00	1.4	0.37	0.35	0.79	3.20	0.236	
	CD	1.8	NS	1.87	NS	3.58	6.09	4.1	1.13	1.06	NS	9.70	NS	
	CV	1.13	1.59	1.12	1.49	2.32	3.79	2.6	0.69	0.65	1.55	6.21	0.45	

2.4.7. Pol % at harvest

S No	Entries	Coimbatore	Akola	Kolhapur	Mandya	Navsari	Padegaon	Perumalapalle	Pravara nagar	Pune	Sameer wadi	Sanke shwar	Tiruvalla	Mean
1	Co 11005	12.56	18.89	16.26	14.06	12.89	15.15	-	-	13.77	11.96	17.59*	-	14.44
2	Co 11007	14.95	18.49	13.39	14.67	14.20	14.51	-	-	13.18	12.29	12.51	-	14.24
3	Co 11012	14.16	17.94	16.23	14.93	14.83	14.21	-	-	15.21	12.91	16.02	-	15.16
4	Co 11019	12.54	19.21	16.78	14.61	14.04	15.81	-	-	14.92	12.64	16.06	-	15.18
5	CoM 11085	14.57	18.78	16.66	14.47	14.26	15.56	-	-	14.47	12.41	16.11	-	15.25
6	CoM 11086	13.60	18.41	15.24	15.19	14.83	15.36	-	-	13.87	13.34	15.22	-	15.01
	Standards							-	-				-	
1	Co 86032	14.21	18.97	14.85	14.83	14.23	15.13	-	-	14.82	13.00	13.91	-	14.88
2	Co 99004	14.08	17.91	16.42	14.70	15.47	15.45	-	-	14.53	13.09	15.10	-	15.19
	GM	13.83	18.58	15.73	14.68	14.34	15.15	-	-	14.35	12.71	14.99		
	SE		0.61	0.2	0.181	0.33	0.54	-	-	0.16	0.43	0.54	-	
	CD		NS	0.61	0.55	1.01	1.24	-	-	0.48	NS	1.64	-	
	CV		1.62	2.2	2.13	4.02	4.68	-	-	1.9	5.82	6.11	-	

2.4.8. Extraction % at harvest

S No	Entries	Coimbatore	Akola	Kolhapur	Mandya	Navsari	Padegaon	Perumalapalle	Pravara nagar	Pune	Sameerwadi	Sanke shwar	Tiruvalla	Mean
1	Co 11005	53.79	-	50.80	52.90	57.37	27.75	62.00	53.39	41.89	-		60.78	51.19
2	Co 11007	50.86	-	41.18	54.53	57.44	46.57*	61.84	53.18	50.95	-		57.31	53.41
3	Co 11012	48.17	-	50.01	53.90	63.20*	39.77	58.72	55.80	45.58	-		59.73	51.46
4	Co 11019	45.99	-	52.15	54.15	56.57	41.01	54.18	51.16	45.82	-		57.61	50.96
5	CoM 11085	48.45	-	53.67	53.25	58.06	34.23	59.54	55.10	45.62	-		60.88	52.09
6	CoM 11086	43.72	-	50.67	55.86	62.22	33.74	55.46	54.47	42.70	-		59.92	50.97
	Standards		-								-			
1	Co 86032	44.35	-	52.00	54.80	58.43	37.01	55.92	58.31	47.63	-		59.11	51.95
2	Co 99004	49.23	-	52.67	52.93	56.26	39.70	54.09	53.08	50.30	-		59.79	52.01
	Grand Mean	48.07		50.39	54.04	58.05	36.18	57.72	54.31	46.31			59.39	
	SE	1.64	-	1.73	0.838	1.35	2.73		1.07	1.09	-		1.18	
	CD	5.023	-	N.S.	NS	4.09	5.85	NS	3.27	3.31	-		NS	
	CV	5.91	-	5.96	2.69	3.98	8.92		3.44	4.08	-		3.45	

2.4.9. Fiber % at harvest

S No	Entries	Coimbatore	Akola	Kolhapur	Mandya	Navsari	Padegaon	Perumalpal	Pravara nagar	Pune	Sameerwadi	Sanke shwar	Tiruvalla	Mean
1	Co 11005	13.63	-	14.76	14.27	13.48	14.36	-	-	13.74	-	13.66	-	13.99
2	Co 11007	14.19	-	14.39	14.51	14.25	14.50	-	-	15.50	-	13.40	-	14.39
3	Co 11012	13.70	-	14.94	13.84	14.40	13.46	-	-	15.73	-	14.46	-	14.36
4	Co 11019	14.90	-	14.50	13.60	13.45	14.12	-	-	14.04	-	14.39	-	14.14
5	CoM 11085	12.93	-	13.81	14.71	13.47	14.46	-	-	13.45	-	13.83	-	13.81
6	CoM 11086	13.18	-	14.04	14.79	13.42	14.37	-	-	15.00	-	14.44	-	14.18
	Standards		-					-	-		-		-	
1	Co 86032	12.86	-	13.97	14.39	13.34	13.75	-	-	14.25	-	13.19	-	13.68
2	Co 99004	13.91	-	14.79	13.97	14.08	13.56	-	-	15.83	-	14.31	-	14.35
	Grand Mean	13.66		14.40	14.26	13.74	14.07			14.69		13.96		
	SE		-	0.3	0.315	0.14	0.54	-	-	0.09	-	0.41	-	
	CD		-	N.S.	NS	0.41	1.65	-	-	0.27	-	1.26	-	
	CV		-	3.6	3.82	1.7	6.73	-	-	1.05	-	5.14	-	

2.4.10. Number of Millable canes at harvest (000'/ha)

S No	Entries	Coimbatore	Akola	Kolhapur	Man dya	Nav sari	Padegaon	Perumalalle	Pravara nagar	Pune	Sameer wadi	Sanke shwar	Tiruvalla	Mean
1	Co 11005	97.80*	50.31	88.59	86.27	101.15	91.15	65.04	112.51	103.33	68.13	67.10	98.58	84.74
2	Co 11007	71.06	44.37	68.75	80.56	112.93	76.62	93.34	121.60	69.54	54.86	54.12	100.20	79.00
3	Co 11012	79.51	52.31	78.81	92.94	115.64	90.10	104.48	115.96	71.32	52.08	49.61	104.78	83.96
4	Co 11019	86.34	40.28	80.09	91.90	108.34	87.44	85.92	111.88	109.71*	76.85	63.89	103.42	85.12
5	CoM 11085	83.80	38.35	88.36	97.69	111.11	93.75	121.18*	117.02	89.19	89.66	76.26	109.81	90.45
6	CoM 11086	96.37*	48.30	100.23	99.88	123.05*	95.37	116.70	117.58	104.59	76.85	75.30	103.86	93.87
	Standards													
1	Co 86032	84.49	39.89	90.59	90.05	108.33	87.27	67.28	128.10	97.72	88.65	79.20	100.70	88.52
2	Co 99004	61.50	49.92	83.56	92.77	100.00	81.60	102.78	123.85	82.98	78.09	50.84	90.09	83.16
	GM	77.78	45.47	84.87	91.51	108.21	87.91	90.79	118.56	88.38	73.15	64.54	101.43	
	SE	2.95	2.84	4.95	3.183	4.03	3.55	4.7	0.36	2.88	8.1	3.47	4.075	
	CD	9.03	8.6	15.03	12.44	12.23	10.78	14.3	1.09	8.74	24.81	10.53	NS	
	CV	6.21	2.68	10.11	6.03	6.35	6.98	8.6	0.52	5.48	19.18	9.32	6.96	

2.4.11. Stalk length (cm) at harvest

S No	Entries	Coimbatore	Akola	Kolhapur	Mandya	Navsari	Padegaon	Perumalapalle	Pravaranagar	Pune	Sameerwadi	Sanke shwar	Tiruvalla	Mean
1	Co 11005	195.00	159.67	209.33	170.00	250.33	243.33	260.00	216.66	214.44	162.33	226.77	244.00	212.66
2	Co 11007	226.67	168.27	249.33	182.00	252.00	225.00	250.00	228.66	242.44	195.00	237.67	231.00	224.00
3	Co 11012	216.67	158.17	234.00	182.00	247.33	206.67	270.00	212.33	199.11	166.67	213.73	247.00	212.81
4	Co 11019	246.67	179.67	227.67	209.00	283.33	258.33	250.00	224.33	223.11	207.33	256.10*	255.00	233.13
5	CoM 11085	216.67	150.73	220.67	156.00	291.67	243.33	260.00	226.33	232.56	179.33	218.63	234.00	219.16
6	CoM 11086	241.67	191.00	229.33	174.00	295.33	256.67	250.00	211.00	190.89	183.68	258.10*	243.00	224.23
	Standards													
1	Co 86032	208.33	161.87	220.00	191.00	259.33	253.33	220.00	217.66	233.22	185.00	238.20	251.00	219.91
2	Co 99004	273.33	206.20	236.00	199.00	277.67	301.67	260.00	224.66	238.33	244.33	234.33	233.00	244.04
	GM	228.13	171.95	228.29	182.88	269.62	248.54	252.50	220.20	221.76	190.46	228.22	242.25	
	SE	20.15	19.31	6.54	8.20	11.54	6.22		3.09	9.58	11.60	5.07	7.24	
	CD	61.12	NS	19.83	25.00	34.99	13.35	NS	9.40	29.10	35.51	15.39	NS	
	CV	15.30	4.42	4.96	7.73	7.41	3.06		2.43	7.49	10.55	3.73	5.17	

2.4.12. Stalk diameter (cm) at harvest

S No	Entries	Coimbatore	Akola	Kolhapur	Mandya	Navsari	Padegaon	Perumalapalle	Pravaranagar	Pune	Sameerwadi	Sanke shwar	Tiruvalla	Mean
1	Co 11005	2.85	2.64	2.60	3.14	2.52	3.43	3.24*	2.51	2.62	2.50	2.58	2.81	2.75
2	Co 11007	3.35*	3.15	3.50*	3.32	2.60	4.37	3.31*	2.63	3.17	3.17	3.23*	2.62	3.13
3	Co 11012	3.16	2.99	3.00*	2.95	2.54	4.00	3.01*	2.50	2.78	3.20	2.70	2.74	2.96
4	Co 11019	3.03	2.73	2.79	3.07	2.65	3.87	2.68	2.60	2.73	3.00	2.63	2.62	2.87
5	CoM 11085	3.05	2.89	2.69	2.89	2.74*	3.83	2.82	2.61	3.10	2.57	2.86	2.52	2.89
6	CoM 11086	2.71	2.85	2.68	3.04	2.81*	3.80	2.67	2.55	2.78	2.57	2.36	2.25	2.75
	Standards													
1	Co 86032	2.85	2.73	2.73	3.13	2.51	4.23	2.77	2.55	2.80	2.37	2.68	2.42	2.82
2	Co 99004	3.02	2.55	2.73	2.92	2.58	4.47	2.72	2.51	3.09	2.77	2.74	2.75	2.90
	GM	2.95	2.82	2.70	3.06	2.57	4.00	2.73	2.56	2.88	2.77	2.65	2.59	
	SE	0.07	0.15	0.06	0.18	0.04	0.11	0.07	0.03	0.06	0.16	0.07	0.10	
	CD	0.22	NS	0.20	NS	0.12	0.23	0.21	0.09	0.19	0.48	0.07	0.27	
	CV	4.22	2.78	3.96	10.10	2.54	3.39	4.14	2.21	3.80	9.89	4.40	6.39	

2.4.13. Single cane weight (kg) at harvest

S No	Entries	Coimbatore	Akola	Kolhapur	Mandya	Navsari	Padegaon	Perumalapalle	Pravaranaagar	Pune	Sameerwadi	Sanke shwar	Tiruvalla	Mean
1	Co 11005	0.87	0.71	1.43	0.93	1.16	1.97	1.45	1.32	1.10	1.83	1.23	1.55*	1.27
2	Co 11007	1.79*	1.12	1.62	1.18	1.11	2.13	1.64	1.42	1.80*	2.07	2.05*	1.38	1.52
3	Co 11012	1.20	1.06	1.43	1.02	1.18	1.85	1.36	1.52*	1.39	1.57	1.23	1.39	1.33
4	Co 11019	1.44	1.16	1.52	1.04	1.26	1.92	1.21	1.72*	1.25	1.60	1.37	1.42	1.38
5	CoM 11085	1.17	1.05	1.32	1.08	1.26	1.98	1.20	1.58*	1.39	2.07	1.41	1.15	1.37
6	CoM 11086	1.16	1.06	1.39	1.02	1.33*	1.81	1.15	1.26	1.18	2.20	1.31	1.16	1.34
	Standards													
1	Co 86032	1.07	0.97	1.37	1.02	1.03	1.89	1.24	1.42	1.30	1.90	1.45	1.37	1.33
2	Co 99004	1.58	1.04	1.52	0.97	1.12	1.87	1.28	1.21	1.46	2.07	1.51	1.39	1.42
	GM	1.21	1.02	1.45	1.03	1.16	1.93	1.32	1.33	1.30	1.91	1.36	1.32	
	SE	0.05	0.08	0.08	0.07	0.05	0.21		0.01	0.03	0.98	0.08	0.06	
	CD	0.16	0.25	0.23	NS	0.14	0.46	NS	0.05	0.1	2.99	0.25	0.16	
	CV	7.04	3.7	9.04	11.08	6.82	13.69		2.08	4.32	8.85	9.86	7.01	

2.4.14. Brix % at 10th month

S No	Entries	Coimbatore	Akola	Kolhapur	Mandya	Navsari	Padegaon	Perumalpal	Pravara nagar	Pune	Sameerwadi	Sanke shwar	Tiruvalla	Mean
1	Co 11005	18.45	18.33	20.31	19.00	18.06	15.42	18.44	20.44	18.55	18.92	17.34	16.50	18.31
2	Co 11007	16.51	18.37	16.05	19.00	18.03	14.09	17.40	20.27	17.37	19.75	13.33	17.27	17.29
3	Co 11012	18.61	18.30	19.15	19.83	19.10	15.09	18.00	19.57	20.03	19.19	15.84	16.83	18.29
4	Co 11019	17.79	18.30	20.78	20.17	17.42	16.09	18.24	20.07	20.29	20.78	17.01	18.77*	18.81
5	CoM 11085	17.33	18.13	20.31	19.17	17.57	15.75	18.60	19.80	19.67	20.65	17.34	17.00	18.44
6	CoM 11086	18.66	17.95	19.35	21.00	18.99	16.09	19.04	20.54	18.54	20.61	15.17	16.60	18.54
	Standards													
1	Co 86032	18.90	20.17	19.35	19.67	18.63	15.59	19.50	19.04	20.30	19.19	16.68	17.70	18.73
2	Co 99004	18.91	19.84	21.45	19.17	19.28	16.75	18.57	20.64	19.90	20.84	17.34	15.90	19.05
	GM	18.15	18.67	19.59	19.63	18.39	15.61	18.47	20.05	19.33	19.99	16.26	16.83	
	SE	0.51	0.55	0.4	0.491	0.37	0.33		0.47	0.16	0.51	0.39	0.33	
	CD	1.57	1.68	1.21	NS	1.12	1.00	NS	1.44	0.48	NS	1.18	0.94	
	CV	4.9	1.32	3.53	4.34	3.46	3.67		4.12	1.43	4.36	4.15	3.36	

2.4.15. Sucrose % at 10th month

S No	Entries	Coimbatore	Akola	Kolhapur	Mandya	Navsari	Padegaon	Perumalapalle	Pravara nagar	Pune	Sameerwadi	Sanke shwar	Tiruvalla	Mean
1	Co 11005	15.54	16.32	18.88	17.84	15.18	12.90	16.24	18.92	15.77	16.65	14.06	14.86	16.10
2	Co 11007	13.93	16.67	13.57	18.01	14.52	11.12	13.64	17.92	15.22	17.14	9.05	15.55	14.69
3	Co 11012	16.65	13.43	17.94	18.59	15.28	12.44	15.73	18.28	18.29	17.18	11.82	15.16	15.90
4	Co 11019	15.44	15.67	19.16	19.04	13.83	13.85	15.60	17.90	17.97	18.25	13.42	17.06*	16.38
5	CoM 11085	15.33	14.15	19.55	18.16	13.83	14.44	16.31	18.25	17.04	18.45	14.28	15.32	16.26
6	CoM 11086	16.60	13.44	18.07	20.10	14.53	13.92	16.21	19.01	16.41	18.13	11.81	15.01	16.10
	Standards													
1	Co 86032	17.14	17.01	18.24	18.28	15.16	13.44	17.15	17.37	17.91	17.52	12.90	16.01	16.51
2	Co 99004	16.46	15.39	20.24	18.16	15.30	14.24	15.34	18.87	17.49	18.04	15.00	14.32	16.57
	GM	15.89	-	18.21	18.52	14.70	13.29	15.78	18.32	17.01	17.67	12.79	15.18	
	SE	0.59	-	0.53	0.429	0.26	0.54	0.6	0.46	0.16	0.5	0.78	0.302	
	CD	1.81	-	1.61	1.3	0.78	1.64	1.8	1.42	0.49	NS	2.36	0.857	
	CV	6.44	-	5.04	4.01	3.04	7.05	6.5	4.44	1.65	4.91	10.52	3.39	

2.4.16. Purity % at 10th month

S No	Entries	Coimbatore	Akola	Kolhapur	Mandya	Navsari	Padegaon	Perumalapalle	Pravara nagar	Pune	Sameerwadi	Sanke shwar	Tiruvalla	Mean
1	Co 11005	88.71	89.04	92.93	94.09	84.04	83.57	88.01	92.44	85.03	87.97	81.01	89.10	87.99
2	Co 11007	84.38	90.76	84.38	95.00	80.52	78.94	78.30	88.92	87.58	86.74	67.83	89.10	84.37
3	Co 11012	89.49	73.38	93.67	92.48	80.09	82.39	87.33	92.77	91.00*	89.50	74.58	89.17	85.90
4	Co 11019	86.65	85.65	92.25	94.59	79.42	85.92	85.50	91.75	88.60	64.46	78.89	90.07	85.31
5	CoM 11085	88.39	78.02	96.26	93.48	78.83	91.59	87.56	92.03	86.63	89.33	82.28	89.20	87.80
6	CoM 11086	88.96	74.89	93.34	95.88	76.58	86.53	85.07	93.82*	88.85	87.99	78.41	89.43	85.99
	Standards													
1	Co 86032	90.59	84.33	94.26	93.27	81.56	86.19	87.93	91.17	88.21	88.19	77.35	89.53	87.72
2	Co 99004	87.02	77.56	94.40	94.94	79.43	84.98	82.52	91.40	87.90	86.64	86.17	89.03	86.83
	GM	88.02	81.70	92.69	94.22	80.06	85.01	85.28	91.50	87.54	85.10	78.32	89.33	
	SE	0.71	4.75	1.55	0.923	1.9	2.05	1.2	0.55	0.5	8.3	4.09	0.308	
	CD	2.18	14.41	4.7	NS	NS	6.22	3.6	1.66	1.52	NS	12.42	NS	
	CV	1.4	2.89	2.9	1.7	4.11	4.18	2.4	1.03	0.98	16.89	9.05	0.6	

2.4.17. CCS% at 10th month

S No	Entries	Coimbatore	Akola	Kolhapur	Man dya	Nav sari	Padegaon	Perumalalle	Pravara nagar	Pune	Sameer wadi	Sanke shwar	Tiruvalla	Mean
1	Co 11005	10.50	11.33	13.37	12.70	10.24	8.67	11.21	13.36	10.85	11.49	9.30	10.37	11.12
2	Co 11007	9.42	11.68	9.18	12.87	9.58	7.26	8.85	12.93	10.62	11.75	5.35	10.85	10.03
3	Co 11012	11.59	8.38	12.74	13.22	10.05	8.31	10.82	12.38	12.91	11.96	7.45	10.58	10.87
4	Co 11019	10.59	10.68	13.52	13.59	9.05	9.45	10.62	12.77	12.61	12.58	8.75	11.96*	11.29
5	CoM 11085	10.60	9.16	14.05	12.97	9.01	10.16	11.23	12.86	11.83	12.83	9.53	10.69	11.24
6	CoM 11086	11.52	8.50	12.82	14.42	9.32	9.53	11.00	13.42	11.53	12.51	7.64	10.49	11.06
	Standards													
1	Co 86032	11.99	11.49	12.99	12.95	10.06	9.19	11.83	12.19	12.54	12.10	8.31	11.19	11.40
2	Co 99004	11.30	9.93	14.43	12.97	10.02	9.66	10.25	13.26	12.23	12.36	10.27	9.99	11.39
	GM	10.94		12.89	13.21	9.67	9.03	10.73	12.90	11.89	12.20	8.33	10.59	
	SE	0.47		0.44	0.31	0.27	0.46	0.47	0.51	0.14	0.38	0.75	0.21	
	CD	1.45		1.35	0.94	0.81	1.42	1.4	1.54	0.43	NS	2.26	0.606	
	CV	7.51		5.96	4.00	4.79	9.01	7.6	6.85	2.08	5.33	15.53	3.43	

2.4.18. Number of shoots at 240 days

S No	Entries	Coimbatore	Akola	Kolhapur	Mandya	Navsari	Padegaon	Perumalapalle	Pravara nagar	Pune	Sameerwadi	Sanke shwar	Tiruvalla	Mean
1	Co 11005	102.08*	51.16	85.99	105.88	133.44	92.82	95.89*	115.60	105.52	48.07	100.11	100.45	93.90
2	Co 11007	80.63	44.83	65.91	115.44	127.95	78.59	87.31	125.97	70.67	43.90	80.43	102.97	85.38
3	Co 11012	77.93	52.86	82.81	108.41	118.19	79.57	110.97*	119.20	74.20	39.51	66.49	107.35	84.23
4	Co 11019	90.90	40.59	83.04	116.33	123.27	82.00	116.23*	114.66	111.71*	54.48	75.92	112.93*	86.80
5	CoM 11085	87.35	38.97	81.42	128.79*	129.98	85.30	131.85*	115.28	91.51	68.21	83.03	112.37	89.34
6	CoM 11086	100.54*	48.92	89.35	107.67	132.18	97.22	132.63*	116.15	111.24*	63.81	94.78	106.85	95.21
	Standards													
1	Co 86032	81.94	40.28	88.48	110.74	133.51	98.26	68.29	134.14	99.76	60.73	94.44	102.23	92.73
2	Co 99004	64.74	50.69	78.70	107.41	112.91	82.64	73.00	121.35	91.98	63.27	64.30	92.10	83.59
	GM	80.58	46.04	81.96	110.27	126.43	87.05	76.20	120.29	88.94	55.25	82.44	103.47	
	SE	3.664	2.94	4.05	3.598	4.51	2.27	4.7	1.59	2.83	8.92	6.53	3.558	
	CD	11.221	8.92	12.28	10.91	13.68	6.89	14.4	4.83	8.57	NS	19.82	10.114	
	CV	7.4	2.73	8.56	5.54	6.18	4.52	8.0	2.29	5.18	27.96	13.73	5.89	

2.4.19. Number of tillers at 120 days

S No	Entries	Coimbatore	Akola	Kolhapur	Mandya	Navsari	Padegaon	Perumalapalle	Pravara nagar	Pune	Sameerwadi	Sanke shwar	Tiruvalla	Mean
1	Co 11005	110.65	90.12	135.87*	121.00	149.99	125.23	107.26*	125.24	184.68	72.38	107.42	96.64	118.34
2	Co 11007	94.27	76.54	55.78	128.00	132.23	105.79	95.82*	131.13	146.11	68.36	80.22	100.40	101.71
3	Co 11012	84.03	83.87	91.95	128.00	133.19	102.08	123.58*	122.05	151.81	65.35	60.68	103.88	102.44
4	Co 11019	113.83*	77.08	67.88	130.00	152.55	103.24	129.76*	119.82	164.19	79.01	60.07	107.70	106.15
5	CoM 11085	103.99	95.29	99.24	140.00*	150.97	122.69	138.58*	119.60	133.80	84.88	98.74	109.52*	112.13
6	CoM 11086	104.28*	96.68	127.42*	119.00	160.54	138.19	135.64*	120.88	184.26	86.96	112.34*	103.25	126.22
	Standards													
1	Co 86032	92.53	89.43	102.89	116.33	150.85	120.14	73.54	138.29	174.15	79.86	81.32	94.73	109.50
2	Co 99004	66.32	56.02	76.56	113.00	140.23	100.93	66.51	127.94	146.84	69.06	48.65	89.34	91.78
	GM	91.97	83.13	82.38	122.19	146.32	114.79	70.03	125.62	160.73	75.73	76.73	99.42	
	SE	3.83	6.83	6.05	4.58	5.96	9.50	6.3	1.86	4.34	9.7	10.00	4.871	
	CD	11.74	20.71	18.35	13.89	18.08	20.38	19.2	5.64	13.16	NS	30.34	13.84	
	CV	6.9	5.75	11.07	6.38	7.06	10.14	10.0	2.56	4.67	22.19	21.34	8.38	

2.4.20. Germination % at 30 days

S No	Entries	Coimbatore	Akola	Kolhapur	Mandya	Navsari	Padegaon	Perumalalle	Pravara nagar	Pune	Sameerwadi	Sanke shwar	Tiruvalla	Mean
1	Co 11005	60.71	60.95	67.66*	48.77	48.51	26.74	48.89	45.30	60.59*	58.80	45.05	70.89	51.46
2	Co 11007	63.77	52.46	55.67	42.13	48.09	32.99	42.28	43.39	50.84	50.29	53.75	56.22	49.32
3	Co 11012	39.70	54.44	44.74	31.50	47.32	17.71	52.72	50.08	44.62	37.67	25.49	49.78	41.31
4	Co 11019	52.03	45.48	55.09	34.03	52.20	24.65	50.23	51.00	52.56	49.13	31.80	61.44	46.64
5	CoM 11085	62.38	68.25	48.54	39.05	52.82	32.99	70.99*	50.94	49.57	59.32	46.97	53.78	51.33
6	CoM 11086	58.04	65.63	67.19*	52.50	58.65	38.19	78.99*	50.02	61.34*	62.33	58.75*	69.05	56.80
	Standards													
1	Co 86032	57.35	61.43	42.63	37.87	55.79	35.07	40.66	56.62	51.27	56.77	47.82	71.84	51.26
2	Co 99004	40.39	46.03	56.84	48.30	44.66	23.96	36.37	48.48	52.20	57.18	31.19	51.17	44.73
	GM	54.30	56.83	50.59	41.77	51.01	29.04	45.19	49.48	50.18	53.94	40.29	60.52	
	SE	2.51	3.29	3.26	2.87	1.83	4.22	3.6	1.34	1.69	2.86	2.35	1.782	
	CD	7.7	9.97	9.89	8.7	5.56	9.05	11.0	4.08	5.13	8.66	7.13	5.065	
	CV	8.02	3.37	10.31	11.9	6.23	17.80	11.8	4.71	5.54	9.17	9.56	5.1	

2.4.20. Assessment of performance of entries by monitoring team

S.N.	Genotype	Perumallapalle	Pugulur	Coimbatore	Thiruvalla	Mandya	Sankeshwar	Sameerwadi	Kolhapur
1	Co 11005	On Par	Poor	On Par	On Par	On par	Better	Poor	On Par
2	Co 11007	On Par	Poor	Better	Poor	Poor	On Par	On Par	Poor
3	Co 11012	Better	Poor	On Par	Better	Poor	On Par	On Par	On Par
4	Co 11019	Better	Poor	On Par	On Par	Poor	On Par	On Par	On Par
5	CoM 11085	On Par	Poor	On Par	Poor	Poor	On Par	Poor	On Par
6	CoM 11086	Poor	Poor	Better	Better	On par	Better	Better	Better
7	Co 86032 (c)	-	Poor	Best	Best	Best	Best	-	Best
8	Co 99004 (c)	Best	Poor	-	-	-	-	Best	-

S.N.	Entry	Akola	Navsari	Powarkheda	Pune	Padegaon	Pravaranagar
1	Co 11005	Better	On Par	Poor	On Par	Poor	On Par
2	Co 11007	Poor	Poor	Poor	Poor	Poor (PG, Root borer)	Better
3	Co 11012	Better	On Par	Poor	On Par	Poor	On Par
4	Co 11019	Poor	Poor	On Par	Better	Poor	Poor
5	CoM 11085	Poor	Poor	Poor	Poor	Poor	On Par
6	CoM 11086	Poor	On Par	On Par	Better	On Par	On Par
7	Co 86032	II	I	I	I	I	I
8	Co 99004	I	II	II	II	II	II

2.5. Advanced Varietal Trail II plant-Midlate Ratoon (2017-18)

Centre where trial was conducted (11)	Coimbatore, Akola, Kolhapur, Navsari, Padegaon, Perumalapalle, Pravaranagar, Pune, Sameerwadi, Sankeshwar and Thiruvalla
Entries(6)	Co 11005, Co 11007, Co 11012, Co 11019, CoM 11085 and CoM 11086
Standards (2)	Co 86032 and Co 99004
Design	RBD
Replications	Three
Plot size	6m x 8 rows x 1.2m (Gross) 5m x 6 rows x 1.2m (Net)
Crop duration	12 months

Results of the previous year: Six test entries and two standards (Co 86032 & Co 99004) were evaluated in Randomized Block Design with three replications at 12 locations in peninsular zone. None of the entries had recorded >10% improvement for CCS (t/ha) over the best standard Co 86032 (14.46 t/ha) across the zone. Among the test entries, CoM 11086 was the best, however the entry Co 11007 recorded >10% improvement for CCS t/ha over the best standard at four locations and Co 11019 and CoM 11086 recorded at three locations each. For cane yield, none of the test entries had recorded more than 10% cane yield over the best standard Co 86032 (109.24t/ha) across the zone. Among the entries CoM 11086 was the best entry followed by Co 11019. The entries Co 11007 and Co 11019 recorded more than 10% improvement for the cane yield over the best standard at three locations, which was followed by Co 11012 and CoM 11086 at two locations each. For CCS%, none of the entries had recorded >5% improvement over the best standard Co 99004 (13.21) across the zone, however the entry Co 11012 (13.25) had recorded numerically higher CCS% as compared with the best standard across the zone. The entries Co 11005 and Co 11012 recorded more than 5% improvement for CCS% over the best standard at two locations. For sucrose % at harvest, none of the entries recorded >5% improvement over the best standard Co 99004 (18.83) across the zone and among the entries CoM 11085 was the best. Entry Co 11005 had recorded more than 5% improvement for sucrose % over the best standard at two locations. Although none of the test entries were better than best standards for cane and juice parameters, Co 11007 recorded >10% improvement over the best standard Co 86032 for CCS and cane yield at four and three locations respectively.

Results of the current year: Six test entries and two standards (Co 86032 & Co 99004) were evaluated in Randomized Block Design with three replications at 11 locations in peninsular zone. Powerkheda centre did not send the data. None of the test entries recorded >10% improvement for CCS yield (t/ha) at harvest over the better standard Co 86032 (11.38t/ha) across the locations. Co 11019 (11.49 t/ha) ranked first in this trial and was superior with >10% improvement at four locations in this zone. CoM 11085, CoM 11086 and Co 11012 recorded more than 10% improvement at three locations each over the respective standards. Co 86032 (88.66 t/ha) was the better standard for cane yield. None of the entries recorded > 10% yield improvement across locations. However, the test entry Co 11012 (93.47 t/ha) was numerically better than Co 86032. The test entry Co 11012 recorded >10% improvement for cane yield at five locations followed by CoM 11086 and CoM 11085 at three locations each. The other entries Co 11019 and Co 11005 recorded >10% improvement over the standard at two locations each. None of the test entries recorded >5% improvement for CCS% at harvest over the better standard Co 99004 (13.71%). CoM 11085 was the best test entry for CCS % across locations with the mean value of 13.13% but none of the entries was numerically superior to the better standard Co 99004. Co 99004 (19.52 %) was the better standard for juice sucrose % across the locations and none of the test entries was numerically superior to this standard. Co 11012 (20.99 %) recorded >5% improvement over the better standard Co 99004 (19.86 %) at Pune centre. No qualifying entry was identified from this trial. The data are presented in the **Table 2.5.1 to 2.5.15**.

2.5.1. CCS yield t/ha at harvest

S No	Entries	Coimbatore	Akola	Kolhapur	Navsari	Padegaon	Perumalepalle	Pravara nagar	Pune	Sameerwadi	Sanke shwar	Tiruvalla	Mean	Rank
1	Co 11005	14.66	4.42	11.24	12.25	12.78	9.01	17.41	8.84	7.46	8.06	8.29	10.40	
2	Co 11007	11.61	5.92	8.38	12.88*	10.93	10.62	16.47	8.21	6.64	7.69	7.60	9.41	
3	Co 11012	15.23	7.61	14.82	13.92*	13.39*	8.92	16.04	18.63*	9.31	8.49	10.19	11.33	
4	Co 11019	14.07	5.47	16.68	11.11	12.06	10.72	17.60	11.43	7.20	10.52*	8.57	11.49	1
5	CoM 11085	9.23	4.60	17.47	11.93	14.11*	13.04*	16.17	14.55	10.92	8.58	9.66	11.46	2
6	CoM 11086	11.70	5.07	15.85	12.06	12.65	11.63*	17.64	13.28	6.74	8.65	9.93	11.36	
	Standards													
1	Co 86032	15.34	6.55	12.44	10.92	11.41	8.72	18.85	14.45	8.56	7.61	10.36	11.38	3
2	Co 99004	11.60	6.69	13.59	10.99	11.15	5.92	19.68	12.11	13.39	8.69	10.43	11.29	
	GM	12.93	5.79	13.81	11.54	11.83	8.98	17.48	11.84	8.78	8.25	9.38		
	SE(m)	0.49	0.62	1.57	0.47	0.63	0.85	0.32	0.66	1.08	0.57	0.65		
	C.D.	1.51	1.88	4.77	1.42	1.94	2.60	0.98	2.02	3.31	1.74	1.85		
	C.V.	6.59	4.36	19.72	6.75	9.00	14.98	3.21	9.08	21.37	11.66	11.98		
	Qualifying entries at each locations													
	1	-	-	CoM 11085	Co 11012	CoM 11085	CoM 11085	CoM 11086	Co 11012	-	Co 11019	-		
	2	-	-	Co 11019	Co 11007	Co 11012	CoM 11086	Co 11019	-	-		-		
	3	-	-	CoM 11086	Co 11005	Co 11005	Co 11019	-	-	-		-		

Qualifying entries: Co 11019 (4), CoM 11085 (3), CoM 11086 (3), Co 11012 (3) & Co 11007 (1)

Performance across the locations: None of the test entries recorded >10% improvement for CCS yield (t/ha) at harvest over the better standard Co 86032 (11.38t/ha) across the locations. Co 11019 (11.49 t/ha) ranked first in this trial and was superior with >10% improvement at four locations in this zone. CoM 11085, CoM 11086 and Co 11012 recorded more than 10% improvement at three locations each over the respective standards.

2.5.2. Cane yield t/ha at harvest

S No	Entries	Coimbatore	Akola	Kolhapur	Navsari	Padegaon	Perumalepalle	Pravara nagar	Pune	Sameerwadi	Sanke shwar	Tiruvalla	Mean	Rank
1	Co 11005	104.80	36.75	75.72	95.44	93.85*	118.40	128.56	69.35	62.58	48.73	69.30	80.96	
2	Co 11007	79.11	50.95	70.02	99.69	87.90	104.25	134.71	64.18	55.09	56.17	61.32	78.49	
3	Co 11012	101.88	62.81	105.22	105.05*	95.95*	122.38	140.11	122.89*	69.60	60.93	84.79	93.47	1
4	Co 11019	97.62	47.23	117.02	88.96	86.83	89.32	132.51	81.64	58.41	70.22*	72.98	87.25	
5	CoM 11085	67.72	40.89	119.04	96.73	100.77*	128.95*	135.07	103.13	85.49	55.62	77.50	86.80	
6	CoM 11086	78.56	39.89	122.21	100.94	85.81	111.55	137.10	96.47	56.48	64.16	79.31	88.41	3
	Standards													
1	Co 86032	104.41	56.91	100.30	83.87	83.41	92.61	150.24	102.58	65.67	57.42	77.85	88.66	2
2	Co 99004	74.57	55.53	93.05	91.06	81.74	72.38	119.96	84.72	99.92	53.31	81.39	82.51	
	GM	88.58	48.87	100.32	93.81	85.14	101.56	134.78	86.01	69.16	56.62	75.56		
	SE(m)	2.92	3.79	8.89	3.61	3.10	10.18	0.79	5.11	8.75	3.77	4.13		
	C.D.	8.94	11.49	26.98	10.95	9.40	31.17	2.40	15.50	26.80	11.44	11.74		
	C.V.	5.71	3.22	15.36	6.57	6.00	16.79	1.02	9.77	21.91	11.20	9.47		
Qualifying entries at each locations														
	1	-	Co 11012	CoM 11086	Co 11012	CoM 11085	CoM 11085	Co 11012	-	-	Co 11019	-	-	
	2	-	-	CoM 11085	CoM 11086	Co 11012	Co 11012	-	-	-	CoM 11086	-	-	
	3	-	-	Co 11019	-	Co 11005	Co 11005	-	-	-		-	-	

Qualifying entries: Co 11012(5), CoM 11086(3), CoM 11085(3), Co11019 (2) &Co 11005(2)

Performance across the locations: Co 86032 (88.66 t/ha) was the better standard for cane yield. None of the entries recorded > 10% yield improvement across locations. However, the test entry Co 11012 (93.47 t/ha) was numerically better than Co 86032. The test entry Co 11012 recorded >10% improvement for cane yield at five locations followed by CoM 11086 and CoM 11085 at three locations each. The other entries Co 11019 and Co 11005 recorded >10% improvement over the standard at two locations each.

2.5.3. CCS % at harvest

S No	Entries	Coimbatore	Akola	Kolhapur	Mandya	Navsari	Padegaon	Perumalepalle	Pravara nagar	Pune	Sameerwadi	Sanke shwar	Tiruvalla	Mean	Rank
1	Co 11005	13.96	12.00	14.85	-	12.84	13.60	7.63	13.86	12.79	11.94	16.55	11.96	12.91	
2	Co 11007	14.66	11.67	11.93	-	12.89	12.44	8.19	13.52	12.80	12.05	13.76	12.40	12.39	
3	Co 11012	14.95	12.05	14.12	-	13.25	13.90	10.32	12.94	15.18*	13.40	13.97	11.99	13.09	
4	Co 11019	14.33	11.71	14.19	-	12.51	13.90	7.35	13.44	14.03	12.35	14.98	11.68	12.77	
5	CoM 11085	13.54	11.22	14.56	-	12.33	13.97	10.41	13.64	14.11	12.78	15.42	12.46	13.13	3
6	CoM 11086	14.87	12.53	12.98	-	11.92	14.75	9.39	14.52	13.77	11.95	13.48	12.53	12.97	
	Standards				-										
1	Co 86032	14.74	11.49	12.42	-	13.02	13.67	11.97	13.88	14.09	13.00	13.26	13.31	13.17	2
2	Co 99004	15.57	12.04	14.61	-	12.12	13.61	10.19	15.78	14.28	13.41	16.27	12.88	13.71	1
	GM	14.58	11.84	13.71		12.61	13.73	9.43	13.95	13.70	12.61	14.71	12.40		
	SE(m)	0.29	0.81	0.32	-	0.28	0.36	0.51	0.24	0.26	0.13	0.44	0.49		
	C.D.	0.89	NS	0.97	-	0.84	1.10	1.56	0.72	0.80	0.39	1.35	NS		
	C.V.	3.47	3.18	4.04	-	3.80	4.59	9.37	2.98	3.30	1.74	5.23	6.80		
Qualifying entries at each locations															
	1	-	-	-	-	-	-	-	-	-	-	-	-	-	
	2	-	-	-	-	-	-	-	-	-	-	-	-	-	
	3	-	-	-	-	-	-	-	-	-	-	-	-	-	

Qualifying entries: Nil

Performance across the locations: None of the test entries recorded >5% improvement for CCS% at harvest over the better standard Co 99004 (13.71%). CoM 11085 was the best test entry for CCS % across locations with the mean value of 13.13% but none of the entries was numerically superior to the better standard in the respective locations.

2.5.4. Sucrose % at harvest

S No	Entries	Coimbatore	Akola	Kolhapur	Navsari	Padegaon	Perumalepalle	Pravara nagar	Pune	Sameerwadi	Sanke shwar	Tiruvalla	Mean	Rank
1	Co 11005	19.40	17.42	20.81	18.22	19.32	11.68	19.63	18.00	17.22	23.34	17.07	18.37	
2	Co 11007	20.38	17.17	16.95	18.70	17.73	12.24	19.14	18.01	17.33	19.89	17.66	17.75	
3	Co 11012	20.76	18.02	19.91	19.00	19.73	14.76	18.41	20.99*	19.22	20.25	17.07	18.71	
4	Co 11019	19.95	17.68	20.08	18.05	19.80	11.35	18.85	19.65	17.79	21.42	16.67	18.30	
5	CoM 11085	19.28	17.27	20.33	18.06	19.72	15.06	19.03	19.65	18.46	21.95	17.75	18.78	3
6	CoM 11086	20.64	18.29	18.22	17.35	20.59	13.78	20.86	19.23	17.24	19.58	17.83	18.51	
	Standards													
1	Co 86032	20.49	17.57	17.65	19.06	19.38	17.03	19.67	19.57	18.76	19.41	18.93	18.87	2
2	Co 99004	21.61	18.37	20.62	17.57	19.59	14.87	21.87	19.86	19.31	22.74	18.34	19.52	1
	GM	20.31	17.72	19.32	18.25	19.48	13.85	19.68	19.14	18.17	21.07	17.67		
	SE(m)	0.41	0.83	0.39	0.32	0.36	0.59	0.23	0.32	0.13	0.52	0.68		
	C.D.	1.24	NS	1.19	0.97	1.10	1.80	0.69	0.99	0.41	1.58	NS		
	C.V.	3.45	2.13	3.52	3.05	4.59	7.35	2.02	2.90	1.27	4.27	6.66		
	Qualifying entries at each locations													
	1	-	-	-	-	-	-	-	Co 11012	-	-	-	-	
	2	-	-	-	-	-	-	-	-	-	-	-	-	
	3	-	-	-	-	-	-	-	-	-	-	-	-	

Qualifying entries: Co 11012(1)

Performance across the locations: Co 99004 (19.52 %) was the better standard for juice sucrose % across the locations and none of the test entries was numerically superior to this standard. Co 11012 (20.99 %) recorded >5% improvement over the better standard Co 99004 (19.86 %) at Pune centre.

2.5.5. Brix % at harvest

S No	Entries	Coimbatore	Akola	Kolhapur	Navsari	Padegaon	Perumalepalle	Pravaranaagar	Pune	Sameerwadi	Sanke shwar	Tiruvalla	Mean
1	Co 11005	19.98	19.86	21.97	19.80	21.05	14.75	21.54	19.79	19.39	25.02*	18.80	19.69
2	Co 11007	21.00	20.13	18.47	21.25	20.02	14.79	20.67	19.78	19.38	22.48	19.33	19.75
3	Co 11012	21.31	21.79	21.33	21.13	21.45	16.32	20.12	22.21*	21.42	23.02	18.70	20.66
4	Co 11019	20.61	21.76	21.67	20.36	21.67	14.55	20.54	21.38	19.98	23.68	18.33	20.41
5	CoM 11085	20.96	22.03	21.27	21.01	21.17	17.05	20.74	20.45	20.87	24.02	19.47	20.82
6	CoM 11086	21.18	21.09	19.33	19.92	21.56	16.09	22.11	21.00	19.42	22.35	19.50	20.32
	Standards												
1	Co 86032	21.07	22.16	19.23	22.14	21.00	18.62	21.31	20.89	21.02	22.52	20.67	20.97
2	Co 99004	22.15	23.06	22.10	20.03	21.97	17.15	23.08	21.26	21.66	23.85	20.07	21.49
	GM	21.03	21.49	20.67	20.71	21.24	16.17	21.26	20.65	20.39	23.13	19.36	
	SE(m)	0.46	0.59	0.30	0.31	0.40	0.36	0.24	0.30	0.13	0.36	0.71	
	C.D.	N/A	1.78	0.92	0.94	1.22	1.10	0.75	0.91	0.39	1.10	NS	
	C.V.	3.76	1.20	2.55	2.60	3.29	3.87	2.02	2.50	1.07	2.68	6.36	

2.5.6. Purity % at harvest

S No	Entries	Coimbatore	Akola	Kolhapur	Mandya	Navsari	Padegaon	Perumalepalle	Pravara nagar	Pune	Sameerwadi	Sanke shwar	Tiruvalla	Mean
1	Co 11005	96.16	87.70	94.74	-	92.01*	91.78	79.15	91.97	92.12	90.84	93.30	89.97	90.77
2	Co 11007	96.14	85.32	91.74	-	87.98	88.45	82.67	92.58	91.02	89.42	88.36	90.50	89.47
3	Co 11012	96.31	82.65	93.32	-	89.94	91.93	90.35	91.53	94.53	89.63	87.95	90.43	90.78
4	Co 11019	95.84	81.28	92.68	-	88.69	91.36	77.92	91.95	93.63	89.04	90.47	90.00	89.35
5	CoM 11085	91.97	78.57	95.54*	-	85.99	93.28	88.33	92.39	93.05	88.90	91.35	90.33	89.42
6	CoM 11086	96.36	86.72	94.25	-	87.09	95.65	85.64	95.18	92.46	88.79	87.61	90.60	90.94
	Standards				-									
1	Co 86032	96.12	79.35	91.76	-	86.11	92.26	91.44	92.29	93.66	89.25	86.19	90.77	89.93
2	Co 99004	96.59	79.69	93.30	-	87.73	89.26	86.73	94.94	93.45	89.87	95.39	90.53	90.68
	GM	95.69	82.66	93.11		87.65	91.74	85.28	92.85	92.99	89.47	90.08	90.39	
	SE(m)	0.23	3.92	0.71	-	1.19	1.72	2.13	0.32	0.22	1.00	1.29	0.30	
	C.D.	0.71	11.90	2.16	-	3.60	5.21	6.54	0.97	0.68	NS	3.91	NS	
	C.V.	0.42	2.32	1.32	-	2.33	3.25	4.34	0.60	0.42	1.94	2.48	0.58	

2.5.7. Pol % at harvest

S No	Entries	Coimbatore	Akola	Kolhapur	Mandya	Navsari	Padegaon	Perumalepalle	Pravara nagar	Pune	Sameerwadi	Sanke shwar	Tiruvalla	Mean
1	Co 11005	18.99	-	15.75	-	13.94	14.28	-	-	13.58	12.75	18.37	-	15.63
2	Co 11007	19.62	-	12.78	-	14.16	13.23	-	-	13.65	12.83	15.58	-	14.88
3	Co 11012	20.10	-	15.03	-	14.37	14.63	-	-	15.68*	14.23	15.35	-	15.96
4	Co 11019	19.53	-	15.21	-	13.79	14.71	-	-	14.86	13.16	16.39	-	15.66
5	CoM 11085	18.95	-	15.44	-	13.83	14.80	-	-	14.95	13.67	17.40	-	15.79
6	CoM 11086	20.22	-	13.85	-	13.29	15.19	-	-	14.49	12.76	15.18	-	15.41
	Standards		-		-			-	-				-	
1	Co 86032	19.78	-	13.39	-	14.60	14.52	-	-	14.85	13.88	15.05	-	15.46
2	Co 99004	20.94	-	15.6	-	13.34	14.61	-	-	14.87	14.29	16.99	-	16.13
	GM	19.77	-	14.63	-	13.92	14.49	-	-	14.46	13.45	16.29	-	
	SE(m)	0.35	-	0.34	-	0.26	0.29	-	-	0.24	0.1	0.48	-	
	C.D.	1.08	-	1.02	-	0.78	0.90	-	-	0.73	0.3	1.46	-	
	C.V.	3.1	-	3.99	-	3.21	3.57	-	-	2.86	0.94	5.12	-	

2.5.8. Extraction % at harvest

S No	Entries	Coimbatore	Akola	Kolhapur	Mandya	Navsari	Padegaon	Perumalepalle	Pravara nagar	Pune	Sameerwadi	Sanke shwar	Tiruvalla	Mean
1	Co 11005	43.52	-	47.07	-	57.23	52.46	64.00	53.49	47.23	-	53.57	58.63	53.02
2	Co 11007	46.09	-	50.39	-	56.22	52.47	61.21	54.18	47.13	-	57.80	57.36	53.65
3	Co 11012	45.13	-	49.05	-	60.91*	51.77	62.48	57.50	51.40	-	53.18	58.77	53.66
4	Co 11019	42.25	-	51.81	-	55.07	52.47	59.14	51.16	42.64	-	50.31	57.21	51.34
5	CoM 11085	49.96*	-	52.87	-	56.16	52.60	61.25	55.04	51.52	-	56.30	62.96	56.09
6	CoM 11086	42.48	-	54.97	-	59.88*	52.61	62.06	54.32	43.09	-	54.36	57.78	52.71
	Standards		-		-						-			
1	Co 86032	43.09	-	50.76	-	55.54	56.44	62.32	58.57	55.40	-	52.33	55.51	54.44
2	Co 99004	44.89	-	51.24	-	55.71	55.81	64.73	54.08	55.00	-	56.36	59.77	55.29
	GM	43.92	-	51.02	-	55.99	53.33	62.15	54.79	49.18	-	54.28	58.50	
	SE(m)	1.39	-	2.33	-	1.09	2.46		0.79	1.70	-	2.30	1.71	
	C.D.	4.26	-	N. S.	-	3.29	5.28	NS	2.95	5.16	-	6.97	NS	
	C.V.	5.40	-	7.89	-	3.29	5.66		3.08	6.00	-	7.34	5.05	

2.5.9. Fiber % at harvest

S No	Entries	Coimbatore	Akola	Kolhapur	Mandya	Navsari	Padegaon	Perumalepalle	Pravaranaagar	Pune	Sameerwadi	Sanke shwar	Tiruvalla	Mean
1	Co 11005	12.08	-	14.32	-	13.51	16.06	-	-	14.53	-	11.30	-	13.63
2	Co 11007	13.76	-	14.60	-	14.28	15.41	-	-	14.22	-	11.79	-	14.01
3	Co 11012	13.16	-	14.51	-	14.34	15.81	-	-	15.32	-	14.23	-	14.56
4	Co 11019	12.09	-	14.26	-	13.60	15.72	-	-	14.40	-	13.49	-	13.93
5	CoM 11085	11.68	-	14.07	-	13.40	14.94	-	-	13.91	-	10.72	-	13.12
6	CoM 11086	12.05	-	13.98	-	13.38	16.23	-	-	14.68	-	12.45	-	13.79
	Standards		-		-			-	-		-		-	
1	Co 86032	13.49	-	14.13	-	13.40	15.10	-	-	14.11	-	12.45	-	13.78
2	Co 99004	13.10	-	14.37	-	14.12	15.45	-	-	15.15	-	15.29	-	14.58
	GM	12.68	-	14.28	-	13.75	15.59	-	-	14.54	-	12.71	-	
	SE(m)	0.52	-	0.32	-	0.15	0.45	-	-	0.12	-	0.55	-	
	C.D.	N/A	-	N.S.	-	0.45	0.98	-	-	0.36	-	1.68	-	
	C.V.	7.07	-	3.89	-	1.88	3.60	-	-	1.40	-	7.54	-	

2.5.10. Number of Millable canes at harvest (000³/ha)

S No	Entries	Coimbatore	Akola	Kolhapur	Mandya	Navsari	Padegaon	Perumalepalle	Pravara nagar	Pune	Sameerwadi	Sanke shwar	Tiruvalla	Mean
1	Co 11005	73.65	52.93	85.82	-	93.98*	94.33*	73.47	125.65	85.72	88.73	60.16	73.44	79.95
2	Co 11007	57.43	60.11	52.54	-	97.13*	63.25	65.73	121.86	61.40	55.09	43.94	64.36	64.57
3	Co 11012	88.97*	49.61	86.92	-	99.08*	72.80	78.96	124.06	93.33	73.30	52.15	90.18	80.15
4	Co 11019	85.53	40.97	93.45	-	86.48*	75.41	74.09	131.06	83.56	66.74	61.09	77.54	78.94
5	CoM 11085	64.05	45.37	105.2	-	92.22*	82.87	98.60	118.42	87.41	89.04	50.20	82.90	82.41
6	CoM 11086	75.99	43.67	109.37	-	100.71*	81.66	95.97	121.64	90.31	82.02	62.52	82.42	84.56
	Standards				-									
1	Co 86032	84.43	53.16	99.94	-	80.46	78.53	84.60	135.82	85.74	77.08	52.67	86.41	83.53
2	Co 99004	72.05	43.75	84.02	-	80.37	72.97	65.50	124.75	72.57	79.17	33.37	84.78	73.94
	GM	73.30	48.70	89.66		80.42	75.36	79.61	125.41	82.51	76.40	52.01	80.25	
	SE(m)	1.30	2.51	8.31	-	3.83	3.08	5.79	0.60	3.55	6.61	7.33	3.62	
	C.D.	3.98	7.63	25.19	-	11.62	6.62	17.73	1.82	10.78	20.25	22.22	10.29	
	C.V.	2.99	2.71	16.05	-	7.27	4.86	12.59	0.83	7.46	14.99	24.40	7.81	

2.5.11. Stalk length (cm) at harvest

S No	Entries	Coimbatore	Akola	Kolhapur	Mandya	Navsari	Padegaon	Perumalepalle	Pravara nagar	Pune	Sameerwadi	Sanke shwar	Tiruvalla	Mean
1	Co 11005	215.00	127.00	168.00	-	241.00	210.00*	240.00	216.66	159.11	148.67	184.00	239.00	193.84
2	Co 11007	257.00	136.67	190.00	-	238.33	190.00	230.00	226.33	151.78	159.00	168.67	251.00	199.89
3	Co 11012	207.00	166.80	185.00	-	212.33	190.00	260.00	218.33	207.78	184.00	177.67	239.00	204.36
4	Co 11019	242.00	172.00	207.00	-	250.00	200.00	250.00	225.33	190.22	161.33	206.00	237.00	212.81
5	CoM 11085	212.00	167.60	176.00	-	252.67	196.67	230.00	215.33	207.33	168.67	179.00	242.00	204.30
6	CoM 11086	230.00	159.33	186.00	-	281.33	176.67	240.00	203.66	219.89	144.67	182.67	229.00	204.84
	Standards				-									
1	Co 86032	230.00	156.60	166.00	-	250.33	196.67	200.00	220.66	161.22	209.00	175.00	254.00	201.77
2	Co 99004	235.00	187.00	202.00	-	258.00	181.67	250.00	212.00	214.00	163.33	202.33	243.00	213.48
	GM	228.50	159.13	185.00	-	248.00	190.24	237.50	217.29	188.92	167.33	184.42	241.75	
	SE(m)	1.00	14.90	9.64	-	7.97	3.83		3.54	8.77	7.20	9.77	11.23	
	C.D.	N/A	NS	N.S.	-	24.16	8.21	NS	10.76	26.60	22.04	29.62	NS	
	C.V.	7.74	3.76	9.03	-	5.56	2.43		2.82	8.04	7.45	9.17	8.05	

2.5.12. Stalk diameter (cm) at harvest

S No	Entries	Coimbatore	Akola	Kolhapur	Mandya	Navsari	Padegaon	Perumalepalle	Pravara nagar	Pune	Sameerwadi	Sanke shwar	Tiruvalla	Mean
1	Co 11005	2.57	2.36	2.66	-	2.46	3.20	3.15*	2.55	2.84	2.47	2.50	2.83	2.64
2	Co 11007	3.08	2.50	3.06	-	2.55	3.70	3.16*	2.61	3.16	3.10	2.91	2.94	2.96
3	Co 11012	2.77	2.84	2.92	-	2.62	3.50	2.85	2.55	3.14	3.07	2.64	2.88	2.89
4	Co 11019	2.82	2.45	2.80	-	2.53	3.40	2.58	2.54	2.84	2.77	2.66	2.66	2.73
5	CoM 11085	2.56	2.44	2.89	-	2.66	3.50	2.72	2.63*	2.90	2.60	2.89	3.05	2.82
6	CoM 11086	2.67	2.15	2.72	-	2.72*	3.33	2.57	2.52	2.87	2.50	2.63	2.64	2.66
	Standards				-									
1	Co 86032	2.87	2.44	2.77	-	2.47	3.60	2.74	2.54	3.02	2.67	2.73	2.68	2.78
2	Co 99004	2.90	2.56	2.80	-	2.54	3.60	2.63	2.47	3.00	2.43	2.79	2.72	2.77
	GM	2.78	2.47	2.83		2.55	3.48	2.68	2.54	2.97	2.70	2.72	2.80	
	SE(m)	0.10	0.13	0.13	-	0.05	0.07	0.08	0.02	0.05	0.12	0.09	0.12	
	C.D.	0.30	0.39	0.39	-	0.16	0.17	0.25	0.07	0.15	0.37	0.29	NS	
	C.V.	6.04	2.38	7.91	-	3.5	2.80	5.00	1.76	2.93	7.67	6.01	7.16	

2.5.13. Single cane weight (kg) at harvest

S No	Entries	Coimbatore	Akola	Kolhapur	Mandya	Navsari	Padegaon	Perumalepalle	Pravara nagar	Pune	Sameerwadi	Sanke shwar	Tiruvalla	Mean
1	Co 11005	1.46	0.70	0.89	-	1.09	0.97	1.68*	1.43	0.97	0.54	0.89	1.22	1.02
2	Co 11007	1.41	0.86	1.34*	-	1.10	1.39	1.69*	1.53	1.41	0.90	1.21	1.53*	1.23
3	Co 11012	1.16	1.27	1.24	-	1.13	1.26	1.63*	1.58*	1.53	0.90	0.96	1.41*	1.18
4	Co 11019	1.17	1.15	1.26	-	1.18*	1.15	1.36	1.57*	1.11	0.75	1.12	1.31	1.15
5	CoM 11085	1.07	0.90	1.13	-	1.18*	1.18	1.34	1.53	1.35	0.80	1.22	1.52*	1.17
6	CoM 11086	1.06	0.91	1.12	-	1.20	1.05	1.22	1.39	1.17	0.60	0.91	1.27	1.08
	Standards				-									
1	Co 86032	1.27	1.07	1.01	-	0.95	1.11	1.16	1.47	1.36	0.62	1.19	1.26	1.13
2	Co 99004	1.05	1.27	1.12	-	1.01	1.12	1.19	1.35	1.40	0.89	1.33	1.24	1.18
	GM	1.21	1.02	1.11		1.08	1.15	1.25	1.45	1.29	0.75	1.10	1.26	
	SE(m)	0.04	0.09	0.06	-	0.05	0.13	0.1	0.03	0.05	0.08	0.11	0.05	
	C.D.	0.11	0.27	0.19	-	0.14	0.28	0.3	0.09	0.15	0.25	0.34	0.15	
	C.V.	5.11	3.25	9.58	-	7.23	14.28	10.9	3.63	6.47	18.6	17.46	6.73	

2.5.14. Number of shoots at 120 days

S No	Entries	Coimbatore	Akola	Kolhapur	Mandya	Navsari	Padegaon	Perumalepalle	Pravara nagar	Pune	Sameerwadi	Sanke shwar	Tiruvalla	Mean
1	Co 11005	80.49	83.76	130.32*	-	144.23	200.69	108.42	130.4	156.76	74.38	83.78	80.39	114.33
2	Co 11007	65.77	77.59	100.11	-	122.18	156.48	103.32	126.98	107.47	47.38	45.69	67.81	92.80
3	Co 11012	91.71	71.55	102.71	-	126.86	162.04	144.38*	131.11	152.91	67.52	74.64	95.54	107.66
4	Co 11019	91.31	77.57	101.27	-	154.17*	180.09	120.72*	135.27	136.02	60.80	77.10	84.39	104.87
5	CoM 11085	69.89	86.48	99.59	-	129.18	178.47	131.31*	124.99	142.94	73.69	73.00	88.66	106.69
6	CoM 11086	80.48	93.67	122.1	-	143.67	209.72*	134.17*	128.25	144.78	68.13	93.53	86.62	106.80
	Standards				-									
1	Co 86032	87.52	93.88	100.4	-	131.23	187.50	96.67	143.08	146.64	84.41	73.92	92.76	112.55
2	Co 99004	79.67	48.70	94.61	-	122.92	150.93	66.74	129.79	130.44	52.16	37.37	88.91	91.11
	GM	80.86	79.15	102.97		131.47	173.74	93.79	131.23	139.75	66.06	69.88	85.64	
	SE(m)	1.47	12.35	5.00	-	4.48	8.00	5.90	1.41	5.09	3.25	8.87	3.699	
	C.D.	4.50	NS	15.16	-	13.6	17.16	18.00	4.27	15.44	9.85	26.90	10.51	
	C.V.	3.15	11.95	8.14	-	5.78	5.50	9.00	1.86	6.31	8.52	21.99	7.48	

2.5.15. Number of tillers at 90 days

S No	Entries	Coimbatore	Akola	Kolhapur	Mandya	Navsari	Padegaon	Perumalepalle	Pravara nagar	Pune	Sameerwadi	Sanke shwar	Tiruvalla	Mean
1	Co 11005	87.24	87.58	144.43*	-	125.22	168.75*	113.60*	122.10	-	116.28	83.37	78.75	100.08
2	Co 11007	71.65	80.94	111.63	-	107.18	109.26	113.22*	120.83	-	69.83	40.55	64.67	86.28
3	Co 11012	95.68	73.30	103.36	-	100.67	133.80	152.97*	124.67	-	106.56	87.57*	91.08	103.64
4	Co 11019	97.49	81.10	101.27	-	139.17*	143.98	118.47*	127.96	-	89.43	59.96	82.69	97.98
5	CoM 11085	79.22	91.82	108.11	-	114.18	165.74*	145.62*	119.30	-	119.21	75.67	84.41	98.99
6	CoM 11086	86.26	98.30	130.20	-	128.67*	172.22*	141.44*	119.39	-	121.76	103.39*	83.56	106.58
	Standards				-					-				
1	Co 86032	93.25	98.07	109.08	-	112.22	141.90	85.14	132.83	-	133.95	64.47	90.34	106.13
2	Co 99004	95.22	50.08	94.61	-	116.25	93.52	61.87	119.79	-	63.58	24.54	86.80	80.63
	GM	88.25	82.65	108.32	-	112.62	124.49	73.51	123.36	-	102.58	58.09	82.79	
	SE(m)	2.41	12.75	8.18	-	3.52	10.00	4.65	1.67	-	4.76	6.42	4.07	
	C.D.	7.38	NS	24.81	-	10.69	21.44	14.2	5.07	-	14.45	19.48	11.563	
	C.V.	4.73	12.01	14.96	-	5.18	8.67	6.9	2.34	-	8.05	16.49	8.51	

2.5.16: Assessment of performance of entries by monitoring team

S.N.	Genotype	Perumallapalle	Puglur	Coimbatore	Thiruvalla	Mandya	Sankeshwar	Sameerwadi	Kolhapur
1	Co 11005	On Par	Poor	Better	Better	Not Conducted	Better	Better	On Par
2	Co 11007	Better	Poor	Better	Poor		Poor	Poor	Poor
3	Co 11012	Better	Poor	On Par	Poor		Better	On Par	On Par
4	Co 11019	On Par	Poor	On Par	On Par		On Par	Better	On Par
5	CoM 11085	On Par	Poor	On Par	Better		On Par	Better	On Par
6	CoM 11086	Better	Poor	Better	Better		Better	On Par	Better
7	Co 86032 (c)	Best	Poor	Best	Best		Best	-	Best
8	Co 99004 (c)	-	Poor	-	-		-	Best	-

S.N.	Entry	Akola	Navsari	Powarkheda	Pune	Padegaon	Pravaranagar
1	CO 11005	Poor	On Par	Poor	On Par	On Par	On Par
2	Co 11007	Poor	Poor	Poor	Poor	Poor	On Par
3	Co 11012	On Par	On Par	On Par	Better	Poor	Poor
4	Co 11019	Better	On Par	Poor	On Par	Poor	On Par
5	CoM 11085	Better	On Par	On Par	On Par (Smut)	On Par	Poor
6	CoM 11086	Poor	Poor	Better	Better	Poor	On Par
7	Co 86032	I	I	I	II	I	I
8	Co 99004	II	II	II	I	II	II

2.6. Pooled Advanced Varietal Trial- Midlate

Mean performance of two plant and one ratoon crops (2016-18)

Fourteen centres conducted Advanced Varietal Trial- Midlate I plant crop in 2016-17 and eleven centres conducted II plant and ratoon crops during 2017-18. Mandya and Pugalur centre did not conduct the ratoon trial. Powerkheda centre did not send the data. The mean cane yield of AVT II plant (Midlate) was lower than the state average, hence Akola centre data was not considered for calculating mean. Mean performance of the six entries and two standards are presented in the **Table 2.6.1 to 2.6.4 & Fig.2.6.1. to 2.6.4**. The results of the entries for CCS yield (t/ha), cane yield (t/ha), CCS % and sucrose % are discussed below.

2.6.1. Commercial cane sugar (t/ha):

None of the entries showed >10% improvement compared to the better standard Co 86032. The entry CoM 11085 ranked first in the zone with 13.84 t/ha cane sugar yield followed by CoM 11086 (13.65 t/ha) and were numerically superior to Co 86032 (13.60 t/ha). The entry CoM 11085 performed better in Navsari, Padegaon, Perumalepalle and Sankeshwar.

2.6.2. Cane yield (t/ha):

None of the entries recorded >10% improvement over the better standard Co 86032. The entry CoM 11085 ranked first in the zone with weighted average of 99.94 t/ha compared to the better standard Co 86032 (99.78 t/ha). It performed well in kohlapur, Navsari, Padegaon, Perumalapalle and Pune over the better standard at their respective centres.

2.6.3. CCS %:

None of the test entries recorded >5% improvement for CCS %. The standard Co 99004 (13.48%) ranked first in this zone.

2.6.4. Sucrose %:

For sucrose %, the standard Co 99004 (19.18 %) ranked first in this zone followed by the entries CoM 11085 (19.00%) and Co 11012 (18.86%).

Overall performance:

Based on the pooled mean of two plant and one ratoon crop in 14 centres, Co 86032 was the better standard for CCS yield (13.60 t/ha) & Cane yield (99.78 t/ha) and Co 99004 was the better standard for CCS % (13.48) & Sucrose % (19.18). Based on the cane yield and quality parameters none of the entries was identified as the qualifying entry in the peninsular zone.

Varietal Improvement Programme- AICRP (Sugarcane)
Principal Investigator's Report (2017-18)
Peninsular zone Pooled (2 Plant crop+Ratoon) -Midlate

2.6.1. Pooled CCS yield (t/ha)

S No	Entries	Coimbatore				Akola				Kohlapur				Mandya			
		AVT	AVT	AVT	Mean	AVT	AVT	AVT	Mean	AVT	AVT	AVT	Mean	AVT	AVT	AVT	Mean
		IP	IIP	Ratoon		IP	IIP	Ratoon		IP	IIP	Ratoon		IP	IIP	Ratoon	
1	Co 11005	16.93	10.67	14.66	14.09	10.69	-	4.42	7.56	11.24	19.63	11.24	14.04	10.91	10.9	-	10.91
2	Co 11007	17.95	14.24	11.61	14.60	13.47	-	5.92	9.70	9.63	13.76	8.38	10.59	12.66	12.59	-	12.63
3	Co 11012	14.5	12.02	15.23	13.92	13.94	-	7.61	10.78	12.51	17.50	14.82	14.94	14.52	13.64	-	14.08
4	Co 11019	14.48	14.04	14.07	14.20	12.84	-	5.47	9.16	10.74	19.39	16.68	15.60	13.7	14.12	-	13.91
5	CoM 11085	15.3	12.8	9.23	12.44	11.67	-	4.60	8.14	11.91	18.34	17.47	15.91	13.59	13.65	-	13.62
6	CoM 11086	18.29	14.01	11.70	14.67	11.16	-	5.07	8.12	13.51	19.97	15.85	16.44	14.78	14.67	-	14.73
	Standard						-									-	
1	Co 86032	13.58	13.12	15.34	14.01	11.35	-	6.55	8.95	13.2	17.3	12.44	14.31	14.64	14.05	-	14.35
2	Co 99004	15.37	11.75	11.60	12.91	10.63	-	6.69	8.66	8.13	19.5	13.59	13.74	13.48	13.81	-	13.65
	GM	15.8	12.83	12.93	13.85	11.97		5.79	8.88	11.36	18.17	13.81	14.45	13.54	13.43		13.48

S No	Entries	Navsari				Padegaon				Powerkheda				Perumalepalle			
		AVT	AVT	AVT	Mean	AVT	AVT	AVT	Mean	AVT	AVT	AVT	Mean	AVT	AVT	AVT	Mean
		IP	IIP	Ratoon		IP	IIP	Ratoon		IP	IIP	Ratoon		IP	IIP	Ratoon	
1	Co 11005	14.71	13.27	12.25	13.41	15.61	24.52	12.78	17.64	6.85	-	-	6.85	16.8	10.85	9.01	12.22
2	Co 11007	15.15	14.78	12.88	14.27	11.99	20.50	10.93	14.47	7.06	-	-	7.06	17.6	15.12	10.62	14.45
3	Co 11012	14.28	15.49	13.92	14.56	16.16	20.02	13.39	16.52	10.3	-	-	10.3	13.1	15.85	8.92	12.62
4	Co 11019	14.48	14.88	11.11	13.49	16.32	23.05	12.06	17.14	13.4	-	-	13.4	15.4	10.09	10.72	12.07
5	CoM 11085	15.8	15.17	11.93	14.3	15.51	25.77	14.11	18.46	10.23	-	-	10.23	15.6	17.67	13.04	15.44
6	CoM 11086	17.42	16.72	12.06	15.4	18.47	23.40	12.65	18.17	10.19	-	-	10.19	12.1	14.62	11.63	12.78
	Standard										-	-					
1	Co 86032	14.19	13.46	10.92	12.86	14.16	20.56	11.41	15.38	14.15	-	-	14.15	15.9	9.77	8.72	11.46
2	Co 99004	13.14	14.21	10.99	12.78	12.63	20.16	11.15	14.65	13.14	-	-	13.14	11.9	12.94	5.92	10.25
	GM	14.9	14.75	12.01	13.885	15.14	22.25	12.31	16.57	10.67			10.67	14.8	13.36	9.82	12.66

Varietal Improvement Programme- AICRP (Sugarcane)
Principal Investigator's Report (2017-18)
Peninsular zone Pooled (2 Plant crop+Ratoon) -Midlate

S No	Entries	Pravaranagar				Pugalur				Pune				Sameerwadi			
		AVT	AVT	AVT	Mean	AVT	AVT	AVT	Mean	AVT	AVT	AVT	Mean	AVT	AVT	AVT	Mean
		IP	IIP	Ratoon		IP	IIP	Ratoon		IP	IIP	Ratoon		IP	IIP	Ratoon	
1	Co 11005	17.15	20.51	17.41	18.36	7.27	-	-	7.27	17.35	14.25	8.84	13.48	10.32	7.27	7.46	8.35
2	Co 11007	18.87	19.07	16.47	18.14	7.21	-	-	7.21	15.33	15.17	8.21	12.90	4.67	8.58	6.64	6.63
3	Co 11012	19.70	22.39	16.04	19.38	12.61	-	-	12.61	16.98	14.08	18.63	16.56	9.51	5.11	9.31	7.98
4	Co 11019	16.19	18.89	17.6	17.56	9.94	-	-	9.94	18.69	18.58	11.43	16.23	7.21	9.84	7.20	8.08
5	CoM 11085	17.90	20.69	16.17	18.25	9.00	-	-	9.00	17.12	16.22	14.55	15.96	12.66	9.94	10.92	11.17
6	CoM 11086	19.30	20.54	17.64	19.16	9.80	-	-	9.80	11.29	15.52	13.28	13.36	9.54	8.92	6.74	8.40
	Standard						-	-									
1	Co 86032	20.91	21.88	18.85	20.55	11.63	-	-	11.63	17.2	17.06	14.45	16.24	17.38	8.3	8.56	11.41
2	Co 99004	16.60	18.72	19.68	18.33	10.26	-	-	10.26	13.79	16.23	12.11	14.04	8.46	9.93	13.39	10.59
	GM	18.33	20.34	17.48	18.72	9.72			9.72	15.97	15.89	12.69	14.85	9.97	8.49	8.78	9.08

S No	Entries	Sankeshwar				Thiruvalla				Overall Mean			Weighted Average	Rank
		AVT	AVT	AVT	Mean	AVT	AVT	AVT	Mean	AVT	AVT	AVT		
		IP	IIP	Ratoon		IP	IIP	Ratoon		IP	IIP	Ratoon		
1	Co 11005	8.68	14.20	8.06	10.31	8.94	12.31	8.29	9.85	12.39	14.40	10.40	12.40	
2	Co 11007	14.67	12.68	7.69	11.68	8.80	12.69	7.60	9.70	12.50	14.47	9.72	12.26	
3	Co 11012	9.87	9.63	8.49	9.33	11.75	12.41	10.19	11.45	13.55	14.38	12.41	13.46	
4	Co 11019	14.29	15.25	10.52	13.35	10.41	12.70	8.57	10.56	13.44	15.53	11.40	13.45	
5	CoM 11085	10.42	16.59	8.58	11.86	11.18	13.33	9.66	11.39	13.42	16.38	11.84	13.84	1
6	CoM 11086	12.03	14.34	8.65	11.67	12.76	12.79	9.93	11.83	13.62	15.95	11.38	13.65	2
	Standard													
1	Co 86032	9.89	14.40	7.61	10.63	13.89	12.49	10.36	12.25	14.43	14.76	11.38	13.60	3
2	Co 99004	12.54	11.16	8.69	10.80	12.38	10.85	10.43	11.22	12.32	14.48	11.29	12.67	
	GM	11.55	13.53	8.54	11.21	11.26	12.45	9.38	11.03	13.21	15.04	11.23		

Varietal Improvement Programme- AICRP (Sugarcane)
Principal Investigator's Report (2017-18)
Peninsular zone Pooled (2 Plant crop+Ratoon) -Midlate
2.6.2. Pooled cane yield (t/ha)

S No	Entries	CBE				Akola				Kohlapur				Mandya			
		AVT	AVT	AVT	Mean	AVT	AVT	AVT	Mean	AVT	AVT	AVT	Mean	AVT	AVT	AVT	Mean
		IP	IIP	Ratoon		IP	IIP	Ratoon		IP	IIP	Ratoon		IP	IIP	Ratoon	
1	Co 11005	142.33	93.11	104.80	113.41	87.47	-	36.75	62.11	76.38	126.62	75.72	92.91	84.72	82.81	-	83.77
2	Co 11007	140.23	102.75	79.11	107.36	115.00	-	50.95	82.98	71.31	110.33	70.02	83.89	94.27	92.36	-	93.32
3	Co 11012	107.38	92.57	101.88	100.61	105.96	-	62.81	84.39	88.56	112.30	105.22	102.03	101.79	99.13	-	100.46
4	Co 11019	118.06	120.95	97.62	112.21	112.25	-	47.23	79.74	76.49	121.72	117.02	105.08	105.90	102.31	-	104.11
5	CoM 11085	115.03	96.53	67.72	93.09	96.54	-	40.89	68.72	83.33	116.47	119.04	106.28	104.05	101.79	-	102.92
6	CoM 11086	141.89	112.72	78.56	111.06	93.73	-	39.89	66.81	98.28	138.84	122.21	119.78	102.14	103.14	-	102.64
	Standard						-									-	
1	Co 86032	106.96	100.59	104.41	103.99	91.06	-	56.91	73.99	93.48	123.24	100.30	105.67	105.27	101.18	-	103.23
2	Co 99004	116.67	91.04	74.57	94.09	88.40	-	55.53	71.97	55.08	124.79	93.05	90.97	102.14	101.04	-	101.59
	GM	123.57	101.28	88.58	104.48	98.80		48.87	73.84	80.36	121.79	100.32	100.82	100.04	97.97		99.01

S No	Entries	Navsari				Padegaon				Powerkheda				Perumalepalle			
		AVT	AVT	AVT	Mean	AVT	AVT	AVT	Mean	AVT	AVT	AVT	Mean	AVT	AVT	AVT	Mean
		IP	IIP	Ratoon		IP	IIP	Ratoon		IP	IIP	Ratoon		IP	IIP	Ratoon	
1	Co 11005	110.55	116.48	95.44	107.49	107.81	173.10	93.85	124.92	51.44	-	-	51.44	120.50	90.87	118.40	109.92
2	Co 11007	107.96	114.90	99.69	107.52	95.53	152.41	87.90	111.95	57.41	-	-	57.41	140.90	132.97	104.25	126.04
3	Co 11012	110.92	113.70	105.05	109.89	111.93	157.33	95.95	121.73	82.10	-	-	82.10	106.00	130.23	122.38	119.54
4	Co 11019	114.63	116.26	88.96	106.62	114.76	155.82	86.83	119.14	100.49	-	-	100.49	134.80	86.57	89.32	103.56
5	CoM 11085	123.05	118.71	96.73	112.83	112.37	176.45	100.77	129.86	81.13	-	-	81.13	126.50	128.57	128.95	128.01
6	CoM 11086	126.94	124.14	100.94	117.34	124.54	162.49	85.81	124.28	85.10	-	-	85.10	109.80	130.50	111.55	117.28
	Standard										-	-					
1	Co 86032	109.16	104.16	83.87	99.06	103.82	147.63	83.41	111.62	99.03	-	-	99.03	128.90	76.87	92.61	99.46
2	Co 99004	99.63	100.46	91.06	97.05	98.71	141.52	81.74	107.32	101.22	-	-	101.22	91.20	117.82	72.38	93.80
	GM	112.86	113.60	95.22	107.23	108.68	158.34	89.53	118.85	82.24			82.24	119.83	111.80	104.98	112.20

Varietal Improvement Programme- AICRP (Sugarcane)
Principal Investigator's Report (2017-18)
Peninsular zone Pooled (2 Plant crop+Ratoon) -Midlate

S No	Entries	Pravaranagar				Pugalur				Pune				Sameerwadi			
		AVT	AVT	AVT	Mean	AVT	AVT	AVT	Mean	AVT	AVT	AVT	Mean	AVT	AVT	AVT	Mean
		IP	IIP	Ratoon		IP	IIP	Ratoon		IP	IIP	Ratoon		IP	IIP	Ratoon	
1	Co 11005	132.89	134.62	128.56	132.02	61.22	-	-	61.22	130.46	109.87	69.35	103.23	79.44	60.65	62.58	67.56
2	Co 11007	141.38	137.47	134.71	137.85	76.79	-	-	76.79	114.16	119.68	64.18	99.34	36.30	70.14	55.09	53.84
3	Co 11012	150.78	145.12	140.11	145.34	101.85	-	-	101.85	119.72	95.35	122.89	112.65	66.76	39.81	69.60	58.72
4	Co 11019	127.71	127.50	132.51	129.24	80.09	-	-	80.09	135.57	131.44	81.64	116.22	54.35	77.62	58.41	63.46
5	CoM 11085	142.41	142.84	135.07	140.11	67.94	-	-	67.94	128.83	120.36	103.13	117.44	86.20	80.02	85.49	83.90
6	CoM 11086	143.10	142.40	137.10	140.87	80.26	-	-	80.26	96.34	118.09	96.47	103.63	71.11	67.05	56.48	64.88
	Standard						-	-									
1	Co 86032	156.90	154.06	150.24	153.73	90.45	-	-	90.45	123.16	121.56	102.58	115.77	125.93	63.74	65.67	85.11
2	Co 99004	121.68	120.56	119.96	120.73	85.24	-	-	85.24	97.89	115.62	84.72	99.41	58.43	75.69	99.92	78.01
	GM	139.61	138.07	134.78	137.49	80.48			80.48	118.27	116.50	90.62	108.46	74.30	66.84	69.16	70.10

S No	Entries	Sankeshwar				Thiruvalla				Overall Mean			Weighted Average	Rank
		AVT	AVT	AVT	Mean	AVT	AVT	AVT	Mean	AVT	AVT	AVT		
		IP	IIP	Ratoon		IP	IIP	Ratoon		IP	IIP	Ratoon		
1	Co 11005	72.34	86.75	48.73	69.27	82.71	94.58	69.30	82.20	95.73	87.96	82.13	89.20	
2	Co 11007	121.22	114.62	56.17	97.34	75.21	97.50	61.32	78.01	99.12	100.48	78.49	93.23	
3	Co 11012	78.38	64.52	60.93	67.94	107.43	100.49	84.79	97.57	102.83	75.04	97.42	92.68	
4	Co 11019	101.36	102.91	70.22	91.49	90.35	99.58	72.98	87.64	104.77	102.89	85.70	98.37	3
5	CoM 11085	75.61	112.11	55.62	81.11	94.65	105.49	77.50	92.55	102.69	104.50	91.90	99.94	1
6	CoM 11086	93.25	102.55	64.16	86.65	112.01	99.86	79.31	97.06	105.61	96.89	88.41	97.69	
	Standard													
1	Co 86032	78.73	118.61	57.42	84.92	106.32	95.27	77.85	93.15	108.51	99.80	88.66	99.78	2
2	Co 99004	90.57	81.07	53.31	74.98	110.28	87.09	81.39	92.92	94.08	89.87	82.51	89.26	
	GM	88.93	97.89	58.32	81.71	97.37	97.48	75.56	90.14	101.81	94.68	86.90		

Varietal Improvement Programme- AICRP (Sugarcane)
Principal Investigator's Report (2017-18)
Peninsular zone Pooled (2 Plant crop+Ratoon) -Midlate

2.6.3. Pooled CCS %

S No	Entries	CBE				Akola				Kohlapur				Mandya			
		AVT	AVT	AVT	Mean	AVT	AVT	AVT	Mean	AVT	AVT	AVT	Mean	AVT	AVT	AVT	Mean
		IP	IIP	Ratoon		IP	IIP	Ratoon		IP	IIP	Ratoon		IP	IIP	Ratoon	
1	Co 11005	11.89	11.46	13.96	12.44	12.16	13.25	12.00	12.47	14.73	15.51	14.85	15.03	12.87	13.16	-	13.02
2	Co 11007	12.78	13.85	14.66	13.76	11.59	12.88	11.67	12.05	13.53	12.48	11.93	12.65	13.42	13.63	-	13.53
3	Co 11012	13.55	12.99	14.95	13.83	13.24	12.37	12.05	12.55	14.13	15.59	14.12	14.61	14.25	13.74	-	14.00
4	Co 11019	12.38	11.61	14.33	12.77	11.30	13.63	11.71	12.21	14.02	15.91	14.19	14.71	12.93	13.79	-	13.36
5	CoM 11085	13.32	13.31	13.54	13.39	12.09	13.09	11.22	12.13	14.29	15.75	14.56	14.87	13.05	13.44	-	13.25
6	CoM 11086	12.89	12.41	14.87	13.39	12.13	12.73	12.53	12.46	13.75	14.39	12.98	13.71	14.46	14.21	-	14.34
	Standard															-	
1	Co 86032	12.69	13.04	14.74	13.49	12.43	13.05	11.49	12.32	14.12	14.04	12.42	13.53	13.91	13.88	-	13.90
2	Co 99004	13.15	12.90	15.57	13.87	12.05	12.19	12.04	12.09	14.76	15.62	14.61	15.00	13.19	13.67	-	13.43
	GM	12.83	12.70	14.58	13.37	12.12	12.90	11.84	12.29	14.17	14.91	13.71	14.26	13.51	13.69		13.60

S No	Entries	Navsari				Padegaon				Powerkheda				Perumalepalle			
		AVT	AVT	AVT	Mean	AVT	AVT	AVT	Mean	AVT	AVT	AVT	Mean	AVT	AVT	AVT	Mean
		IP	IIP	Ratoon		IP	IIP	Ratoon		IP	IIP	Ratoon		IP	IIP	Ratoon	
1	Co 11005	13.31	11.40	12.84	12.52	14.49	14.17	13.60	14.09	13.32	-	-	-	14.00	11.37	7.63	11.00
2	Co 11007	14.04	12.84	12.89	13.26	12.57	13.44	12.44	12.82	12.30	-	-	-	12.40	11.62	8.19	10.74
3	Co 11012	12.88	13.63	13.25	13.25	14.45	12.76	13.90	13.70	12.53	-	-	-	12.30	12.21	10.32	11.61
4	Co 11019	12.64	12.81	12.51	12.65	14.24	14.79	13.90	14.31	13.33	-	-	-	11.40	10.99	7.35	9.91
5	CoM 11085	12.84	12.79	12.33	12.65	13.78	14.60	13.97	14.12	12.63	-	-	-	12.20	13.74	10.41	12.12
6	CoM 11086	13.71	13.48	11.92	13.04	14.83	14.40	14.75	14.66	12.00	-	-	-	10.90	11.20	9.39	10.50
	Standard										-	-	-				
1	Co 86032	13.00	12.88	13.02	12.97	13.64	13.93	13.67	13.75	14.27	-	-	-	12.20	12.71	11.97	12.29
2	Co 99004	13.16	14.15	12.12	13.14	13.12	14.24	13.61	13.66	12.98	-	-	-	13.00	11.95	10.19	11.71
	GM	13.20	13.00	12.61	12.94	13.89	14.04	13.73	13.89	12.92				12.30	11.97	9.43	11.24

Varietal Improvement Programme- AICRP (Sugarcane)
Principal Investigator's Report (2017-18)
Peninsular zone Pooled (2 Plant crop+Ratoon) -Midlate

S No	Entries	Pravaranagar				Pugalur				Pune				Sameerwadi			
		AVT	AVT	AVT	Mean	AVT	AVT	AVT	Mean	AVT	AVT	AVT	Mean	AVT	AVT	AVT	Mean
		IP	IIP	Ratoon		IP	IIP	Ratoon		IP	IIP	Ratoon		IP	IIP	Ratoon	
1	Co 11005	12.89	15.24	13.86	14.00	11.85	-	-	-	13.28	12.94	12.79	13.00	12.98	11.96	11.94	12.29
2	Co 11007	13.33	14.46	13.52	13.77	9.41	-	-	-	13.42	12.68	12.80	12.97	12.90	12.29	12.05	12.41
3	Co 11012	13.09	15.43	12.94	13.82	12.40	-	-	-	14.19	14.76	15.18	14.71	14.20	12.91	13.40	13.50
4	Co 11019	12.65	15.42	13.44	13.84	12.40	-	-	-	13.78	14.12	14.03	13.98	13.29	12.64	12.35	12.76
5	CoM 11085	12.57	15.33	13.64	13.85	13.24	-	-	-	13.29	13.47	14.11	13.62	14.68	12.41	12.78	13.29
6	CoM 11086	13.51	15.36	14.52	14.46	12.25	-	-	-	11.73	13.15	13.77	12.88	13.42	13.34	11.95	12.90
	Standard						-	-	-								
1	Co 86032	13.32	15.16	13.88	14.12	12.89	-	-	-	13.96	14.05	14.09	14.03	13.78	13.00	13.00	13.26
2	Co 99004	13.65	15.31	15.78	14.91	12.01	-	-	-	14.08	14.02	14.28	14.13	14.47	13.09	13.41	13.66
	GM	13.13	15.21	13.95	14.10	12.06				13.47	13.65	13.88	13.67	13.72	12.71	12.61	13.01

S No	Entries	Sankeshwar				Thiruvalla				Overall Mean			Weighted Average	Rank
		AVT	AVT	AVT	Mean	AVT	AVT	AVT	Mean	AVT	AVT	AVT		
		IP	IIP	Ratoon		IP	IIP	Ratoon		IP	IIP	Ratoon		
1	Co 11005	12.00	16.74	16.55	15.10	10.83	13.03	11.96	11.94	12.90	13.35	12.91	13.05	
2	Co 11007	12.11	11.00	13.76	12.29	11.70	13.02	12.40	12.37	12.54	12.85	12.39	12.59	
3	Co 11012	12.58	14.90	13.97	13.82	10.94	12.37	11.99	11.77	13.20	13.64	13.28	13.36	2
4	Co 11019	14.05	14.74	14.98	14.59	11.53	12.75	11.68	11.99	12.85	13.60	12.77	13.07	
5	CoM 11085	13.88	14.80	15.42	14.70	11.84	12.64	12.46	12.31	13.12	13.78	13.13	13.34	3
6	CoM 11086	12.88	13.96	13.48	13.44	11.42	12.78	12.53	12.24	12.85	13.45	12.97	13.08	
	Standard													
1	Co 86032	12.55	12.17	13.26	12.66	13.07	13.13	13.31	13.17	13.27	13.42	13.17	13.29	
2	Co 99004	13.87	13.77	16.27	14.64	11.24	12.50	12.88	12.21	13.20	13.62	13.71	13.48	1
	GM	12.99	14.01	14.71	13.90	11.57	12.78	12.40	12.25	12.99	13.46	13.04	13.16	

2.6.4. Pooled Sucrose %

S No	Entries	Coimbatore				Akola				Kohlapur				Mandya			
		AVT	AVT	AVT	Mean	AVT	AVT	AVT	Mean	AVT	AVT	AVT	Mean	AVT	AVT	AVT	Mean
		IP	IIP	Ratoon		IP	IIP	Ratoon		IP	IIP	Ratoon		IP	IIP	Ratoon	
1	Co 11005	16.93	16.44	19.40	17.59	17.90	18.88	17.42	18.07	20.78	21.62	20.81	21.07	18.27	18.60	-	18.44
2	Co 11007	18.26	19.73	20.38	19.46	17.28	18.49	17.17	17.65	18.89	17.71	16.95	17.85	19.14	19.30	-	19.22
3	Co 11012	19.19	18.56	20.76	19.50	18.97	17.95	18.02	18.31	19.80	21.63	19.91	20.45	20.19	19.46	-	19.83
4	Co 11019	17.75	16.69	19.95	18.13	16.97	19.21	17.68	17.95	19.65	22.22	20.08	20.65	18.66	19.41	-	19.04
5	CoM 11085	18.86	18.90	19.28	19.01	18.08	18.79	17.27	18.05	19.92	21.86	20.33	20.70	18.69	19.02	-	18.86
6	CoM 11086	18.45	17.71	20.64	18.93	17.69	18.40	18.29	18.13	19.24	20.06	18.22	19.17	20.30	20.06	-	20.18
	Standard															-	
1	Co 86032	18.05	18.42	20.49	18.99	18.27	18.97	17.57	18.27	19.65	19.53	17.65	18.94	19.81	19.50	-	19.66
2	Co 99004	18.77	18.51	21.61	19.63	18.05	17.90	18.37	18.11	20.85	21.84	20.62	21.10	18.77	19.19	-	18.98
	GM	18.28	18.12	20.31	18.90	17.90	18.57	17.72	17.81	19.85	20.81	19.32	19.99	19.23	19.32		19.27

S No	Entries	Navsari				Padegaon				Powerkheda				Perumalepalle			
		AVT	AVT	AVT	Mean	AVT	AVT	AVT	Mean	AVT	AVT	AVT	Mean	AVT	AVT	AVT	Mean
		IP	IIP	Ratoon		IP	IIP	Ratoon		IP	IIP	Ratoon		IP	IIP	Ratoon	
1	Co 11005	19.07	16.85	18.22	18.05	20.19	20.04	19.32	19.85	19.48	-	-	19.48	19.00	16.27	11.68	15.65
2	Co 11007	19.59	18.75	18.70	19.01	17.88	19.22	17.73	18.28	18.08	-	-	18.08	16.70	16.71	12.24	15.21
3	Co 11012	18.17	19.61	19.00	18.93	20.29	18.58	19.73	19.53	18.40	-	-	18.40	16.60	17.34	14.76	16.23
4	Co 11019	17.94	18.34	18.05	18.11	20.08	20.83	19.80	20.24	19.50	-	-	19.50	15.80	16.07	11.35	14.40
5	CoM 11085	18.51	18.64	18.06	18.40	19.35	20.60	19.72	19.89	18.53	-	-	18.53	16.70	19.21	15.06	16.99
6	CoM 11086	19.30	19.37	17.35	18.67	20.71	20.31	20.59	20.54	17.67	-	-	17.67	15.10	16.17	13.78	15.02
	Standard										-	-					
1	Co 86032	18.52	18.55	19.06	18.71	19.21	19.85	19.38	19.48	20.78	-	-	20.78	16.90	18.08	17.03	17.34
2	Co 99004	18.70	20.37	17.57	18.88	18.56	20.21	19.59	19.46	19.01	-	-	19.01	17.40	17.03	14.87	16.43
	GM	18.73	18.81	18.25	18.60	19.53	19.95	19.48	19.66	18.93			18.93	16.78	17.11	13.85	15.91

Varietal Improvement Programme- AICRP (Sugarcane)
Principal Investigator's Report (2017-18)
Peninsular zone Pooled (2 Plant crop+Ratoon) -Midlate

S No	Entries	Pravaranagar				Pugalur				Pune				Sameerwadi			
		AVT	AVT	AVT	Mean	AVT	AVT	AVT	Mean	AVT	AVT	AVT	Mean	AVT	AVT	AVT	Mean
		IP	IIP	Ratoon		IP	IIP	Ratoon		IP	IIP	Ratoon		IP	IIP	Ratoon	
1	Co 11005	18.73	21.35	19.63	19.90	16.89	-	-	16.89	18.41	18.06	18.00	18.16	18.77	16.65	17.22	17.55
2	Co 11007	18.84	20.49	19.14	19.49	13.97	-	-	13.97	18.73	17.70	18.01	18.15	18.66	17.14	17.33	17.71
3	Co 11012	18.54	21.72	18.41	19.56	17.77	-	-	17.77	19.75	20.48*	20.99*	19.75	20.27	17.18	19.22	18.89
4	Co 11019	17.98	21.66	18.85	19.50	17.77	-	-	17.77	19.33	19.64	19.65	19.54	19.30	18.25	17.79	18.45
5	CoM 11085	17.54	21.53	19.03	19.37	18.8	-	-	18.8	18.66	18.91	19.65	19.07	20.89	18.45	18.46	19.27
6	CoM 11086	18.87	21.56	20.86	20.43	17.5	-	-	17.5	16.53	18.49	19.23	18.08	19.25	18.13	17.24	18.21
	Standard						-	-									
1	Co 86032	18.62	21.21	19.67	19.83	18.31	-	-	18.31	19.45	19.56	19.57	19.53	19.73	17.52	18.76	18.67
2	Co 99004	19.35	21.50	21.87	20.91	17.27	-	-	17.27	19.60	19.60	19.86	19.69	20.67	18.04	19.31	19.34
	GM	18.56	21.38	19.68	19.87	17.29			17.29	18.81	18.85	19.14	18.93	19.69	17.67	18.17	18.51

S No	Entries	Sankeshwar				Thiruvalla				Overall Mean			Weighted Average	Rank
		AVT	AVT	AVT	Mean	AVT	AVT	AVT	Mean	AVT	AVT	AVT		
		IP	IIP	Ratoon		IP	IIP	Ratoon		IP	IIP	Ratoon		
1	Co 11005	17.70	23.05	23.34	21.36	15.60	18.57	17.07	17.08	18.41	18.86	18.37	18.55	
2	Co 11007	17.81	16.34	19.89	18.01	16.75	18.55	17.66	17.65	17.90	18.34	17.75	18.00	
3	Co 11012	18.26	21.20	20.25	19.90	15.75	17.61	17.07	16.81	18.71	19.17	18.71	18.86	3
4	Co 11019	20.03	21.24	21.42	20.90	16.52	18.17	16.67	17.12	18.38	19.31	18.30	18.66	
5	CoM 11085	19.87	21.15	21.95	20.99	16.97	18.03	17.75	17.58	18.67	19.59	18.78	19.00	2
6	CoM 11086	18.70	20.14	19.58	19.47	16.36	18.19	17.83	17.46	18.26	19.05	18.51	18.59	
	Standard													
1	Co 86032	18.38	18.11	19.41	18.63	18.69	18.71	18.93	18.78	18.88	19.00	18.87	18.92	
2	Co 99004	19.86	19.96	22.74	20.85	16.14	17.82	18.34	17.43	18.79	19.33	19.52	19.18	1
	GM	18.83	20.15	21.07	20.02	16.60	18.21	17.67	17.49	18.50	19.12	18.61		

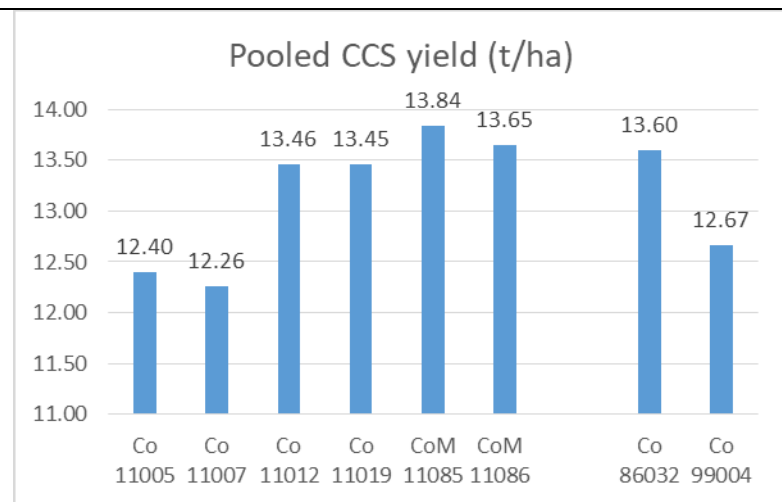


Fig. 2.6.1. CCS yield (t/ha)

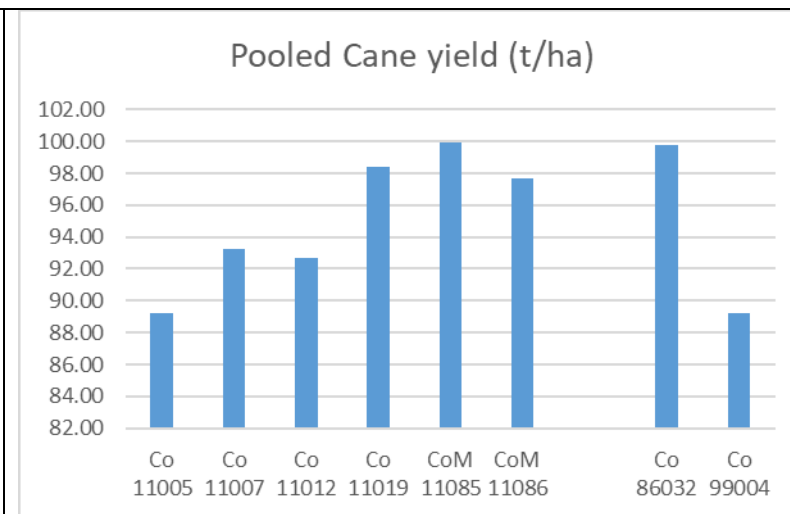


Fig. 2.6.2. Cane yield (t/ha)

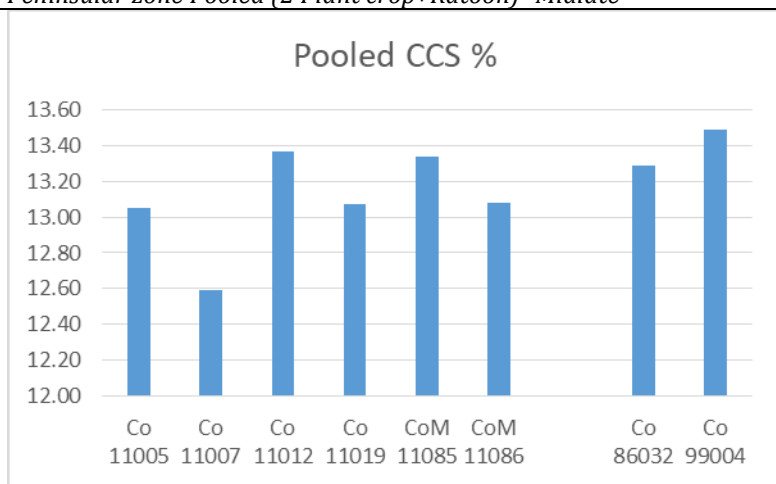


Fig. 2.6.3.CCS %

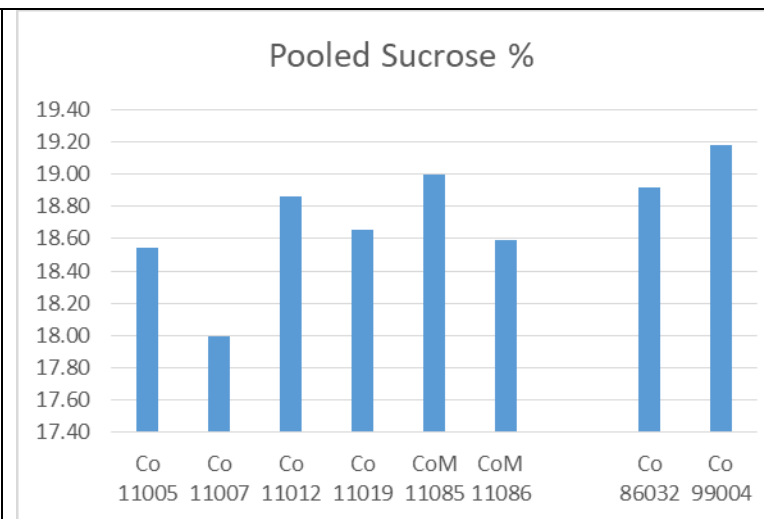


Fig. 2.6.4. Sucrose %

Simultaneous selection of high yielding and stable genotypes in Advance Varietal Trial (Midlate) – Plant I, II and Ratoon

Six entries, Co 11005, Co 11007, Co 11012, Co 11019, CoM 11085 and CoM 11086 and two standards, Co 86032 and Co 99004 were evaluated during three crop cycles (I & II Plant crop and ratoon crop) at 14 locations in Peninsular Zone. The data on CCS (t/ha), cane yield (t/ha) and sucrose (%) were subjected to stability analysis using AMMI model. Simultaneous selection of high yielding and stable genotypes was done by estimated index value based ranking. Estimated index values, CCS (t/ha), cane yield (t/ha) and sucrose (%) values and stability values of different genotypes along with their ranks are presented in Tables 5.4 to 5.6.

Results based on index of simultaneous selection of high CCS (t/ha) and stable genotypes revealed that three entries, CoM 11086, Co 11012 and Co 11019 were at first, second and third rank, respectively. Such a ranking differs with the ranking based only on mean data of CCS(t/ha) presented in Table 5.4. Considering top three entries for high CCS (t/ha) and stable genotype, CoM 11086, Co 11012 and Co 11019 were superior among the entries but inferior to the best standard Co 86032. Numerical value of CCS (t/ha) of these entries is also nearly equal to the best standard Co 86032.

Results based on index of simultaneous selection for high cane yield (t/ha) and stable genotypes revealed that three entries CoM 11086, Co 11012 and Co 11019 were at first, second and third rank, respectively. Such a ranking differs with the ranking based only on mean data of cane yield (Table 5.5). Considering top three entries for high cane yield (t/ha) and stable genotype, CoM 11086, Co 11012 and Co 11019 were superior among the entries and better than the best standard Co 86032. Numerical value of cane yield (t/ha) of these entries is also nearly equal to the best standard Co 86032.

Results based on index of simultaneous selection for high sucrose (%) and stable genotypes revealed that only one entry, Co 11012 was at first place followed by standard Co 99004 and entry CoM 11086. Such a ranking differs with the ranking based only on mean data of sucrose content (Table 5.6). Numerically the value of sucrose (%) is also nearly equal both of Co 11012 and Co 86032.

From the above analysis, it may be concluded that entries, CoM 11086 and Co 11012 were the most stable genotype with superiority for CCS (t/ha) and cane yield (t/ha) and sucrose (%) in midlate maturing group of Peninsular zone. These entries were also better than the best standard Co 86032 for CCS (t/ha) and cane yield (t/ha) and Co 99004 for sucrose (%). Numerically the value of sucrose (%) is also equal for CoM 11086 and Co 11012 with standard Co 86032.

Table 5.4 - Ranking of genotypes of AVT (M) of Peninsular Zone according to their (i) mean performance, (ii) stability and (iii) simultaneous index value in respect of CCS (t/ha)

Variety	Estimated value			Rank based on estimated value		
	Index Value	CCS (t/ha) value	Stability value	Index value based rank	CCS (t/ha) based rank	Stability based rank
Co 11005	0.13	11.74	33.88	7	7	5
Co 11007	1.06	11.72	48.94	8	8	8
Co 11012	1.36	13.22	21.64	2	3	2
Co 11019	1.35	13.19	21.93	3	5	3
CoM 11085	1.32	13.30	25.16	4	2	4
CoM 11086	1.40	13.19	19.22	1	4	1
Standards						
Co 86032	1.21	13.44	44.39	5	1	7
Co 99004	1.16	12.50	38.38	6	6	6

Table 5.5 - Ranking of genotypes of AVT (M) of Peninsular Zone according to their (i) mean performance, (ii) stability and (iii) simultaneous index value in respect of cane yield (t/ha)

Variety	Estimated value			Rank based on estimated value		
	Index Value	Cane Yield (t/ha) value	Stability value	Index value based rank	Cane Yield (t/ha) based rank	Stability based rank
Co 11005	1.09	90.11	1974.44	8	8	6
Co 11007	1.11	93.83	2267.52	7	6	8
Co 11012	1.33	100.34	1091.71	2	4	2
Co 11019	1.32	99.94	1123.71	3	5	3
CoM 11085	1.30	100.42	1192.77	4	3	4
CoM 11086	1.52	101.26	681.61	1	2	1
Standards						
Co 86032	1.23	101.37	1693.53	5	1	5
Co 99004	1.11	93.52	2195.27	6	7	7

Table 5.6 - Ranking of genotypes of AVT (M) of Peninsular Zone according to their (i) mean performance, (ii) stability and (iii) simultaneous index value in respect of sucrose (%)

Variety	Estimated value			Rank based on estimated value		
	Index Value	Sucrose (%) value	Stability value	Index value based rank	Sucrose (%) based rank	Stability based rank
Co 11005	1.16	18.51	11.47	7	7	6
Co 11007	1.06	17.84	18.70	8	8	8
Co 11012	1.50	18.85	3.99	1	4	1
Co 11019	1.20	18.66	9.73	5	5	5
CoM 11085	1.24	18.97	8.61	4	3	4
CoM 11086	1.26	18.53	7.33	3	6	3
Standards						
Co 86032	1.17	18.99	12.37	6	2	7
Co 99004	1.41	19.08	5.04	2	1	2

2.7. Advanced Varietal Trial I Plant (2017-18)

Centers where trial was conducted (13)	Coimbatore, Akola, Kolhapur, Mandya, Navsari, Padegaon, Perumallapalle, Pravaranagar, Pune, Rudrur, Sameervadi, Sankeshwar, Thiruvalla
Entries (8)	Co 12007, Co 12008, Co 12009, Co 12012, Co 12019, Co 12024, CoM 12085 and VSI 12121
Standards (3)	Co 86032, CoC 671 and CoSnk 05103
Design	RBD
Replications	Three
Plot size	6 m x 8 rows x 1.2 m (Gross) 5 m x 6 rows x 1.2 m (Net)
Seed rate	12 buds per meter
Planting time	December- January
Crop duration	12 months

Results of the previous year: Twelve clones along with three checks have been evaluated at 18 centres in IVT- Early trial during 2015- 16. Two entries CoT 12366 (12.50 t/ha) and CoM 12082 (12.47 t/ha) recorded higher mean sugar yield than the best standard CoC 671 (12.33 t/ha). For cane yield four entries viz., CoM 12082 (104.98 t/ha), CoT 12366 (99.09 t/ha), CoM 12081 (97.28 t/ha) and CoN 12083 (94.34 t/ha) performed better than the best standard CoC 671 (93.02 t/ha). Co 12008 recorded higher CCS% (13.42%) and sucrose per cent (19.37%) than the best standard CoC 671 (13.27% & 18.99% respectively). Fifteen test entries along with two checks have been evaluated at 18 centres in IVT- Midlate trial during 2015-16. Four entries viz., VSI 12121 (16.06 t/ha), Co 12009 (14.82 t/ha), Co 12012 (14.70 t/ha) and Co 12021 (14.35 t/ha) were found superior for CCS yield as compared to the best standard Co 86032 (14.29 t/ha). Six entries viz., VSI 12121 (120.82 t/ha), Co 12012 (115.49 t/ha), Co 12021 (114.60 t/ha), Co 12017 (114.04 t/ha), CoM 12084 (112.71t/ha) and Co 12016 (107.85 t/ha) recorded higher cane yield than the best standard Co 86032 (107.40 t/ha). None of the test entries were found superior to the best standard Co 99004 for CCS% (13.41%) and sucrose percent (19.27%).

Results of the current year: Eight clones were evaluated along with three standards at 13 centres during 2017-18. Basmathnagar, Kawardha, Powerkheda, Pugalur and Sirugamani centres didn't conduct the trial. Three test entries viz., VSI 12121 (16.55 t/ha), Co 12009 (15.81 t/ha) and CoM 12085 (15.69 t/ha) recorded higher sugar yield than the best standard CoC 671 (14.64 t/ha) and ranked as first three entries in the zone. VSI 12121 and Co 12009 recorded more than 10% improvement in sugar yield over the best standard at six centres. Four entries viz., VSI 12121 (118.99 t/ha), Co 12012 (113.58 t/ha), Co 12009 (112.81 t/ha) and CoM 12085 (110.92 t/ha) had higher cane yield than the best standard Co 86032 (107.25 t/ha). The entry VSI 12121 ranked first in the zone and recorded more than 10% improvement in cane yield over the best standard at six locations. Co 12009 ranked third in the zone and recorded more than 10% yield improvement over the best check at five locations. None of the entries recorded higher CCS % and sucrose per cent than the best standard CoC 671 (14.51% and 20.56% respectively) in this trial. The test entries Co 12008 and Co 12007 ranked as second and third respectively in the zone for CCS% (14.11% and 13.97% respectively) and sucrose per cent (20.16% and 19.83% respectively). The best entry in the trial was VSI 12121 with 13.03% and 10.95% improvement over the best standard for CSS yield and cane yield respectively in the zone. The data are presented in the tables **2.7.1 to 2.7.24.**

Varietal Improvement Programme- AICRP (Sugarcane)
Principal Investigator's Report (2017-18)
Peninsular zone AVT I Plant

Table 2.7.1 CCS t/ha at harvest

S. No.	Entries	Coimbatore	Akola	Kolhapur	Mandya	Navsari	Padegaon	Perumallapalle	Pravaranagar	Pune	Rudrur	Sameerwadi	Sanke shwar	Thiruvalla	Mean	Rank
1	Co 12007	14.98	8.18	17.59	12.28	15.37	19.24	19.82	20.05	16.94	7.12	6.80	14.57	11.71	14.20	
2	Co 12008	13.66	8.05	18.12	10.91	14.86	21.68	9.70	20.47	19.94	10.74	4.31	10.82	12.19	13.50	
3	Co 12009	15.34	14.33	22.57*	16.03*	17.30	22.71	13.47	20.51	21.12	8.67	6.44	18.15*	8.95	15.81	2
4	Co 12012	14.13	10.68	16.35	10.31	13.53	20.94	14.13	18.76	21.11	14.60	9.92	13.09	10.80	14.49	5
5	Co 12019	12.27	9.90	16.40	8.87	15.29	15.99	17.01	17.82	17.25	11.64	4.36	7.70	7.37	12.45	
6	Co 12024	14.74	8.33	15.28	9.51	14.68	22.22	11.21	17.14	14.73	13.71	3.82	11.13	7.59	12.62	
7	CoM 12085	15.11	10.16	22.88*	14.43	14.35	23.47*	11.22	22.47	21.64	18.02	3.95	14.98	11.27	15.69	3
8	VSI 12121	15.08	11.77	22.17*	14.70	15.89	22.80	15.07	22.95	25.39*	14.94	5.81	15.83	12.72*	16.55	1
Standards																
1	Co 86032	14.43	8.88	17.31	12.32	12.99	20.58	14.69	22.10	19.68	13.08	8.43	12.72	10.72	14.46	
2	CoC 671	15.28	10.86	17.05	11.50	15.14	20.04	17.41	20.24	19.12	16.43	4.72	13.80	8.73	14.64	4
3	CoSnk 05103	14.29	12.27	17.15	9.32	11.84	18.55	15.03	16.37	18.94	9.75	6.33	12.44	6.76	13.00	
	Grand mean	14.48	10.31	18.44	11.83	14.66	20.75	14.43	19.80	19.62	12.61	5.90	13.43	9.89		
	SE	0.65	1.01	1.08	0.95	0.76	0.79	1.13	0.42	0.72	0.84	0.64	1.06	0.62		
	CD	NS	2.98	3.18	2.81	2.24	2.35	3.34	1.24	2.11	2.48	1.91	3.19	1.75		
	CV	7.79	16.95	10.13	13.94	8.99	6.65	13.51	3.68	6.33	11.54	18.85	11.20	10.77		
Qualifying entries at each centre																
	1		Co 12009	CoM 12085	Co 12009	Co 12009	CoM 12085	Co 12007		VSI 12121		Co 12012	Co 12009	VSI 12121	VSI 12121	
	2			Co 12009	VSI 12121		VSI 12121						VSI 12121	Co 12008		
	3			VSI 12121	CoM 12085		Co 12009									

*Significant at 5% level

Qualifying entries: Co 12009 (6), VSI 12121 (6), CoM 12085 (3), Co 12007 (1), Co 12008 (1), Co 12012 (1)

Performance across locations: Three test entries viz., VSI 12121 (16.55 t/ha), Co 12009 (15.81 t/ha) and CoM 12085 (15.69 t/ha) recorded higher sugar yield than the best standard CoC 671 (14.64 t/ha). VSI 12121 was the highest sugar yielding entry in the zone with more than 10% improvement over the best standard at six locations and 13.03% improvement over the best standard in the zone. Co 12009 and CoM 12085 ranked as second and third respectively in the zone and had more than 10% improvement over the best check at six and three centres respectively. The other qualifying entries were Co 12007 at Perumallapalle, Co 12008 at Thiruvalla and Co 12012 at Sameerwadi.

Varietal Improvement Programme- AICRP (Sugarcane)
Principal Investigator's Report (2017-18)
Peninsular zone AVT I Plant

Table 2.7.2 Cane yield t/ha at harvest

S. No.	Entries	Coimbatore	Akola	Kolhapur	Mandya	Navsari	Padegaon	Perumallapalle	Pravaraanagar	Pune	Rudrur	Sameerwadi	Sanke shwar	Thiruvalla	Mean	Rank
1	Co 12007	109.16	64.48	112.79	89.29	125.74*	126.55	144.48	133.46	114.76	53.21	51.85	98.42	85.83	100.77	
2	Co 12008	98.30	66.93	110.76	74.84	119.44	139.70	79.70	138.47	129.48	74.72	33.87	71.44	86.77	94.19	
3	Co 12009	112.91	112.95*	141.56	119.55*	128.70*	149.85	106.84	137.31	144.32	66.58	54.63	122.78*	68.54	112.81	3
4	Co 12012	124.54	85.84	114.31	74.59	112.03	153.04	131.10	130.17	149.54	125.34	87.42	106.73	81.87	113.58	2
5	Co 12019	97.67	77.55	106.40	63.60	111.11	115.10	124.12	125.27	121.89	81.04	39.35	55.35	56.20	90.36	
6	Co 12024	110.45	64.38	108.37	73.28	114.35	160.51*	101.70	118.51	107.48	104.29	30.94	87.63	60.10	95.54	
7	CoM 12085	111.90	83.61	152.98*	106.96	106.02	155.20*	84.64	146.81*	148.35	122.94	31.25	109.66	81.67	110.92	4
8	VSI 12121	109.24	88.63	150.59*	105.33	127.77*	151.63	128.88	149.05*	174.05*	102.34	47.45	110.55	101.35*	118.99	1
Standards																
1	Co 86032	108.00	79.57	122.14	94.37	106.20	139.57	109.44	138.42	139.02	99.03	71.14	100.07	87.29	107.25	5
2	CoC 671	102.61	84.22	104.89	81.93	108.15	123.55	122.55	131.30	124.18	128.52	34.18	89.45	65.00	100.04	
3	CoSnk 05103	114.68	90.10	124.38	69.71	109.26	129.73	131.48	115.10	134.61	78.37	56.02	87.29	57.41	99.86	
	Grand mean	109.04	81.66	122.65	86.68	115.34	140.40	114.99	133.08	135.24	94.21	48.92	101.56	75.64		
	SE	4.16	7.40	7.67	6.38	5.18	5.24	7.94	1.49	4.79	6.27	5.53	6.63	3.89		
	CD	12.36	21.82	22.64	18.82	15.27	15.45	23.58	4.40	14.13	18.49	16.43	20.10	11.05		
	CV	6.61	15.69	10.84	12.75	7.78	6.46	11.95	1.94	6.14	11.52	19.58	9.23	8.90		
Qualifying entries at each centre																
	1		Co 12009	CoM 12085	Co 12009	Co 12009	Co 12024			VSI 12121		Co 12012	Co 12009	VSI 12121	VSI 12121	
	2			VSI 12121	CoM 12085	VSI 12121	CoM 12085						VSI 12121			
	3			Co 12009	VSI 12121	Co 12007										

*Significant at 5% level

Qualifying entries: VSI 12121 (6), Co 12009 (5), CoM 12085 (3), Co 12007 (1), Co 12012 (1), Co 12024 (1)

Performance across locations: Four entries viz., VSI 12121 (118.99 t/ha), Co 12012 (113.58 t/ha), Co 12009 (112.81 t/ha) and CoM 12085 (110.92 t/ha) recorded higher cane yield than the best check Co 86032 (107.25 t/ha). The first ranked entry in the zone was VSI 12121 with more than 10% improvement over the best standard at six locations and 10.95% improvement over the best standard in the zone. Co 12012 and Co 12009 were at second and third positions respectively in the zone and had more than 10% improvement over the best standard at one centre and five centres respectively. The other qualifying entries were CoM 12085 at three centres, Co 12007 at Navsari and Co 12024 at Padegaon.

Varietal Improvement Programme- AICRP (Sugarcane)
Principal Investigator's Report (2017-18)
Peninsular zone AVT I Plant

Table 2.7.3 CCS % at harvest

S. No.	Entries	Coimbatore	Akola	Kolhapur	Mandya	Navsari	Padegaon	Perumallapalle	Pravaranagar	Pune	Rudrur#	Sameerwadi	Sanke shwar	Thiruvalla	Mean	Rank
1	Co 12007	13.72	12.69	15.60	13.78	12.18	15.20	13.74	15.02	14.76	13.38	13.10	14.78	13.63	13.97	3
2	Co 12008	13.88	12.02	16.37	14.57	12.44	15.52	12.24	14.78	15.40	14.33	12.71	15.09	14.05	14.11	2
3	Co 12009	13.57	12.64	15.94	13.41	13.44	15.16	12.56	14.94	14.63	12.93	11.71	14.76	13.04	13.75	5
4	Co 12012	11.35	12.46	14.43	13.81	12.09	13.67	10.72	14.42	14.11	11.61	11.33	12.40	13.19	12.74	
5	Co 12019	12.57	12.79	15.44	13.94	13.76	13.90	13.69	14.22	14.14	14.25	11.07	14.05	13.09	13.61	
6	Co 12024	13.35	12.86	14.10	12.99	12.83	13.86	11.00	14.46	13.71	13.12	12.37	12.70	12.62	13.08	
7	CoM 12085	13.51	12.16	14.96	13.50	13.52	15.12	13.24	15.31	14.58	14.67	12.69	13.63	13.79	13.90	4
8	VSI 12121	13.80	13.28	14.73	14.02	12.45	15.03	11.71	15.40	14.59	14.64	12.03	14.35	12.56	13.74	
	Standards															
1	Co 86032	13.36	11.20	14.19	12.95	12.25	14.75	13.40	15.25	14.16	13.39	12.10	12.72	12.28	13.23	
2	CoC 671	14.84	12.87	16.26	14.03	14.00	16.22	14.12	15.41	15.40	12.80	13.80	15.46	13.41	14.51	1
3	CoSnk 05103	12.45	13.62	13.79	13.36	10.84	14.31	11.40	14.21	14.07	12.44	11.25	14.28	11.77	12.91	
	Grand mean	13.31	12.60	15.07	13.67	12.71	14.80	12.53	14.86	14.50	13.41	12.20	13.46	13.04		
	SE	0.21	0.31	0.32	0.43	0.29	0.26	0.32	0.25	0.09	0.44	0.51	0.57	0.43		
	CD	0.64	0.90	0.96	NS	0.84	0.77	0.95	0.76	0.28	1.30	1.51	1.71	1.21		
	CV	2.79	4.20	3.73	5.41	3.88	3.07	4.40	3.00	1.12	5.70	7.22	5.99	5.65		
	Qualifying entries at each centre															
	1										CoM 12085					
	2										VSI 12121					
	3										Co 12008					

Only top three qualifying entries are mentioned

Qualifying entries: Co 12008 (1), Co 12019 (1), CoM 12085 (1), VSI 12121 (1)

Performance across locations: None of the entries recorded higher CCS% than the best standard CoC 671 (14.51%). The test entries Co 12008 (14.11%) and Co 12007 (13.97%) ranked as second and third respectively in the zone. Four entries viz., CoM 12085, VSI 12121, Co 12008 and Co 12019 had more than 5% improvement over the best standard at Rudrur centre.

Table 2.7.4 Sucrose% at harvest

S. No.	Entries	Coimbatore	Akola	Kolhapur	Mandya	Navsari	Padegaon	Perumallapalle	Pravaranagar	Pune	Rudrur#	Sameerwadi	Sanke shwar	Thiruvalla	Mean	Rank
1	Co 12007	19.45	18.70	21.92	19.28	17.66	21.41	19.47	21.09	20.41	19.10	18.80	21.13	19.43	19.83	3
2	Co 12008	19.75	18.44	22.83	20.63	18.13	22.00	17.62	21.14	21.27	20.24	18.37	21.66	20.02	20.16	2
3	Co 12009	19.25	18.57	22.22	19.01	19.46	21.39	17.92	21.02	20.22	18.44	17.01	21.19	18.55	19.56	5
4	Co 12012	16.54	18.34	20.41	19.41	17.81	19.66	15.70	20.19	19.57	16.90	16.62	18.16	18.78	18.31	
5	Co 12019	18.00	18.53	21.57	19.63	19.68	19.94	19.42	19.99	19.44	20.16	16.29	20.28	18.69	19.36	
6	Co 12024	18.91	18.79	19.71	18.23	18.43	19.64	15.82	20.27	18.96	18.55	17.76	18.38	17.97	18.57	
7	CoM 12085	19.13	18.28	21.01	19.15	19.37	21.44	18.89	21.49	20.14	20.38*	18.12	19.65	19.66	19.75	4
8	VSI 12121	19.58	19.10	20.55	19.71	18.15	21.23	16.92	21.65	20.28	20.43*	17.27	20.43	17.90	19.48	
Standards																
1	Co 86032	19.08	17.40	19.86	18.28	17.89	20.84	18.79	21.34	19.62	18.91	17.65	18.54	17.51	18.90	
2	CoC 671	21.01	19.18	22.69	19.77	19.95	22.77	19.60	21.71	21.25	18.35	19.82	22.01	19.14	20.56	1
3	CoSnk 05103	17.84	19.21	19.37	18.68	15.93	20.40	16.54	19.96	19.42	17.96	16.47	20.36	16.82	18.38	
	Grand mean	18.96	18.59	21.10	19.25	18.41	20.98	17.88	20.90	20.05	19.04	17.65	20.16	18.59		
	SE	0.29	0.29	0.42	0.53	0.37	0.36	0.40	0.27	0.12	0.46	0.64	0.64	0.60		
	CD	0.86	0.87	1.25	NS	1.08	1.08	1.19	0.80	0.35	1.35	1.90	1.91	1.72		
	CV	2.64	2.73	3.47	4.74	3.45	3.04	3.87	2.27	1.03	4.16	6.28	4.64	5.62		
Qualifying entries at each centre																
1											VSI 12121					
2											CoM 12085					
3											Co 12008					

*Significant at 5% level, # Only top three qualifying entries are mentioned

Qualifying entries: Co 12008 (1), Co 12019 (1), CoM 12085 (1), VSI 12121 (1)

Performance across locations: None of the entries recorded higher juice sucrose per cent than the best standard CoC 671 (20.56%). The test entries Co 12008 (20.16%) and Co 12007 (19.83%) ranked as second and third respectively in the zone. Four entries viz., VSI 12121, CoM 12085, Co 12008 and Co 12019 had more than 5% improvement over the best standard at Rudrur centre.

Table 2.7.5 Brix % at harvest

S. No.	Entries	Coimbatore	Akola	Kolhapur	Mandya	Navsari	Padegaon	Perumallapalle	Pravaranaagar	Pune	Rudrur	Sameerwadi	Sanke shwar	Thiruvalla	Mean
1	Co 12007	21.08	21.98	23.28	20.33	20.10	22.89	21.10	22.37	21.57	21.20	20.95	23.35	21.33	21.66
2	Co 12008	21.59	23.38	23.85	22.33	20.85	23.85	19.74	22.20	22.44	21.93	20.79	24.10	21.97	22.23
3	Co 12009	20.90	21.72	23.15	20.67	22.10	22.95	19.70	22.40	21.32	20.43	19.43	23.60	20.30	21.44
4	Co 12012	19.01	21.52	22.01	20.67	20.95	21.99	18.24	21.27	20.81	19.53	19.39	21.09	20.57	20.54
5	Co 12019	19.98	21.05	22.61	21.00	21.75	22.21	21.07	21.27	20.27	21.93	19.12	22.85	20.57	21.21
6	Co 12024	20.46	21.72	20.71	19.33	20.55	21.27	17.70	21.40	20.01	20.13	20.11	20.84	19.67	20.30
7	CoM 12085	20.69	22.32	22.28	20.83	21.50	21.91	20.74	22.80	21.22	21.23	19.96	22.10	21.57	21.47
8	VSI 12121	21.24	21.38	21.48	21.00	20.90	22.84	19.10	23.03	21.69	21.47	19.23	22.35	19.63	21.18
Standards															
1	Co 86032	21.04	22.55	20.91	19.67	20.65	22.40	20.57	22.43	20.84	20.43	20.34	21.34	19.23	20.95
2	CoC 671	22.71	23.05	23.71	21.17	21.90	24.15	20.27	23.20	22.34	20.47	22.13	24.10	21.03	22.33
3	CoSnk 05103	19.79	20.58	20.58	19.67	18.65	22.39	18.84	21.20	20.42	20.33	19.11	22.34	18.57	20.19
	Grand mean	20.77	21.93	22.23	20.61	20.90	22.62	19.73	22.14	21.18	20.83	20.05	22.55	20.40	
	SE	0.30	0.34	0.42	0.40	0.47	0.31	0.35	0.15	0.12	0.16	0.59	0.39	0.66	
	CD	0.88	1.00	1.25	1.19	1.39	0.94	1.04	0.45	0.35	0.47	1.76	1.16	1.87	
	CV	2.46	2.68	3.30	3.38	3.89	2.44	3.08	1.20	0.97	1.31	5.11	2.50	5.57	

Varietal Improvement Programme- AICRP (Sugarcane)
Principal Investigator's Report (2017-18)
Peninsular zone AVT I Plant

Table 2.7.6 Purity % at harvest

S. No.	Entries	Coimbatore	Akola	Kolhapur	Mandya	Navsari	Padegaon	Perumallapalle	Pravara nagar	Pune	Rudrur	Sameerwadi	Sanke shwar	Thiruvalla	Mean
1	Co 12007	92.24	85.05	94.20	94.99	87.78	93.54	92.30	94.30	94.61	90.83	89.73	90.53	90.37	91.57
2	Co 12008	91.47	78.90	95.76	92.51	87.06	92.26	89.21	93.72	94.81	92.99	88.34	89.85	90.37	90.56
3	Co 12009	92.09	85.55	95.98	92.12	88.08	93.20	90.90	93.82	94.82	90.92	87.65	89.78	90.57	91.19
4	Co 12012	86.98	85.25	92.62	94.12	85.07	89.32	86.10	94.93	94.01	87.25	85.69	86.05	90.50	89.07
5	Co 12019	90.12	88.03	95.37	93.64	90.46	89.78	92.17	94.01	95.91	92.60	85.13	88.75	90.03	91.23
6	Co 12024	92.43	86.52	95.17	94.45	89.66	92.33	89.34	94.71	94.72	92.86	88.33	88.20	90.53	91.48
7	CoM 12085	92.47	81.88	94.35	92.11	90.09	96.11	91.10	94.26	94.93	96.61	90.78	88.92	90.43	91.85
8	VSI 12121	92.15	89.46	95.69	94.02	86.90	92.96	88.57	94.01	93.50	95.56	89.74	91.39	90.30	91.87
Standards															
1	Co 86032	90.70	77.11	94.96	92.98	86.69	93.00	94.60	95.10	94.16	92.88	86.70	86.88	90.17	90.46
2	CoC 671	92.50	83.42	95.67	93.54	91.16	94.28	96.75	93.57	95.12	89.95	89.58	91.32	90.20	92.08
3	CoSnk 05103	90.16	93.41	94.12	95.18	85.59	91.08	87.77	94.16	95.11	88.62	86.22	91.11	89.70	90.94
	Grand mean	91.21	84.96	94.90	93.61	88.05	92.53	90.80	94.24	94.70	91.92	87.99	89.34	90.29	
	SE	0.42	1.79	0.82	1.00	1.31	0.50	1.15	1.01	0.25	1.90	1.39	2.12	0.28	
	CD	1.24	5.29	N.S.	NS	3.86	1.48	3.41	2.99	0.74	5.59	NS	6.35	0.80	
	CV	0.79	3.66	1.49	1.84	2.57	0.94	2.19	1.89	0.46	3.57	2.74	3.39	0.54	

Table 2.7.7 Pol% Cane at harvest

S. No.	Entries	Coimbatore	Akola	Kolhapur	Mandya	Navsari	Padegaon	Perumallapalle	Pravaranaagar	Pune	Rudrur	Sameerwadi	Sanke shwar	Thiruvalla	Mean
1	Co 12007	15.15		16.66	14.57	13.47	16.18			15.73		13.91	16.38		15.26
2	Co 12008	15.31		17.36	15.68	13.78	16.84			16.29		13.60	16.56		15.68
3	Co 12009	14.35		17.08	14.46	14.91	16.20			15.89		12.59	15.90		15.17
4	Co 12012	12.85		15.66	14.83	13.47	15.07			14.90		12.30	14.03		14.14
5	Co 12019	13.94		16.46	14.93	14.94	15.38			15.20		12.05	15.68		14.82
6	Co 12024	14.58		15.16	14.15	13.97	15.48			14.56		13.14	14.24		14.41
7	CoM 12085	14.89		16.07	14.65	14.74	16.38			15.32		13.41	15.24		15.09
8	VSI 12121	15.21		15.65	15.17	13.79	16.58			15.24		12.78	15.51		14.99
	Standards														
1	Co 86032	14.82		15.17	13.86	13.61	16.12			15.10		13.06	14.44		14.52
2	CoC 671	16.22		17.26	15.92	15.19	17.53			16.18		14.67	17.07		16.25
3	CoSnk 05103	13.65		14.75	14.07	12.18	15.34			14.59		12.19	15.12		13.99
	Grand mean	14.63		16.12	14.75	14.00	16.10			15.36		13.06	15.47		
	SE			0.32	0.44	0.27	0.47			0.10		0.68	0.54		
	CD			0.95	NS	0.81	0.99			0.29		2.05	1.61		
	CV			3.47	5.17	3.39	3.62			1.11		6.65	5.08		

Table 2.7.8 Extraction % at harvest

S. No.	Entries	Coimbatore	Akola	Kolhapur	Mandya	Navsari	Padegaon	Perumalpal	Pravara nagar	Pune	Rudrur	Sameerwadi	Sanke shwar	Thiruvalla	Mean
1	Co 12007	50.17		48.89	50.90	57.54	54.76	59.88	52.73	43.18			44.23	55.83	51.81
2	Co 12008	54.13		46.04	54.73	55.08	55.17	58.15	55.38	43.58			55.39	55.94	53.36
3	Co 12009	53.38		51.98	53.67	57.27	54.33	53.80	55.12	50.01			50.93	58.28	53.88
4	Co 12012	50.06		45.81	51.67	58.36	56.63	52.03	52.42	44.97			54.44	57.22	52.36
5	Co 12019	60.71		49.44	52.80	56.24	57.33	57.45	48.76	46.50			56.15	58.55	54.39
6	Co 12024	52.96		47.61	57.40	56.86	54.38	54.10	49.33	44.92			56.21	51.13	52.49
7	CoM 12085	53.69		53.12	55.77	56.08	49.84	58.21	56.39	48.29			59.67	57.85	54.89
8	VSI 12121	56.30		52.45	53.60	59.38	51.32	58.38	57.10	48.79			58.14	58.81	55.43
Standards															
1	Co 86032	55.72		48.52	50.33	56.22	49.64	56.11	53.55	51.59			57.67	58.90	53.82
2	CoC 671	54.45		48.91	57.67	58.22	50.79	54.55	51.32	52.53			53.77	57.93	54.01
3	CoSnk 05103	54.82		47.65	53.53	58.55	65.67	52.70	49.93	36.87			51.09	54.96	52.58
	Grand mean	54.22		49.13	53.82	57.25	54.53	55.94	52.91	46.48			54.34	56.85	
	SE	1.22		2.39	1.84	1.26	4.19	0.86	0.98	0.80			2.77	2.00	
	CD	3.64		N.S.	NS	NS	8.75	2.56	2.89	2.36			8.30	NS	
	CV	3.91		8.44	5.90	3.83	9.42	2.67	3.21	2.98			7.25	6.08	

Varietal Improvement Programme- AICRP (Sugarcane)
Principal Investigator's Report (2017-18)
Peninsular zone AVT I Plant

Table 2.7.9 Fibre % at harvest

S. No.	Entries	Coimbatore	Akola	Kolhapur	Mandya	Navsari	Padegaon	Perumallapalle	Pravaranagar	Pune	Rudrur	Sameerwadi	Sanke shwar	Thiruvalla	Mean
1	Co 12007	12.11		13.97	14.40	13.72	14.44			12.93			12.46		13.43
2	Co 12008	12.49		13.96	14.02	13.99	13.48			13.41			13.51		13.55
3	Co 12009	15.47		13.11	13.94	13.36	14.25			11.40			14.98		13.79
4	Co 12012	12.27		13.24	14.26	14.36	13.45			13.84			12.73		13.45
5	Co 12019	12.55		13.67	13.91	14.06	12.89			11.79			12.70		13.08
6	Co 12024	12.89		13.06	13.39	14.17	11.18			13.19			12.50		12.91
7	CoM 12085	12.18		13.53	13.52	13.89	13.61			13.91			12.43		13.30
8	VSI 12121	12.28		13.86	13.04	14.02	11.88			14.87			14.10		13.43
	Standards														
1	Co 86032	12.36		13.61	14.15	13.90	12.65			13.03			12.17		13.12
2	CoC 671	12.81		13.92	13.24	13.87	13.01			13.87			12.47		13.31
3	CoSnk 05103	13.49		13.85	14.71	13.49	14.79			14.87			15.70		14.42
	Grand mean	12.81		13.62	13.87	13.89	13.24			13.37			13.25		
	SE			0.33	0.34	0.16	0.83			0.16			0.54		
	CD			N.S.	NS	0.48	1.74			0.47			1.62		
	CV			4.23	4.24	2.01	7.73			2.05			5.89		

Table 2.7.10 Number of millable canes (000³/ha) at harvest

S. No.	Entries	Coimbatore	Akola	Kolhapur	Man dya	Nav sari	Padegaon	Perumallapalle	Pravar anagar	Pune	Rudrur	Sameer wadi	Sanke shwar	Thiruvalla	Mean
1	Co 12007	105.83	45.25	83.29	81.31	114.26	79.94	91.00	118.01	90.43	65.74	77.46	79.39	97.28	86.86
2	Co 12008	110.92	34.53	77.52	90.68	109.16	94.83	64.40	122.71	96.56	70.83	61.26	78.93	99.44	85.52
3	Co 12009	89.71	52.96	89.96	97.28	115.46	80.32	60.03	117.93	83.40	61.99	56.09	79.39	77.97	81.73
4	Co 12012	128.31	45.76	104.24	99.36	104.53	125.62	89.01	126.37	109.70	114.91	109.64	91.25	90.03	102.98
5	Co 12019	121.37	50.52	87.30	87.15	99.35	110.65	110.94	111.37	110.11	91.90	77.85	66.07	64.66	91.48
6	Co 12024	107.39	41.87	91.69	65.74	102.03	100.00	62.10	112.84	81.55	80.79	68.59	66.53	71.11	80.94
7	CoM 12085	83.47	47.31	83.57	66.90	95.65	70.99	35.50	122.46	75.29	72.31	37.03	55.90	92.38	72.21
8	VSI 12121	94.29	48.06	97.30	79.05	119.72	93.29	69.77	130.87	93.71	75.88	58.25	64.99	111.79	87.46
Standards															
1	Co 86032	102.95	42.04	86.57	64.99	99.35	90.35	98.52	136.05	94.86	78.24	94.35	68.15	96.64	88.70
2	CoC 671	89.76	34.61	61.85	93.65	98.70	79.48	78.81	112.46	78.77	71.20	62.19	70.38	73.86	77.36
3	CoSnk 05103	118.14	47.50	94.52	98.21	96.85	130.40	114.23	109.32	117.13	97.96	90.97	75.61	66.50	96.72
	Grand mean	104.74	44.58	87.07	84.03	105.01	95.99	79.48	120.04	93.77	80.16	72.15	72.42	85.61	
	SE	5.50	4.57	5.99	4.61	4.08	3.65	2.85	1.89	4.06	5.88	7.11	2.11	4.07	
	CD	16.34	13.47	17.67	13.60	12.02	7.62	8.46	5.59	11.99	17.36	21.12	6.33	11.56	
	CV	9.09	17.74	11.91	9.50	6.72	4.66	6.21	2.73	7.51	12.71	17.06	4.21	8.23	

Varietal Improvement Programme- AICRP (Sugarcane)
Principal Investigator's Report (2017-18)
Peninsular zone AVT I Plant

Table 2.7.11 Stalk length (cm) at harvest

S. No.	Entries	Coimbatore	Akola	Kolhapur	Mandya	Navsari	Padegaon	Perumallapalle	Pravara nagar	Pune	Rudrur	Sameerwadi	Sanke shwar	Thiruvalla	Mean
1	Co 12007	273.33	160.67	227.78	215.00	246.33	233.33	324.67	241.66	235.33	212.93	146.33	234.50	238.00	229.99
2	Co 12008	240.00	126.93	192.22	197.00	264.67	261.67	258.33	249.33	235.00	235.87	126.33	165.00	236.00	214.49
3	Co 12009	290.00	197.33	255.56	236.00	274.67	293.33	326.77	229.00	252.11	250.73	211.33	280.50	251.00	257.56
4	Co 12012	256.67	178.53	251.67	239.00	260.00	255.00	327.20	232.00	251.66	295.67	184.00	246.50	220.00	245.99
5	Co 12019	178.33	206.27	190.00	180.00	246.67	228.33	237.43	153.66	204.11	198.47	105.67	152.00	175.00	188.92
6	Co 12024	243.33	178.57	206.11	173.00	252.67	260.00	322.77	182.33	223.67	275.87	92.33	185.50	196.00	214.78
7	CoM 12085	273.33	167.07	245.00	250.00	240.67	318.33	341.10	243.00	241.33	313.73	149.00	231.50	250.00	251.08
8	VSI 12121	250.00	185.27	256.11	259.00	262.00	281.67	307.87	236.66	272.33	237.80	161.33	249.50	255.00	247.27
Standards															
1	Co 86032	263.33	146.33	212.78	188.00	246.67	266.67	312.67	228.66	237.00	256.87	163.33	202.50	223.00	226.75
2	CoC 671	260.00	173.93	213.33	177.00	239.00	280.00	306.67	225.00	232.89	334.33	117.67	220.50	198.00	229.10
3	CoSnk 05103	261.67	214.73	246.67	240.00	245.00	290.00	321.67	252.00	295.22	316.20	179.33	258.00	199.00	255.35
	Grand mean	253.64	175.97	227.02	214.00	252.58	269.85	307.92	224.85	243.70	266.22	148.79	220.55	221.91	
	SE	8.31	6.78	8.28	16.20	7.30	5.64	12.82	1.34	5.03	3.28	13.54	12.92	8.45	
	CD	24.68	19.99	24.42	48.00	21.55	11.77	38.07	3.97	14.87	9.67	40.22	38.75	24.00	
	CV	5.67	6.67	6.31	13.10	5.01	2.56	7.21	1.03	3.58	2.13	15.76	7.96	6.59	

Table 2.7.12 Stalk diameter (cm) at harvest

S. No.	Entries	Coimbatore	Akola	Kolhapur	Mandya	Navsari	Padegaon	Perumallapalle	Pravara nagar	Pune	Rudrur	Sameerwadi	Sanke shwar	Thiruvalla	Mean
1	Co 12007	3.12	2.34	2.63	3.19	2.61	3.73	2.60	2.52	2.92	2.21	2.47	2.49	2.41	2.71
2	Co 12008	3.03	2.35	2.89	3.16	2.62	3.93	2.73	2.63	2.93	2.74	2.63	2.62	2.93	2.86
3	Co 12009	3.22	2.41	2.97	3.23	2.76	3.60	2.87	2.66	3.10	2.91	2.73	2.66	2.77	2.91
4	Co 12012	2.86	2.17	2.38	2.95	2.64	3.57	2.60	2.49	2.87	2.37	2.27	2.37	2.97	2.65
5	Co 12019	2.88	2.31	2.78	3.01	2.61	3.33	2.47	2.39	2.85	2.71	2.43	2.52	2.78	2.70
6	Co 12024	3.12	2.46	2.85	3.13	2.54	3.50	2.80	2.59	2.77	3.08	2.47	2.82	2.50	2.82
7	CoM 12085	3.43	2.92	3.37	3.72	2.63	4.53	3.33	2.75	3.19	3.46	2.80	3.15	3.23	3.27
8	VSI 12121	3.12	2.85	3.10	3.28	2.64	3.80	2.93	2.75	3.33	2.81	2.73	2.82	2.80	3.00
Standards															
1	Co 86032	2.98	2.41	2.98	2.89	2.48	3.83	2.47	2.59	2.86	2.91	2.47	2.98	2.87	2.82
2	CoC 671	3.10	2.81	3.21	3.19	2.54	3.77	2.67	2.53	3.15	3.23	2.37	2.60	2.77	2.92
3	CoSnk 05103	2.61	2.27	2.69	2.71	2.62	3.27	2.40	2.34	2.80	2.25	2.67	2.52	2.40	2.58
	Grand mean	3.04	2.48	2.90	3.13	2.61	3.72	2.72	2.57	2.98	2.79	2.55	2.68	2.77	
	SE	0.09	0.13	0.11	0.10	0.04	0.12	0.10	0.02	0.05	0.03	0.14	0.10	0.10	
	CD	0.26	0.38	0.34	0.30	0.12	0.25	0.30	0.08	0.13	0.10	NS	0.31	0.28	
	CV	4.96	8.98	6.87	5.61	2.77	4.00	6.33	1.89	2.73	2.14	9.20	5.50	6.10	

Table 2.7.13 Single cane weight (kg) at harvest

S. No.	Entries	Coimbatore	Akola	Kolhapur	Mandya	Navsari	Padegaon	Perumallapalle	Pravaranagar	Pune	Rudrur	Sameerwadi	Sanke shwar	Thiruvalla	Mean
1	Co 12007	1.27	1.39	1.36	1.05	1.14	1.58	1.64	1.65	1.34	0.81	0.60	1.22	1.34	1.26
2	Co 12008	1.35	1.25	1.44	1.03	1.15	1.48	1.34	2.12	1.38	1.06	0.57	0.88	1.59	1.28
3	Co 12009	1.48	2.44	1.58	1.51	1.24	1.86	1.86	2.07	1.81	1.07	1.03	1.52	1.51	1.61
4	Co 12012	1.22	1.44	1.09	1.12	1.15	1.22	1.54	1.54	1.37	1.09	0.69	1.15	1.48	1.24
5	Co 12019	0.89	1.20	1.23	0.93	1.20	1.04	1.17	1.13	1.21	0.88	0.49	0.80	1.33	1.04
6	Co 12024	1.29	1.30	1.20	1.01	1.21	1.72	1.75	1.40	1.48	1.29	0.30	1.29	1.32	1.27
7	CoM 12085	1.62	2.59	1.83	1.90	1.17	2.19	2.42	2.07	1.96	1.70	0.74	1.94	1.55	1.82
8	VSI 12121	1.33	1.80	1.55	1.54	1.16	1.63	1.87	2.05	2.32	1.35	0.78	1.68	1.66	1.59
	Standards														
1	Co 86032	1.27	1.31	1.41	1.20	1.15	1.65	1.28	1.86	1.49	1.27	0.62	1.44	1.49	1.34
2	CoC 671	1.46	1.78	1.70	1.11	1.24	1.55	1.70	1.80	1.62	1.80	0.42	1.25	1.48	1.45
3	CoSnk 05103	0.86	1.32	1.32	0.94	1.47	0.99	1.22	1.19	1.32	0.80	0.65	1.13	1.11	1.10
	Grand mean	1.28	1.62	1.43	1.21	1.21	1.54	1.62	1.72	1.57	1.19	0.63	1.30	1.44	
	SE	0.04	0.07	0.07	0.11	0.04	0.17	0.11	0.04	0.03	0.03	0.10	0.11	0.05	
	CD	0.10	0.22	0.22	0.33	0.13	0.36	0.33	0.12	0.08	0.08	0.29	0.34	0.13	
	CV	4.79	7.92	8.86	15.89	6.13	14.04	11.79	4.21	2.98	3.90	27.25	11.52	5.49	

Table 2.7.14 Brix % at 10 months

S. No.	Entries	Coimbatore	Akola	Kolhapur	Mandya	Navsari	Padegaon	Perumalipalle	Pravaranagar	Pune	Rudhurrur	Sameerwadi	Sanke shwar	Thiruvalla	Mean
1	Co 12007	19.75	20.26	20.50	19.83	18.60	21.28	18.04	20.70	20.33	18.63	20.00	19.88	20.47	19.87
2	Co 12008	19.67	21.00	21.23	20.50	18.55	21.25	17.17	21.57	21.63	19.97	19.60	20.88	20.40	20.26
3	Co 12009	18.92	21.00	20.40	18.17	18.37	17.60	16.27	20.17	20.71	18.13	17.12	19.88	19.20	18.92
4	Co 12012	17.58	19.80	19.10	16.83	16.05	17.29	14.07	20.80	18.73	16.47	17.33	17.38	18.53	17.69
5	Co 12019	18.24	18.75	20.30	19.17	18.40	19.87	16.57	21.00	19.50	19.53	17.34	19.63	18.90	19.02
6	Co 12024	18.50	19.63	18.40	17.50	17.50	17.49	14.90	20.44	19.50	18.43	19.68	17.38	19.27	18.36
7	CoM 12085	18.44	19.84	19.86	17.00	18.16	18.07	15.77	21.04	20.22	17.73	18.75	17.63	19.87	18.64
8	VSI 12121	19.14	19.64	20.46	16.67	17.17	19.41	15.04	21.60	20.96	17.17	17.76	18.63	18.30	18.61
	Standards														
1	Co 86032	18.90	22.03	19.76	18.00	16.94	18.81	17.17	20.34	20.56	18.63	18.49	17.13	18.57	18.87
2	CoC 671	20.27	21.40	19.83	20.33	18.50	20.35	17.27	21.40	21.52	18.77	20.29	18.63	20.27	19.91
3	CoSnk 05103	17.60	20.23	19.40	18.00	15.25	19.55	13.60	21.06	18.45	18.27	17.74	18.38	17.93	18.11
	Grand mean	18.82	20.33	19.93	18.36	17.59	19.18	15.99	20.92	20.19	18.34	18.55	18.68	19.25	
	SE	0.37	0.75	0.44	0.49	0.34	0.94	0.27	0.15	0.13	0.26	1.05	0.31	0.67	
	CD	1.11	NS	1.30	1.45	1.00	2.77	0.79	0.44	0.38	0.78	2.76	0.92	NS	
	CV	3.43	6.43	3.82	4.65	3.34	8.49	2.90	1.24	1.11	2.49	10.22	2.37	6.05	

Table 2.7.15 Sucrose % at 10 months

S. No.	Entries	Coimbatore	Akola	Kolhapur	Mandya	Navsari	Padegaon	Perumallapalle	Pravaranagar	Pune	Rudhurrur	Sameerwadi	Sanke shwar	Thiruvalla	Mean
1	Co 12007	18.08		19.59	18.11	16.18	19.14	16.45	19.15	18.52	18.03	17.78	16.86	18.63	18.04
2	Co 12008	17.66		20.54	18.78	15.20	19.29	14.87	19.62	19.90	19.45	16.97	17.80	18.57	18.22
3	Co 12009	17.38		19.98	16.45	14.18	18.79	13.62	18.61	18.87	17.33	14.54	16.88	17.54	17.01
4	Co 12012	15.00		16.80	13.68	12.53	14.43	9.96	19.26	16.93	15.25	14.55	13.37	16.77	14.88
5	Co 12019	16.25		19.29	17.27	14.43	17.33	14.33	19.51	17.71	19.01	14.41	16.68	17.22	16.95
6	Co 12024	16.94		17.28	15.92	14.16	15.26	12.54	19.10	17.64	17.96	17.38	14.01	17.54	16.31
7	CoM 12085	16.86		18.58	15.47	14.84	15.92	13.88	19.43	18.48	16.47	16.90	14.05	18.19	16.59
8	VSI 12121	17.23		19.04	14.67	13.83	17.21	12.06	19.65	19.22	15.86	15.45	15.44	16.69	16.36
	Standards														
1	Co 86032	17.21		18.33	15.29	13.11	16.75	15.11	18.77	18.84	18.03	16.15	13.77	16.83	16.52
2	CoC 671	18.43		18.98	18.55	14.53	18.31	15.50	19.58	19.74	18.26	18.01	15.56	18.50	17.83
3	CoSnk 05103	15.56		18.12	16.06	12.00	17.37	10.15	19.48	16.69	16.92	15.02	15.27	16.21	15.74
	Grand mean	16.96		18.78	16.39	14.09	17.26	13.50	19.29	18.41	17.51	16.11	15.42	17.52	
	SE	0.43		0.41	0.52	0.29	0.52	0.37	0.18	0.13	0.34	1.11	0.41	0.64	
	CD	1.26		1.20	1.54	0.86	1.53	1.09	0.54	0.39	1.00	2.90	1.22	NS	
	CV	4.34		3.76	5.49	3.58	5.21	4.72	1.64	1.25	3.34	5.75	3.84	6.30	

Table 2.7.16 Purity % at 10 months

S. No.	Entries	Coimbatore	Akola	Kolhapur	Man dya	Nav sari	Padegaon	Perumallapalle	Pravar anagar	Pune	Rud rur	Sameer wadi	Sanke shwar	Thiruvalla	Mean
1	Co 12007	91.55		95.56	90.81	86.97	89.93	91.11	92.57	91.11	98.72	88.74	84.78	90.23	91.01
2	Co 12008	89.78		96.82	91.10	81.95	90.80	86.62	91.05	92.02	99.29	86.48	85.25	90.20	90.11
3	Co 12009	91.86		98.00	90.01	77.30	91.22	83.63	92.35	91.11	97.73	83.98	84.91	90.47	89.38
4	Co 12012	85.30		87.90	80.33	78.11	81.24	70.59	92.67	90.39	94.74	83.55	76.81	89.60	84.27
5	Co 12019	89.08		95.03	89.55	78.40	87.21	86.47	92.98	90.82	99.21	82.06	84.95	90.30	88.84
6	Co 12024	91.56		93.95	90.35	80.89	87.14	84.08	93.54	90.44	99.41	88.37	80.61	90.20	89.21
7	CoM 12085	91.38		93.52	90.79	81.80	88.06	88.10	92.43	91.40	94.92	89.76	79.57	90.73	89.37
8	VSI 12121	90.01		93.20	87.45	80.59	88.61	80.19	91.01	91.70	94.41	86.44	82.89	90.37	88.07
	Standards														
1	Co 86032	91.03		92.75	83.56	77.37	88.54	88.01	92.38	91.60	98.73	87.23	80.34	89.77	88.44
2	CoC 671	90.92		95.71	90.73	78.59	89.92	89.72	91.53	91.76	99.26	88.69	83.52	90.43	90.06
3	CoSnk 05103	88.42		93.40	88.73	78.76	88.86	74.57	92.53	90.44	94.58	84.41	83.08	89.40	87.27
	Grand mean	90.08		94.17	88.49	80.07	88.32	83.92	92.28	91.16	97.36	86.34	82.43	90.15	
	SE	0.82		1.24	1.45	1.60	1.06	1.45	0.60	0.14	1.80	1.97	1.38	0.26	
	CD	2.45		3.66	4.28	4.72	3.13	4.30	1.79	0.41	5.31	NS	4.12	0.74	
	CV	1.58		2.28	2.84	3.46	2.08	2.99	1.14	0.26	3.20	3.98	2.37	0.50	

Table 2.7.17 CCS % at 10 months

S. No.	Entries	Coimbatore	Akola	Kolhapur	Mandya	Navsari	Padegaon	Perumallapalle	Pravaranagar	Pune	Rudhurrur	Sameerwadi	Sanke shwar	Thiruvalla	Mean
1	Co 12007	12.72		14.03	12.68	11.10	13.35	11.54	13.53	13.17	13.09	12.33	11.42	13.07	12.67
2	Co 12008	12.31		14.79	13.18	10.12	13.51	10.19	13.76	14.21	14.16	11.63	12.09	13.02	12.75
3	Co 12009	12.24		14.47	11.72	9.14	13.19	9.17	13.14	13.42	12.53	9.86	11.45	12.31	11.89
4	Co 12012	10.19		11.59	10.53	8.13	9.58	6.06	13.62	11.99	10.89	9.81	8.58	11.73	10.23
5	Co 12019	11.28		13.79	12.02	9.38	11.91	9.80	13.81	12.58	13.83	9.67	11.31	12.08	11.79
6	Co 12024	11.91		12.29	11.38	9.37	10.49	8.46	13.56	12.50	13.08	12.07	9.24	12.31	11.39
7	CoM 12085	11.84		13.18	10.60	9.87	10.99	9.58	13.72	13.16	11.76	11.80	9.21	12.79	11.54
8	VSI 12121	12.02		13.48	10.18	9.13	11.92	7.93	13.78	13.71	11.30	10.60	10.34	11.72	11.34
	Standards														
1	Co 86032	12.07		13.04	10.63	8.46	11.59	10.43	13.25	13.43	13.09	11.11	9.07	11.78	11.50
2	CoC 671	12.92		13.50	12.99	9.46	12.77	10.80	13.76	14.08	13.29	12.49	10.46	12.98	12.46
3	CoSnk 05103	10.77		12.86	11.37	7.81	12.05	6.40	13.76	11.83	12.07	10.17	10.24	11.32	10.89
	Grand mean	11.84		13.37	11.57	9.27	11.94	9.12	13.61	13.10	12.65	11.05	10.31	12.28	
	SE	0.33		0.32	0.57	0.26	0.41	0.32	0.15	0.10	0.32	0.84	0.34	0.46	
	CD	0.99		0.95	1.67	0.76	1.22	0.94	0.46	0.30	0.93	1.51	1.03	NS	
	CV	4.88		4.17	8.45	4.84	5.99	5.98	2.00	1.33	4.33	4.04	4.87	6.43	

Table 2.7.18 Brix % at 8 months

S. No.	Entries	Coimbatore	Akola	Kolhapur	Mandya	Navsari	Padegaon	Perumallapalle	Pravaranaagar	Pune	Rudrur	Sameerwadi	Sanke shwar	Thiruvalla	Mean
1	Co 12007	18.97		17.39	18.67	16.15	14.75	16.32	19.09		17.77	19.05	15.54	18.40	17.46
2	Co 12008	17.30		17.96	19.00	16.20	14.92	14.99	19.92		18.13	18.41	16.04	17.87	17.34
3	Co 12009	17.22		16.13	17.17	15.20	15.25	15.82	18.59		17.90	14.8	15.54	17.60	16.47
4	Co 12012	16.32		15.69	14.67	13.95	14.75	15.52	19.22		15.50	15.26	12.79	17.90	15.60
5	Co 12019	17.78		16.73	17.83	16.15	12.75	15.45	19.85		15.53	15.55	6.52	17.97	15.65
6	Co 12024	15.81		15.83	16.00	15.77	13.59	12.32	18.29		16.37	19.24	11.79	16.93	15.63
7	CoM 12085	16.89		16.66	17.00	13.20	13.59	15.55	19.92		15.33	17.53	12.79	16.70	15.92
8	VSI 12121	17.05		16.06	16.33	14.25	13.09	14.29	20.02		14.90	16.29	13.79	17.07	15.74
Standards															
1	Co 86032	17.80		16.23	17.50	14.75	14.92	15.99	18.45		17.27	16.63	12.79	15.43	16.16
2	CoC 671	18.30		16.29	19.67	13.35	15.09	15.62	19.65		14.50	18.44	14.04	17.47	16.58
3	CoSnk 05103	15.02		15.03	15.50	12.45	14.92	12.15	18.72		15.17	16.37	14.29	17.30	15.17
	Grand mean	17.13		16.36	17.21	14.67	14.33	14.91	19.25		16.22	17.05	13.27	17.33	
	SE	0.38		0.53	0.49	0.14	0.28	0.33	0.16		0.22	1.51	1.57	0.52	
	CD	1.12		N.S.	1.43	0.42	0.82	0.98	0.48		0.66	NS	4.72	1.49	
	CV	3.81		5.66	4.88	1.68	3.35	3.84	1.47		2.38	15.32	16.72	5.23	

Table 2.7.19 Sucrose % at 8 months

S. No.	Entries	Coimbatore	Akola	Kolhapur	Mandya	Navsari	Padegaon	Perumallapalle	Pravaranaagar	Pune	Rudrur	Sameerwadi	Sanke shwar	Thiruvalla	Mean
1	Co 12007	17.02		15.57	16.98	13.15	12.00	14.51	16.84		15.96	16.75	10.79	16.73	15.12
2	Co 12008	15.05		16.17	17.28	13.08	13.01	12.45	18.27		16.26	15.57	12.27	16.17	15.05
3	Co 12009	15.18		14.24	15.21	12.70	13.43	13.32	16.55		16.03	12.06	11.32	15.94	14.18
4	Co 12012	13.64		12.12	12.99	12.02	12.70	8.83	17.56		11.77	12.47	7.85	16.22	12.56
5	Co 12019	15.58		14.90	16.15	12.82	9.99	12.75	18.11		13.41	12.53	3.96	16.40	13.33
6	Co 12024	13.44		13.80	14.55	12.92	10.07	9.45	16.31		14.09	17.00	6.99	15.24	13.08
7	CoM 12085	14.80		14.71	15.47	11.15	11.27	13.16	18.20		12.03	15.68	8.32	15.08	13.62
8	VSI 12121	14.87		13.87	14.70	12.50	10.65	11.50	18.24		13.03	13.63	9.12	15.49	13.42
Standards															
1	Co 86032	15.89		13.87	16.01	12.45	12.31	13.87	16.63		15.18	14.65	8.29	13.86	13.91
2	CoC 671	16.31		14.51	17.88	11.55	12.81	13.08	17.58		11.16	16.20	9.32	15.86	14.21
3	CoSnk 05103	12.24		12.24	14.18	11.33	12.56	9.28	16.91		11.79	13.56	10.20	15.54	12.71
	Grand mean	14.91		14.18	15.58	12.33	11.89	12.02	17.38		13.70	14.55	8.95	15.68	
	SE	0.43		0.79	0.47	0.21	0.59	0.54	0.24		0.33	1.58	1.17	0.51	
	CD	1.26		2.32	1.40	0.63	1.76	1.60	0.72		0.96	NS	3.51	1.44	
	CV	4.94		9.52	5.27	3.01	8.71	7.77	2.44		4.13	5.21	18.43	5.59	

Table 2.7.20 Purity % at 8 months

S. No.	Entries	Coimbatore	Akola	Kolhapur	Mandya	Navsari	Padegaon	Perumalpal	Pravara nagar	Pune	Rudrur	Sameerwadi	Sanke shwar	Thiruvalla	Mean
1	Co 12007	89.70		89.51	90.80	81.43	81.24	88.89	88.16		89.90	87.74	68.57	90.03	86.00
2	Co 12008	86.94		90.01	90.80	80.71	87.04	83.11	91.69		89.72	84.62	76.32	89.57	86.41
3	Co 12009	88.12		88.22	88.29	83.57	88.03	84.15	89.32		89.69	80.31	72.70	89.63	85.64
4	Co 12012	83.65		76.89	88.65	86.11	85.76	56.90	91.35		76.00	81.41	61.33	89.77	79.80
5	Co 12019	87.54		89.10	90.34	79.36	78.33	82.49	91.19		86.32	78.99	30.33	90.33	80.39
6	Co 12024	84.99		87.17	90.71	81.94	74.15	76.62	89.16		86.15	88.40	59.23	89.10	82.51
7	CoM 12085	87.64		88.23	90.79	84.47	82.75	84.49	91.33		78.77	88.74	64.62	89.33	84.65
8	VSI 12121	87.15		86.30	89.90	87.71	81.35	80.47	91.06		87.71	83.14	65.82	89.77	84.58
Standards															
1	Co 86032	89.22		85.46	91.26	84.40	82.06	86.75	90.09		88.12	87.76	64.62	88.8	85.32
2	CoC 671	89.03		89.07	90.71	86.53	84.85	83.79	89.40		77.21	87.80	66.28	89.87	84.96
3	CoSnk 05103	81.5		80.77	91.30	91.02	84.06	76.21	90.31		77.92	82.59	70.44	88.93	83.19
	Grand mean	86.86		86.43	90.32	84.30	82.69	80.35	90.28		84.32	84.68	63.66	89.56	
	SE	1.05		2.41	2.12	1.44	2.93	2.29	0.86		1.86	2.54	7.56	0.32	
	CD	3.11		7.10	NS	4.24	8.64	6.82	2.54		5.49	NS	22.66	NS	
	CV	2.09		4.79	4.06	2.95	6.13	4.95	1.65		3.82	5.21	16.52	0.62	

Table 2.7.21 CCS % at 8 months

S. No.	Entries	Coimbatore	Akola	Kolhapur	Mandya	Navsari	Padegaon	Perumalpal	Pravaranaagar	Pune	Rudrur	Sameerwadi	Sanke shwar	Thiruvalla	Mean
1	Co 12007	11.86		10.78	11.89	8.73	7.96	10.07	11.63		11.13	11.56	6.49	11.72	10.35
2	Co 12008	10.33		11.60	12.10	8.64	8.93	8.35	12.85		11.33	10.54	7.85	11.30	10.35
3	Co 12009	10.48		9.77	10.52	8.55	9.27	8.99	11.48		11.16	8.00	7.03	11.15	9.67
4	Co 12012	9.17		7.81	8.98	8.21	8.67	4.49	12.33		7.51	8.29	4.29	11.35	8.28
5	Co 12019	10.73		10.35	11.28	8.39	6.49	8.53	12.71		9.17	8.27	2.14	11.51	9.05
6	Co 12024	9.12		9.48	10.19	8.60	6.33	6.06	11.33		9.63	11.76	3.70	10.63	8.80
7	CoM 12085	10.20		10.17	10.83	7.55	7.55	8.91	12.78		7.83	10.91	4.77	10.53	9.27
8	VSI 12121	10.22		9.48	10.24	8.62	7.06	7.58	12.79		8.98	9.17	5.29	10.85	9.12
Standards															
1	Co 86032	11.04		10.09	11.24	8.42	8.23	9.51	11.60		10.48	10.12	4.73	9.66	9.56
2	CoC 671	11.32		10.5	12.52	7.91	8.69	8.81	12.22		7.19	11.17	5.43	11.11	9.71
3	CoSnk 05103	8.12		8.12	9.95	7.94	8.48	5.94	11.81		7.63	9.08	6.25	10.83	8.56
	Grand mean	10.24		9.83	10.89	8.32	7.97	7.93	12.14		9.28	9.90	5.27	10.97	
	SE	0.34		0.65	0.40	0.21	0.55	0.47	0.21		0.31	1.17	0.80	0.37	
	CD	1.00		1.90	1.18	0.61	1.61	1.38	0.63		0.92	NS	2.40	1.04	
	CV	5.68		11.38	6.34	4.29	11.87	10.17	3.06		5.85	0.85	21.44	5.77	

Varietal Improvement Programme- AICRP (Sugarcane)
Principal Investigator's Report (2017-18)
Peninsular zone AVT I Plant

Table 2.7.22 Number of shoots (000⁷/ha) at 8 months

S. No.	Entries	Coimbatore	Akola	Kolhapur	Mandya	Navsari	Padegaon	Perumallapalle	Pravaranagar	Pune	Rudhurrur	Sameerwadi	Sanke shwar	Thiruvalla	Mean
1	Co 12007	112.92	46.22	87.24	116.09	143.01	85.03	101.05	126.60	96.11	106.51	49.77	86.16	107.06	97.22
2	Co 12008	121.26	53.47	82.13	107.81	141.87	99.77	71.22	131.90	99.87	104.54	37.27	85.47	110.83	95.95
3	Co 12009	96.14	45.83	89.30	113.77	157.03	85.03	63.63	125.00	85.30	107.49	52.55	86.39	83.54	91.62
4	Co 12012	135.93	59.49	123.80	109.84	133.52	130.48	99.67	134.90	111.74	116.97	82.87	98.10	101.32	110.66
5	Co 12019	130.32	64.20	105.20	114.93	134.87	116.82	125.81	117.60	112.78	134.87	40.74	75.23	75.85	103.79
6	Co 12024	108.88	49.07	118.30	108.10	132.22	104.86	68.54	115.20	83.99	108.32	31.48	73.38	80.20	90.97
7	CoM 12085	95.98	32.25	89.13	107.64	126.91	80.56	40.63	134.90	77.18	130.73	13.66	61.06	103.85	84.19
8	VSI 12121	99.45	49.38	117.30	113.14	146.91	97.30	72.76	136.50	96.68	121.52	50.93	66.14	119.07	99.00
	Standards														
1	Co 86032	109.26	60.80	85.79	107.06	130.60	98.23	108.79	144.00	96.84	114.47	58.33	72.15	103.63	99.23
2	CoC 671	97.30	47.15	75.18	96.06	121.23	86.96	88.32	119.20	81.38	115.67	39.81	76.92	83.77	86.84
3	CoSnk 05103	126.05	68.06	108.30	113.60	119.87	137.50	131.87	118.70	119.82	123.79	66.20	82.01	75.70	107.03
	Grand mean	112.14	52.36	98.33	109.82	135.28	102.05	88.39	127.69	96.52	116.81	47.60	78.46	94.98	
	SE	5.71	3.20	9.16	3.25	4.23	3.28	2.92	0.66	3.98	1.14	6.42	1.47	3.29	
	CD	16.96	9.43	27.03	9.60	12.48	6.85	8.67	1.95	11.74	3.35	18.94	4.40	9.36	
	CV	8.82	10.58	16.14	5.13	5.42	3.94	5.72	0.90	7.14	1.69	23.36	2.71	6.01	

Varietal Improvement Programme- AICRP (Sugarcane)
Principal Investigator's Report (2017-18)
Peninsular zone AVT I Plant

Table 2.7.23 Number of tillers (000'/ha) at 120 days

S. No.	Entries	Coimbatore	Akola	Kolhapur	Mandya	Navsari	Padegaon	Perumallapalle	Pravara nagar	Pune	Rudrur	Sameerwadi	Sanke shwar	Thiruvalla	Mean
1	Co 12007	119.14	80.09	98.13	132.52	172.58	109.72	122.89	134.80	158.43	105.54	75.62	109.49	104.66	117.20
2	Co 12008	124.79	97.61	103.00	122.86	170.09	125.46	87.78	141.50	162.78	103.82	84.03	135.37	106.31	120.42
3	Co 12009	97.01	80.02	111.00	127.14	180.86	89.12	80.35	131.80	126.08	106.92	83.95	94.25	79.93	106.80
4	Co 12012	141.50	117.82	182.30	126.85	162.87	176.85	111.93	143.90	185.17	105.74	106.60	182.49	97.32	141.64
5	Co 12019	133.13	82.79	102.70	130.90	165.55	147.69	153.10	125.40	176.73	125.29	67.13	93.02	73.56	121.31
6	Co 12024	108.95	96.99	133.30	119.21	162.19	131.71	90.23	123.50	138.50	104.73	47.61	105.18	77.31	110.72
7	CoM 12085	98.60	72.53	83.18	124.54	158.13	121.76	48.15	143.20	156.52	128.24	71.37	104.87	101.57	108.66
8	VSI 12121	105.76	91.59	155.80	125.17	177.41	110.65	90.16	144.70	199.40	116.27	81.71	118.97	115.39	125.61
	Standards														
1	Co 86032	112.66	108.72	122.80	119.33	161.54	130.56	127.65	152.40	149.20	107.66	99.54	103.49	98.95	122.65
2	CoC 671	99.03	83.64	67.85	110.94	149.53	97.22	106.87	126.00	135.25	106.48	64.43	106.95	79.84	102.61
3	CoSnk 05103	136.21	113.73	147.2	128.53	158.28	189.12	162.76	125.40	232.47	122.70	93.83	122.35	72.28	138.83
	Grand mean	116.07	93.23	118.84	124.36	165.37	129.99	107.44	135.68	165.50	112.13	79.62	116.04	91.56	
	SE	6.15	5.40	8.73	3.72	3.30	11.58	4.00	0.66	5.17	4.52	10.24	10.38	3.65	
	CD	18.26	15.94	25.75	10.98	9.74	24.16	11.90	1.95	15.27	13.34	30.21	31.11	10.36	
	CV	9.17	10.04	12.72	5.18	3.46	10.91	6.50	0.84	5.42	6.98	22.35	12.71	6.90	

Table 2.7.24 Germination % at 30 days

S. No.	Entries	Coimbatore	Akola	Kolhapur	Mandya	Navsari	Padegaon	Perumallapalle	Pravara nagar	Pune	Rudrur	Sameerwadi	Sanke shwar	Thiruvalla	Mean
1	Co 12007	63.13	48.33	47.31	54.17	47.29	38.54	59.51	53.37	49.60	33.94	63.72	64.60	56.94	52.34
2	Co 12008	63.47	70.79	37.31	49.31	44.50	40.97	28.94	50.62	53.76	31.39	48.44	66.98	53.83	49.25
3	Co 12009	54.10	48.10	47.96	49.71	51.72	31.94	41.82	56.60	49.39	34.06	60.65	54.57	46.22	48.22
4	Co 12012	60.83	88.25	51.90	52.78	40.86	53.47	54.93	48.84	47.70	48.22	65.34	63.41	53.50	56.16
5	Co 12019	58.47	34.52	42.55	49.77	46.25	40.63	66.93	42.99	53.48	41.33	69.16	53.64	51.11	50.06
6	Co 12024	57.15	73.10	52.87	38.25	46.65	47.22	22.45	49.94	46.92	40.56	54.57	55.51	53.39	49.12
7	CoM 12085	54.44	36.75	47.22	47.97	39.22	37.50	23.55	51.47	50.28	42.28	64.76	57.04	57.39	46.91
8	VSI 12121	69.24	55.63	47.45	50.00	48.96	41.32	54.87	53.40	53.30	41.78	66.09	44.63	59.94	52.82
Standards															
1	Co 86032	57.15	84.29	45.00	35.30	49.64	40.97	47.27	55.41	44.08	43.78	59.72	45.05	53.00	50.82
2	CoC 671	52.08	59.13	40.83	41.61	45.41	34.03	58.58	50.71	52.38	38.50	62.85	50.41	46.61	48.70
3	CoSnk 05103	64.93	67.30	57.36	43.87	48.85	51.74	87.93	47.52	57.75	52.78	46.18	52.11	59.50	56.75
	Grand mean	59.54	60.56	47.07	46.61	46.30	41.67	49.71	50.99	50.79	40.78	60.13	55.27	53.77	
	SE	2.53	5.48	3.61	2.91	2.10	5.63	3.23	1.39	1.77	3.37	4.85	4.92	2.62	
	CD	7.51	16.16	10.66	8.59	6.19	11.75	9.61	4.11	5.21	9.94	NS	14.75	7.43	
	CV	7.36	15.67	13.29	10.82	7.85	16.56	11.27	4.75	6.02	14.31	14.05	13.44	8.42	

Table 2.7.25: Assessment of performance of the entries by monitoring team

S.N.	Genotype	Perumallapalle	Pugulur	Coimbatore	Thiruvalla	Mandya	Sankeshwar	Sameerwadi	Kolhapur
1	Co 12007	On Par	Poor	On Par	On Par	Poor	O Par	Poor	On par
2	Co 12008	Poor	Poor	On Par	Better	On Par	Poor	Poor	Poor
3	Co 12009	On Par	Poor	Better	On Par	Better	Better	Better	Better
4	Co 12012	On Par	Poor	Better	Better	On Par	Better	On Par	On par
5	Co 12019	On Par	Poor	Poor	On Par	Poor	Poor	Poor	Poor
6	Co 12024	On Par	Poor	Poor	Poor	Poor	Poor	poor	On par
7	CoM 12085	Better	Poor	Better	Better	Better	Better	Poor	On par
8	VSI 12121	Better	Poor	Better	Better	Better	Better	Better	Better
9	Co 86032 (c)	Best	Poor	Best	Best	Best	-	-	Best
10	CoC 671 (c)	-	Poor	-	-	-	-	-	-
11	CoSnk 05103 (c)	-	Poor	-	-	-	Best	Best	-

Varietal Improvement Programme- AICRP (Sugarcane)
Principal Investigator's Report (2017-18)
Peninsular zone AVT I Plant

Entry	Akola	Navsari	Powarkhe da	Pune	Padegaon	Pravaranagar	Rudrur
Co 12007	Poor	On Par	Poor	On Par	Poor	Poor	On Par
Co 12008	Poor	Poor	Poor	Poor	On Par	Poor	On Par
Co 12009	Better	On Par	Poor	On Par	Poor (Smut)	Poor	Better
Co 12012	On Par	On Par	On Par	On Par	On Par	Poor	Better
Co 12019	Poor	Poor	Poor	On Par	Poor	Poor	Poor (Yellowing)
Co 12024	Poor	Poor	On Par	Poor	Poor	Poor	Better
CoM 12085	On Par	Better	On Par	Better (YLD)	Better	Poor	Better
VSI 12121	Better	Better	Poor	Better	Better	On Par	On Par
Co 86032	II	II	II	I	I	I	II
CoC 671	III	III	I	III	III	III	III
CoSnk 05103	I	I	III	II	II	II	I

2.8 Initial Varietal Trial – (2017-18)

Centers where trial was conducted (15)	Coimbatore, Akola, Basmath Nagar, Kawardha, Kolhapur, Mandya, Navsari, Padegoan, Perumallapalle, Pravaranagar, Pune, Rudrur, Sameerwadi, Sankeshwar and Thiruvalla
Entries (37)	<ol style="list-style-type: none"> 1. Co 14002 (Co 86032 x Co 05001) 2. Co 14003 (Co 98008 x Co 86011) 3. Co 14004 (Co 94012 x 85 R 186) 4. Co 14006 (Co 8347 x Co 94008) 5. CoN 14071 (Co 1148 x CoS 510) 6. CoN 14072 (Co 86002 x CoN 03132) 7. CoSnk 14101 (CoJn 862072 GC) 8. CoSnk 14102 (CoJn 862072 GC) 9. CoT 14366 (Co 8371 GC) 10. CoT 14367 (87 A 380 GC) 11. MS 14081 (CoM 0265 x Co 62175) 12. MS 14082 (CoM 0265 x CoM 0254) 13. Co 13021 (Co 92024 GC) 14. Co 13022 (Co 2000-10 GC) 15. Co 14008 (Co 99006 x Co 94008) 16. Co 14009 (Co 99006 x Co 997) 17. Co 14012 (Co 86032 x Co 86011) 18. Co 14016 (Co 86032 x Co 86011) 19. Co 14022 (Co 86032 x Co 05001) 20. Co 14023 (Co 86002 x Co 99006) 21. Co 14025 (Co 86032 x Co 05001) 22. Co 14026 (Co 98010 x Co 94008) 23. Co 14027 (Co 94008 GC) 24. Co 14030 (Co 86032 x Co 05001) 25. Co 14031 (Co 86002 x ISH 69) 26. Co 14032 (Co 86032 x Co 86011) 27. CoN 14073 (Co 86002 x CoN 03132) 28. CoN 14074 (Co 86002 x CoN 03132) 29. CoSnk 14103 (Co 8371 x CoT 8201) 30. CoTl 14111 (Co 93009 GC) 31. CoTl 14112 (Co 97015 GC) 32. CoVC 14061 (Co 8371 GC) 33. CoVC 14062 (CoV 92103 x 57 NG 136) 34. PI 14131 (Co 86002 x Co 94008) 35. PI 14132 (PI 99-1009 PC) 36. VSI 14121 (Co VSI 9805 x Co 94004) 37. VSI 14122 (Co 91010 GC)
Standards (3)	Co 86032, CoC 671, CoSnk 05103
Design	Alpha Design
Replications	Two
Plot size	6 m x 6 rows x 1.2 m (Gross) 5 m x 4 rows x 1.2 m (Net)
Seed rate	12 buds per meter
Crop duration	12 months

Results of the previous year: Entries were under multiplications.

Results of the current year: Thirty seven entries along with three standards (Co 86032, CoC 671 and CoSnk 05103) were evaluated in alpha design at 15 locations during 2017-18. Only one entry *viz.*, MS 14082 (17.38 t/ha) recorded higher mean sugar yield than the best check Co 86032 (17.12 t/ha). The entry Co 14002 recorded >10% sugar yield than the best check at six locations in the zone followed by MS 14082 in five locations. Other qualifying entries *viz.*, Co14016, CoN14073 and CoT114112 recorded >10% sugar yield in two locations each. For cane yield, none of the test entries recorded >10 % improvement over the best standard Co 86032 (123.50 t/ha) across the zone, however four entries *viz.*, CoN14071 (131.84 t/ha), MS 14082 (127.93 t/ha), CoN14074 (125.98 t/ha) and CoT14366 (124.56 t/ha) recorded numerically superior mean cane yield than the best check Co 86032 (123.50 t/ha) in the zone. The entries MS 14082 and Co 14002 recorded more than 10% cane yield than the best check at three locations each in the zone.

In case of CCS %, none of the test entries recorded 5 % improvement over the best standard CoC 671 (14.09%), however only one entry *viz.*, Co 14012 (14.22%) recorded numerically higher CCS % over the best standard of the zone. For sucrose % also, none of the test entries recorded 5 % improvement over the best standard CoC 671 (20.11%). Only one entry *viz.*, Co14012 (20.23 %) performed better than the best check CoC 671 (20.11%) for sucrose % @12th month in the zone. The entry PI14131 recorded > 5% sucrose than the best check in four locations and significantly higher sucrose than the best check at Kolhapur and Padegaon.

The data presented in the table 2.8.1 to 2.8.32.

Table 2.8.1 CCS t/ha (12m)

S No	Entries	Coimbatore#	Akola#	Basmath Nagar	Kawar dha	Kolhapur	Man dya#	Nav sari	Padegaon	Perumallapalle	Pravara nagar	Pune#	Rud rur	Sameer wadi#	Sanke Shwar#	Thiru Valla#	Mean	Rank
1	Co13021	17.51	6.88	10.34	-	17.27	18.25*	15.84	21.41	15.58	18.76	14.52	14.66	4.62	6.51	9.95	15.51	
2	Co13022	12.30	6.24	11.10	-	16.83	16.39*	15.51	19.29	12.06	20.59	11.81	16.37	5.00	6.28	7.13	14.41	
3	Co14002	19.94*	2.65	7.98	-	17.91	12.52	19.03	25.50	2.50	16.77	20.97*	19.93	5.86	18.97	12.70*	16.55	5
4	Co14003	16.20	7.53	12.06	-	19.62	14.52	16.59	23.19	2.69	17.85	20.82*	15.30	7.77	18.47	8.61	16.12	
5	Co14004	17.71	5.65	10.56	-	19.03	13.53	16.31	20.93	15.16	18.57	16.21	11.14	12.60	14.67	9.96	15.80	
6	Co14006	15.59	4.14	12.41	-	14.97	14.25	16.15	16.87	7.71	17.18	15.61	7.96	5.89	10.75	6.46	13.59	
7	Co14008	16.26	6.18	11.50	-	20.88	12.04	18.04	20.12	12.24	19.94	13.28	11.20	8.68	11.64	7.95	15.19	
8	Co14009	16.49	4.94	13.69	-	21.15	14.37	17.86	22.06	11.21	17.10	10.18	7.56	6.88	15.82	7.62	15.23	
9	Co14012	17.57	6.98	8.55	-	17.02	12.74	15.71	23.05	14.24	21.13	15.13	14.55	4.48	14.20	11.30	15.81	
10	Co14016	19.80	7.97	9.56	-	19.44	14.63	16.49	20.51	17.01	19.65	12.41	17.41	4.86	9.19	11.30	16.01	
11	Co14022	16.90	4.45	7.36	-	21.04	15.53	17.22	18.18	11.64	20.23	11.48	13.09	7.40	14.05	5.50	15.16	
12	Co14023	13.68	3.95	12.24	-	18.45	11.59	16.54	18.35	14.08	19.75	20.88*	9.47	6.84	11.12	7.85	15.10	
13	Co14025	16.94	6.28	6.91	-	16.72	12.83	17.68	22.57	14.69	18.95	12.45	13.45	6.45	13.67	11.10	15.17	
14	Co14026	16.02	4.76	7.86	-	17.64	16.06	16.35	19.33	8.35	19.65	14.41	10.43	5.12	15.59	6.94	14.70	
15	Co14027	13.59	5.81	10.81	-	16.79	13.03	15.82	17.62	17.68	20.19	12.12	10.44	7.48	16.37	9.77	14.95	
16	Co14030	16.88	5.96	9.26	-	22.77	12.59	16.66	18.87	11.26	20.47	18.59	10.54	6.56	13.75	7.68	15.60	
17	Co14031	16.58	7.21	8.67	-	18.52	10.90	12.77	21.74	12.17	17.04	14.11	15.86	4.44	14.89	11.00	14.84	
18	Co14032	10.79	4.48	9.64	-	20.95	17.99	13.08	18.80	10.38	16.83	13.65	17.32	8.82	12.77	5.11	14.75	
19	CoN14071	15.11	4.19	11.89	-	15.67	15.68	17.76	21.57	16.96	19.10	17.69	15.28	8.01	15.29	7.30	16.55	5
20	CoN14072	16.73	4.77	8.89	-	18.18	11.52	15.39	20.95	13.86	19.61	15.19	14.42	9.40	18.58	6.13	15.76	
21	CoN14073	15.68	11.10*	9.62	-	18.86	11.56	18.46	16.57	16.09	15.97	14.49	15.50	8.77	11.68	8.56	14.95	
22	CoN14074	17.02	12.00*	11.43	-	15.18	11.12	17.22	18.27	12.95	16.28	15.43	11.26	6.06	22.19	6.14	15.30	
23	CoSnk14101	12.26	5.21	6.74	-	17.43	12.11	16.06	18.39	10.42	19.03	19.68	7.84	6.67	13.72	9.44	13.97	
24	CoSnk14102	16.13	5.29	11.31	-	18.25	15.32	17.28	19.81	16.72	15.20	18.77	11.30	6.25	14.60	9.11	15.88	
25	CoSnk14103	18.04	3.40	10.20	-	19.76	12.27	14.30	17.73	14.47	18.08	8.57	12.33	11.50	6.24	7.10	13.82	
26	CoT14366	19.14	6.08	12.22	-	18.36	12.17	17.74	23.15	18.35	16.54	21.76*	12.12	6.21	13.59	7.68	16.83	3
27	CoT14367	10.78	2.61	11.11	-	19.51	15.38	15.04	19.82	17.63	18.63	10.54	11.94	5.75	14.48	6.82	14.99	
28	CoT114111	13.55	5.25	9.40	-	17.17	13.17	13.96	20.99	17.77	17.36	17.56	7.23	7.25	16.92	8.26	15.01	
29	CoT114112	12.55	5.08	8.16	-	19.86	16.85*	17.62	22.97	14.88	16.47	9.74	14.56	6.71	21.72	11.30	15.94	
30	CoVC14061	17.78	6.35	8.32	-	19.82	18.40*	16.08	20.34	15.62	18.41	8.17	11.83	13.10	20.70	6.29	15.95	
31	CoVC14062	14.69	8.49	10.86	-	21.31	16.34*	13.01	22.24	18.93	18.97	14.86	13.05	7.99	13.01	10.20	16.12	
32	MS14081	11.81	5.78	5.17	-	15.15	15.13	18.00	23.27	13.46	19.52	17.71	11.53	10.70	17.65	5.51	15.31	
33	MS14082	19.17	8.59	10.96	-	21.29	16.95*	18.49	24.21	15.39	18.49	14.88	14.55	11.80	16.84	9.32	17.38	1

Varietal Improvement Programme- AICRP (Sugarcane)
Principal Investigator's Report (2017-18), Peninsular zone -Initial varietal Trial

34	PII4131	13.95	4.51	10.20	-	21.66	12.36	17.06	21.85	9.77	16.92	11.26	10.84	7.11	11.34	12.60*	14.29	
35	PII4132	12.29	4.54	10.64	--	18.23	9.14	14.91	17.77	10.40	17.22	12.90	14.71	7.35	14.76	6.54	13.91	
36	VSI14121	13.73	6.28	12.44	-	20.21	13.51	16.44	19.12	10.76	17.96	18.09	11.01	6.81	14.34	7.01	15.24	
37	VSI14122	14.81	4.19	13.12	-	17.78	9.13	16.18	18.49	14.88	19.48	11.05	15.82	6.76	13.41	7.27	14.92	
1	Co 86032	16.13	6.72	17.23	-	20.84	12.26	12.68	20.77	16.10	22.56	17.78	17.33	7.95	14.67	9.40	17.12	2
2	CoC 671	17.17	6.53	16.81	-	17.47	11.23	12.92	20.62	17.84	22.02	17.21	15.95	7.91	15.41	9.61	16.79	4
3	CoSnk 05103	16.72	6.95	16.45	-	20.47	12.22	15.83	16.65	10.57	18.21	15.89	9.23	7.64	17.58	8.25	15.44	
	GM	15.65	5.90	10.59	-	18.74	13.69	16.15	20.35	13.36	18.57	14.95	12.91	7.44	14.44	8.45		
	CV	8.36	27.10	16.90	-	11.96	12.10	11.84	14.09	18.03	2.77	6.73	12.45	34.59	19.52	10.87		
Qualifying Entries at each location																		
	1	Co 14002	CoN14 074		-		Co VC140 61	Co 14002	Co 14002			CoT 14366	Co 14002	CoVC1 4061	CoN 14074	Co 14002		
	2	Co 14016	Co N14073		-		Co 13021	MS 14082	MS 14082			Co 14002	Co 14016	Co 14004	CoTI 14112	PI 14131		
	3	MS 14082	MS 14082		-		Co 14032	CoN 14073	MS 14081			Co 14023		MS 14082	CoVC 14061	CoTI 14112		

* Significant with the best standard at 5% level # Only top three qualifying entries are mentioned. Akola, Sameerwadi and Thiruvalla were not considered for calculating grand mean because the trial mean of cane yield (t/ha) was lower than state average.

Qualifying entries: Co 14002 (6), MS14082 (5), CoN14073 (2), Co14016 (2), CoTI14112 (2), CoN14074 (1), CoT14366 (1), CoVC14061 (1), PII4131 (1), Co13021 (1), Co 14004(1), Co14023 (1), Co14032 (1), MS14081 (1)

Performance across locations: Only one entry viz., MS 14082 (17.38 t/ha) recorded higher mean sugar yield than the best check Co 86032 (17.12 t/ha). The entry Co 14002 recorded more than 10% sugar yield compared to the best check in six locations in the zone followed by MS 14082 in five locations. Other qualifying entries viz., CoN14073, Co14016 and CoTI14112 recorded >10% sugar yield in two locations each.

Table 2.8.2 Cane yield t/ha (12m)

S No	Entries	Coimbatore	Akola#	Basmath Nagar	Kawar dha	Kolhapur	Man dya#	Nav sari	Padegaon	Perumallapalle#	Pravar anagar	Pune#	Rud rur	Sameer wadi#	Sanke shwar#	Thiruvalla#	Mean	Rank
1	Co13021	134.8	63.5	96.6	112.7	121.5	136.4	125.3	151.8	123.0	128.4	112.0	109.9	43.4	56.7	79.3	117.42	
2	Co13022	90.7	46.5	92.9	73.3	116.9	128.2	124.4	122.9	83.0	135.2	83.7	119.7	54.2	44.4	53.5	101.27	
3	Co14002	136.3	24.3	67.2	69.6	114.8	95.0	127.8	163.7	21.8	121.0	152.8*	113.2	49.7	141.1	99.3	110.35	
4	Co14003	129.5	66.2	109.3	78.8	137.2	115.2	132.3	153.4	24.3	126.3	166.5*	130.5	65.1	131.0	59.6	119.53	
5	Co14004	118.7	41.4	95.4	105.4	126.2	103.9	130.6	136.0	104.7	118.6	129.4	82.7	97.1	97.5	73.1	112.42	
6	Co14006	126.7	39.7	109.5	82.8	121.5	114.8	128.0	119.1	65.3	122.9	119.9	86.5	69.2	91.5	54.2	107.38	
7	Co14008	127.3	57.1	97.8	99.5	141.4	88.8	124.3	135.7	98.2	128.9	99.2	86.1	85.4	86.3	80.3	109.44	
8	Co14009	127.5	39.7	116.6	71.2	139.8	106.0	135.8	154.0	98.0	112.7	81.8	72.1	52.1	108.8	66.6	110.36	
9	Co14012	122.0	51.3	68.3	87.7	112.0	93.8	119.7	143.8	93.9	133.8	104.0	102.9	35.9	92.5	82.7	106.19	
10	Co14016	155.5*	64.7	80.0	105.0	133.8	112.2	114.1	133.6	127.0	138.4	97.6	146.3	49.2	66.6	88.1*	117.51	
11	Co14022	130.4	41.3	63.3	71.6	142.3	113.7	125.0	128.3	88.1	140.3	95.6	110.6	57.5	101.2	42.3	109.19	
12	Co14023	120.7	36.5	107.3	75.2	124.7	91.3	129.1	137.3	108.0	142.7	157.6*	89.8	55.5	95.1	60.5	114.89	
13	Co14025	127.3	46.4	54.7	96.6	116.2	94.6	124.2	151.1	102.1	126.6	95.3	106.4	56.4	102.6	87.6*	108.15	
14	Co14026	121.0	41.0	70.9	84.3	111.5	125.0	118.6	138.6	75.4	133.1	117.0	92.3	50.6	108.3	60.1	108.00	
15	Co14027	106.5	56.6	93.4	93.8	117.6	98.7	131.0	122.3	126.8	139.4	87.7	80.2	68.6	114.5	73.6	109.32	
16	Co14030	121.3	42.9	81.9	79.6	147.7	97.7	123.5	122.9	76.3	133.5	131.0	82.3	46.6	89.8	57.1	107.29	
17	Co14031	123.8	54.7	77.0	88.0	124.7	87.3	103.0	141.6	84.9	114.6	116.6	118.8	49.0	106.1	97.0	107.20	
18	Co14032	77.6	43.7	77.4	63.9	144.6	137.0*	97.3	114.5	79.9	103.3	92.8	131.1	78.2	84.0	48.7	100.30	
19	CoN14071	121.8	35.4	104.8	109.7	138.4	124.4*	134.9	154.6	147.3	132.8	147.8*	124.7	83.0	140.8	65.0	131.84	1
20	CoN14072	136.2	44.1	81.4	101.9	149.3	102.3	136.6	153.4	118.1	137.8	120.2	125.0	82.9	149.6	49.8	125.98	3
21	CoN14073	128.0	80.9	87.6	87.7	139.6	101.0	131.3	115.6	142.5	110.6	125.0	113.7	83.9	96.2	74.9	114.90	
22	CoN14074	134.1	85.0	99.4	119.6	109.5	94.9	137.5	133.4	129.2	114.7	132.2	93.3	62.8	179.5*	54.3	123.11	
23	CoSnk14101	94.6	42.3	60.0	103.6	132.8	100.9	136.1	135.1	83.6	128.1	144.7*	63.9	59.0	104.7	75.8	107.34	
24	CoSnk14102	127.4	51.8	99.0	82.1	136.1	119.8	132.0	141.0	117.3	117.7	140.5	94.7	51.7	127.1	70.8	119.55	
25	CoSnk14103	135.5	29.9	86.1	90.3	135.7	92.9	109.7	128.9	106.9	126.6	72.5	94.4	92.2	49.5	59.3	102.41	
26	CoT14366	131.7	51.6	105.5	107.8	130.0	100.4	133.3	153.0	134.0	119.1	164.6*	109.1	56.6	106.3	61.9	124.56	4
27	CoT14367	86.6	17.7	87.0	41.5	148.0	122.0	116.0	129.6	143.3	131.3	85.8	123.5	47.6	109.7	58.1	110.37	
28	CoT114111	108.9	41.5	83.1	92.5	115.1	105.5	110.5	146.6	136.1	119.7	137.1	78.5	60.8	125.8	73.1	113.28	
29	CoT114112	121.0	45.0	66.3	105.8	138.3	130.8*	136.8	162.0	111.6	117.2	77.4	133.0	66.2	160.1	98.0	121.68	
30	CoVC14061	133.5	52.0	69.7	94.3	129.3	138.9*	123.3	142.0	121.1	130.5	64.0	104.4	105.1	138.8	53.4	115.81	
31	CoVC14062	107.5	67.4	88.0	76.2	146.5	120.8	107.6	149.7	144.7	125.4	114.0	106.7	71.0	93.9	82.3*	115.08	
32	MS14081	93.9	49.2	45.1	83.5	111.8	112.7	136.6	152.8	99.0	132.3	143.0*	86.4	90.0	132.7	43.5	110.81	
33	MS14082	149.3	77.8	97.8	105.5	147.7	130.1*	136.6	160.0	117.5	129.4	117.1	113.6	102.3	130.5	69.8	127.93	2

Varietal Improvement Programme- AICRP (Sugarcane)
Principal Investigator's Report (2017-18), Peninsular zone -Initial varietal Trial

34	PI14131	94.8	46.2	83.6	69.0	132.4	95.5	119.6	138.9	69.9	104.4	76.9	79.7	57.2	68.8	99.7*	94.47	
35	PI14132	80.2	33.2	86.8	69.3	116.5	72.4	110.8	119.6	72.3	111.2	89.5	120.8	61.1	87.1	57.0	94.71	
36	VSI14121	105.1	54.1	105.9	102.7	133.0	99.4	121.6	132.5	78.0	124.2	121.6	91.8	53.9	105.5	58.1	110.11	
37	VSI14122	114.4	39.9	118.5	85.6	120.8	76.6	107.0	163.2	110.4	128.6	80.7	128.8	58.5	101.5	59.1	111.34	
1	Co 86032	119.1	64.4	150.1	100.0	148.8	96.8	94.8	146.0	115.3	154.3	125.8	124.4	71.7	106.6	72.9	123.50	5
2	CoC 671	110.7	52.0	130.3	77.0	120.0	83.7	103.4	148.0	114.1	137.4	108.1	117.8	70.5	94.1	70.7	112.05	
3	CoSnk 05103	134.9	61.0	141.1	72.7	135.9	95.1	127.5	120.6	89.9	130.0	114.9	84.1	65.9	130.5	72.1	114.76	
	GM	119.2	49.5	90.9	88.0	130.2	106.4	122.9	139.9	102.1	126.6	113.6	104.3	65.4	106.4	68.6	112.54	
	CV	7.1	25.8	16.4	16.8	10.2	10.4	9.1	13.3	17.7	1.8	6.5	10.4	28.6	19.3	9.5		
Qualifying Entries at each location																		
	1	Co 14016	CoN 14074		CoN 14074	CoN 14072	CoVC 14061	CoN 14074	Co 14002	CoN 14071		Co 14003	Co 14016	CoVC 14061	CoN 14074	PI 14131		
	2	MS 14082	CoN 14073		Co 13021		Co 14032		VSI 14122	CoVC 14062		CoT 14366		MS 14082	CoTI 14112	Co 14002		
	3		MS 14082				Co 13021			CoT 14367		Co 14023		Co 14004	CoN 14072	CoTI 14112		

* Significant with the best standard at 5% level # Only top three qualifying entries are mentioned. Akola, Sameerwadi and Thiruvalla were not considered for calculating grand mean because the trial mean of cane yield (t/ha) was lower than state average.

Qualifying entries:: MS14082 (3), Co 14002 (3), Co14016(2), CoN14072 (2), CoN14074(2), CoVC14061 (2),Co14023(1), Co14032(1), CoT14367(1), CoVC14062 (1), CoN14071 (1), CoN14073 (1), CoT14366 (1), CoTI14112(1), PI14131(1), Co13021(1), Co 14003(1), Co 14004(1), MS14082 (1), VSI14122(1)

Performance across locations: Four entries viz, CoN14071 (131.84 t/ha), MS 14082 (127.93 t/ha), CoN14074 (125.98 t/ha) and CoT14366 (124.56 t/ha) recorded higher mean cane yield than the best check Co 86032 (123.50 t/ha) in the zone. The entries MS 14082 and Co 14002 recorded more than 10% cane yield compared to the best check three locations each in the zone.

Varietal Improvement Programme- AICRP (Sugarcane)
Principal Investigator's Report (2017-18), Peninsular zone -Initial varietal Trial

Table 2.8.3 CCS % (12m)

S No	Entries	Coimbatore	Akola#	Basmath Nagar	Kawar dha	Kolhapur	Man dya	Nav sari#	Padegaon#	Perumallapalle	Pravara nagar	Pune	Rud rur	Sameer wadi #	Sanke shwar	Thiruvalla	Mean	Rank
1	Co13021	13.04	10.79	10.70		14.18	13.37	12.54	14.07	12.71	14.61	12.97	13.42	11.20	11.56	12.61	12.70	
2	Co13022	13.53	13.54	11.94		14.34	12.70	12.47	15.71	14.48	15.22	14.05	13.65	9.41	14.11	13.26	13.46	
3	Co14002	14.66	11.51	11.91		15.53	13.25	14.88	15.71	12.75	13.85	13.77	17.80	11.20	13.49	12.87	13.80	
4	Co14003	12.47	11.51	11.08		14.30	12.56	12.55	15.08	11.71	14.15	12.49	11.74	12.10	14.29	14.38	12.89	
5	Co14004	14.95	13.56	11.08		15.11	12.96	12.47	15.35	14.36	15.65	12.51	13.34	13.00	14.85	13.59	13.77	
6	Co14006	12.28	10.46	11.32		12.39	12.37	12.66	14.05	11.54	13.96	12.99	9.38	12.80	11.67	11.88	12.13	
7	Co14008	12.82	10.88	11.70		14.79	13.56	14.42	14.78	12.36	15.47	13.35	12.70	10.20	13.33	9.68	12.86	
8	Co14009	12.93	12.39	11.68		15.16	13.62	13.23	14.25	11.56	15.14	12.52	10.64	12.40	14.68	11.61	12.99	
9	Co14012	14.44	13.76	12.61		15.08	13.60	13.15	16.21	15.26	15.78	14.52	14.13	11.50	15.32	13.74	14.22	1
10	Co14016	12.59	12.35	11.84		14.52	12.94	14.32	15.37	13.44	14.22	12.69	11.78	10.70	13.65	12.75	13.08	
11	Co14022	13.01	10.77	11.69		14.78	13.72	13.70	14.09	13.12	14.44	12.06	11.79	12.90	13.90	13.27	13.09	
12	Co14023	11.33	10.74	11.44		14.78	12.74	12.76	13.35	13.03	13.80	13.27	10.56	11.70	11.47	12.94	12.42	
13	Co14025	13.28	13.47	12.29		14.34	13.56	14.19	14.97	14.52	14.97	13.06	12.62	12.00	13.33	12.63	13.52	
14	Co14026	13.21	11.75	11.03		15.86	12.87	13.71	14.02	11.33	14.78	12.37	11.23	9.76	14.60	11.64	12.73	
15	Co14027	12.86	10.13	11.55		14.29	13.23	12.12	14.33	13.93	14.47	13.82	12.88	10.80	14.21	13.20	12.99	
16	Co14030	13.92	13.82	11.34		15.44	12.87	13.64	15.32	14.64	15.29	14.20	13.03	13.00	15.31	13.43	13.95	4
17	Co14031	13.43	13.39	11.33		14.80	12.49	12.47	15.48	14.34	14.89	12.09	13.38	9.68	14.06	11.33	13.08	
18	Co14032	14.02	10.46	12.35		14.49	13.05	13.33	16.23	13.04	16.26	14.67	13.11	12.00	15.19	10.37	13.47	
19	CoN14071	12.40	11.94	11.31		11.36	12.60	13.18	13.98	11.63	14.39	11.94	12.32	10.20	10.93	11.13	12.09	
20	CoN14072	12.19	11.20	10.87		12.03	11.09	11.29	13.73	11.72	14.25	13.18	11.36	11.40	12.54	12.39	12.09	
21	CoN14073	12.30	13.77	10.96		13.57	11.49	14.03	14.38	11.28	14.40	11.61	13.43	10.30	12.23	11.46	12.52	
22	CoN14074	12.70	14.08*	11.53		13.79	11.72	12.49	13.70	10.03	14.19	11.65	12.21	8.71	12.16	11.22	12.16	
23	CoSnk14101	13.02	12.31	11.33		13.19	12.05	11.77	13.47	12.36	14.85	13.60	12.10	11.40	12.93	12.44	12.63	
24	CoSnk14102	12.67	9.95	11.37		13.32	12.75	13.13	14.06	14.14	12.90	13.40	12.07	11.30	11.40	12.88	12.52	
25	CoSnk14103	13.39	11.80	11.86		14.52	13.27	13.08	13.68	13.67	14.28	11.87	13.04	12.50	12.65	12.05	12.98	
26	CoT14366	14.61	11.81	11.63		14.18	12.11	13.41	15.20	13.74	13.89	13.25	11.18	11.10	12.85	12.39	12.95	
27	CoT14367	12.45	14.08*	12.66		13.08	12.54	12.98	15.29	12.33	14.22	12.24	9.68	12.60	13.19	11.70	12.79	
28	CoT114111	12.40	12.66	11.33		14.87	12.39	12.67	14.42	13.10	14.50	12.82	9.23	11.90	13.64	11.30	12.66	
29	CoT114112	10.45	11.28	12.19		14.40	12.89	12.90	14.12	13.31	14.04	12.59	10.98	10.20	13.59	11.30	12.45	
30	CoVC14061	13.26	12.21	11.98		15.31	13.33	13.07	14.25	12.82	14.08	12.83	11.34	11.40	14.96	11.93	13.06	
31	CoVC14062	13.61	12.46	12.19		14.52	13.53	12.17	14.92	13.20	15.12	12.99	12.20	11.40	13.84	12.23	13.17	
32	MS14081	12.68	11.79	11.49		13.77	13.47	13.13	15.21	13.48	14.76	12.40	13.22	12.30	13.42	12.92	13.15	
33	MS14082	12.86	11.30	11.18		14.48	13.02	13.55	15.00	13.16	14.27	12.72	12.97	9.85	12.82	13.42	12.90	

Varietal Improvement Programme- AICRP (Sugarcane)
Principal Investigator's Report (2017-18), Peninsular zone -Initial varietal Trial

34	PI14131	14.77	10.05	12.08		16.35	12.96	14.24	15.70	14.09	16.16	14.73	13.68	12.20	16.68	12.87	14.04	3
35	PI14132	15.28	13.76	12.26		15.66	12.77	13.49	14.79	14.39	15.47	14.42	12.18	11.80	16.86	11.39	13.89	5
36	VSI14121	13.04	11.28	11.40		15.19	13.57	13.62	14.42	13.59	14.44	14.90	12.12	11.70	13.53	12.07	13.21	
37	VSI14122	12.94	10.51	11.09		14.64	12.04	15.10	11.12	13.60	15.14	13.66	12.45	11.80	13.25	12.28	12.83	
1	Co 86032	13.52	10.30	11.53		13.92	12.57	13.45	14.27	13.95	14.62	14.13	13.93	10.80	13.75	12.94	13.12	
2	CoC 671	15.49	12.41	12.86		14.63	13.42	12.52	13.80	15.64	16.04	15.88	13.40	11.50	16.21	13.46	14.09	2
3	CoSnk 05103	12.36	11.51	11.57		15.06	12.87	12.28	13.86	11.74	13.99	13.90	11.42	10.80	13.53	11.60	12.61	
	GM	13.18	11.94	11.64		14.40	12.85	13.15	14.54	13.13	14.67	13.20	12.34	11.30	13.65	12.31	13.02	
	CV	4.20	6.08	4.12		4.88	3.95	7.97	3.84	4.70	2.57	2.25	7.63	12.50	4.65	6.00		
Qualifying Entries at each location																		
	1		CoT 14367					VSI 14122	Co 14032				Co 14002	Co 14004		Co 14003		
	2		CoN 14074					Co 14002	Co 14012					Co 14030				
	3		Co 14030					Co 14008	Co 14002					Co 14022				

* Significant with the best standard at 5% level # Only top three qualifying entries are mentioned

Qualifying Entries: Co14002 (3), Co14030 (2), Co14012 (1), Co 14004(1), Co 14003(1), Co 14008(1), Co14032 (1), Co14022 (1), VSI14122 (1), CoT14367 (1), CoN14074 (1)

Performance across locations: Only one entry viz, Co 14012 (14.22%) performed better than the best check CoC 671 (14.09 %) for CCS % at 12th month in the zone. The entry Co 14002 recorded >5% commercial cane sugar than the best check in three locations in the zone.

Table 2.8.4 Sucrose % (12m)

S No	Entries	Coimbatore	Akola#	Basmath Nagar	Kawardha	Kolhapur#	Mandya#	Navsari#	Padegaon#	Perumallapalle	Pravaranagar	Pune	Rudhurr	Sameerwadi#	Sanke shwar	Thiruvalla#	Mean	Rank
1	Co13021	18.54	16.55	15.52		19.84	18.88	18.11	20.07	18.36	20.68	18.07	18.61	16.20	17.02	17.99	18.17	
2	Co13022	19.25	19.22	17.12		20.22	18.00	17.93	22.21	20.76	21.57	19.50	19.53	14.18	20.34	18.84	19.19	
3	Co14002	20.71	17.46	17.13		21.67	18.66	21.18	21.68	18.30	19.94	19.22	20.74	16.40	19.69	18.30	19.36	
4	Co14003	17.82	17.46	16.14		20.00	17.75	18.28	21.20	16.87	20.21	17.59	17.16	17.36	20.54	20.48	18.49	
5	Co14004	21.08	19.21	15.93		21.01	18.37	17.90	21.57	20.38	21.81	17.41	19.01	18.74	21.23	19.36	19.50	
6	Co14006	17.64	16.22	16.45		17.36	17.53	18.10	19.83	16.83	19.53	17.85	14.20	18.33	17.21	16.94	17.43	
7	Co14008	18.06	16.82	16.91		20.61	19.30	20.56	21.01	17.95	21.63	18.51	18.27	14.82	19.35	13.91	18.41	
8	Co14009	18.58	18.08	17.06		21.23	19.31	18.97	20.22	17.08	21.26	17.50	16.19	18.19	21.06	16.55	18.66	
9	Co14012	20.34	19.82	18.34		21.08	19.17	19.03	22.82	21.71	22.22	20.02	19.50	17.63	21.89	19.58	20.23	1
10	Co14016	18.00	18.04	16.93		20.43	18.09	20.01	21.60	19.20	19.99	17.77	17.03	15.53	19.57	18.15	18.60	
11	Co14022	18.53	16.82	17.03		20.78	19.23	19.60	20.14	18.53	20.28	17.07	17.79	18.64	19.95	19.28	18.83	
12	Co14023	16.70	16.80	16.73		20.71	17.92	18.02	19.17	18.69	19.73	18.41	15.55	17.04	18.58	18.44	18.04	
13	Co14025	18.93	19.36	17.83		20.01	19.19	19.66	21.13	20.61	21.15	18.28	17.63	17.32	19.34	18.01	19.18	
14	Co14026	18.83	17.39	15.91		21.97	18.37	19.51	19.81	16.44	20.83	17.50	16.91	14.18	20.90	16.56	18.22	
15	Co14027	18.44	16.15	16.56		20.00	18.86	17.55	20.49	19.62	20.45	19.12	18.26	15.87	20.35	18.79	18.61	
16	Co14030	19.60	19.16	16.41		21.60	18.46	19.52	21.58	20.91	21.43	19.60	18.72	19.08	21.88	19.11	19.79	4
17	Co14031	19.05	19.56	16.32		20.79	17.80	19.01	21.75	20.50	21.02	16.86	18.39	14.29	20.23	16.22	18.70	
18	Co14032	20.05	16.89	17.81		20.41	18.49	18.85	22.87	19.50	22.75	20.33	18.72	17.61	21.66	14.87	19.34	
19	CoN14071	17.86	17.30	16.47		16.27	17.76	18.70	19.79	17.07	20.11	16.61	17.29	14.73	16.56	15.96	17.32	
20	CoN14072	17.53	17.28	15.69		17.23	15.99	16.67	19.53	16.99	20.03	18.44	16.93	16.53	18.45	17.58	17.49	
21	CoN14073	17.70	19.37	15.92		19.07	16.48	19.68	20.46	16.63	19.97	16.39	19.46	15.14	18.03	16.38	17.91	
22	CoN14074	18.26	19.69*	16.81		19.34	16.85	18.08	19.60	14.92	20.14	16.15	17.52	13.16	18.03	16.02	17.47	
23	CoSnk14101	18.51	18.67	16.51		18.57	16.99	16.99	19.31	17.87	20.89	18.86	17.34	16.51	18.81	17.78	18.12	
24	CoSnk14102	18.01	16.07	16.50		18.89	18.06	18.92	19.96	19.78	18.40	18.54	17.38	16.68	16.98	18.34	18.04	
25	CoSnk14103	19.00	17.65	17.27		20.41	18.86	18.70	19.38	19.60	20.27	16.71	18.24	17.82	18.37	17.21	18.54	
26	CoT14366	20.65	17.79	16.96		19.34	17.14	18.84	21.44	19.72	19.92	18.41	16.23	16.00	18.83	17.69	18.50	
27	CoT14367	17.87	20.03*	18.20		18.33	17.91	18.20	21.56	18.32	19.97	16.95	14.37	18.32	19.13	16.69	18.28	
28	CoT114111	17.81	18.42	16.42		21.02	17.56	18.62	20.52	19.07	20.54	18.05	13.93	17.29	19.74	16.14	18.22	
29	CoT114112	15.20	16.82	17.65		20.21	18.01	18.54	20.22	18.90	19.75	17.47	16.01	14.71	19.61	16.20	17.81	
30	CoVC14061	18.86	18.16	17.43		21.30	18.89	18.60	20.52	18.67	19.99	17.67	17.00	16.79	21.33	17.01	18.73	

Varietal Improvement Programme- AICRP (Sugarcane)
Principal Investigator's Report (2017-18), Peninsular zone -Initial varietal Trial

31	CoVC14062	19.66	17.98	17.72		20.31	19.09	18.36	21.32	19.30	21.31	17.82	17.16	16.53	19.98	17.47	18.86	
32	MS14081	18.04	17.34	16.70		19.54	18.99	18.76	21.25	19.01	20.63	17.14	19.41	17.50	19.27	18.41	18.71	
33	MS14082	18.35	16.89	16.34		20.23	18.55	19.32	21.02	19.48	20.11	17.74	18.62	16.21	18.68	19.09	18.62	
34	PI14131	20.96	16.62	17.31		22.85	18.10	20.48	22.26	20.14	22.74	20.51	19.97	17.60	23.51	18.33	20.10	3
35	PI14132	21.56	19.65	17.91		21.84	17.91	19.68	21.21	20.18	21.92	19.96	17.55	16.68	23.66	16.30	19.72	5
36	VSI14121	18.48	16.91	16.21		21.31	19.29	19.44	20.46	19.67	20.37	20.56	17.49	17.16	19.63	17.22	18.87	
37	VSI14122	18.51	16.20	16.20		20.62	17.08	21.39	16.44	19.02	21.25	18.93	17.64	16.91	19.10	17.54	18.35	
1	Co 86032	19.12	16.71	16.43		19.62	17.88	18.74	20.30	20.00	20.67	19.73	19.59	15.81	19.77	18.40	18.77	
2	CoC 671	21.81	18.65	18.65		20.44	18.88	18.16	20.52	22.11	22.42	21.88	18.98	17.09	22.67	19.23	20.11	2
3	CoSnk 05103	17.71	17.45	16.92		20.32	18.22	17.94	19.77	16.73	19.91	19.27	17.31	16.07	19.72	16.47	18.13	
	GM	18.79	17.82	16.86		20.17	18.20	18.86	20.65	18.89	20.70	18.36	17.69	16.57	19.77	17.57	18.64	
	CV	3.84	3.98	3.98		4.05	3.50	6.60	2.92	4.11	1.85	2.10	3.44	11.93	3.68	5.75		
Qualifying entries at each location																		
	1		CoT 14367			PI 14131	Co 14009	VSI 14122	Co 14032		Co 14032		Co 14002	Co 14030	PI 14132	Co 14003		
	2		Co 14012		-	Co 14026	Co 14008	Co 14002	Co 14012		PI 14131			Co 14004	PI 14131	Co 14012		
	3		CoN 14074		--	PI 14132	VSI 14121	Co 14008	PI 14131					Co 14022		Co 14004		

* Significant with the best standard variety at 5% level # Only top three qualifying entries are mentioned

Qualifying entries: PI14131 (4), Co14012 (3), PI14132 (2), Co14008 (2), Co14012 (2), Co 14002(2), Co 14004(2), Co14030 (1), Co 14026(1), Co 14009(1), Co14022 (1), Co14032 (1), VSI14121 (1), VSI14122 (1), CoT14367 (1), CoN14074 (1)

Performance across locations: Only one entry viz, Co14012 (20.23 %) performed better than the best check CoC 671 (20.11%) for sucrose % @12th month in the zone. The entry PI14131 recorded > 5% sucrose than the best check in four locations and significantly higher sucrose than the best check at Kolhapur and Padegaon.

Table 2.8.5 Brix % (12m)

Sl.No	Entries	Coimbatore	Akola	Basmath Nagar	Kolhapur	Man dya	Nav sari	Padegaon	Perumalappalle	Pravara nagar	Pune	Rudrur	Sameer wadi	Sanke shwar	Thiruvalla	Mean
1	Co13021	20.22	20.96	18.20	21.17	20.29	20.46	22.05	20.75	22.26		20.40	18.45	19.98	19.80	20.38
2	Co13022	21.04	20.93	19.60	21.39	19.49	20.05	23.92	23.07	23.31		21.88	17.14	22.88	20.54	21.17
3	Co14002	22.32	21.67	19.74	22.82	19.90	23.18	22.08	20.39	22.26		21.20	19.06	22.68	19.95	21.33
4	Co14003	19.64	21.68	19.06	21.04	19.06	21.00	22.57	18.95	22.21		19.97	18.83	22.97	22.43	20.72
5	Co14004	22.55	20.79	18.33	21.85	19.85	19.95	22.93	22.15	22.71		21.05	20.87	23.45	21.21	21.36
6	Co14006	19.67	20.96	19.32	18.58	18.94	19.99	21.29	19.39	20.61		17.88	19.96	20.27	18.61	19.65
7	Co14008	19.29	21.60	19.67	21.59	21.08	22.58	22.93	20.48	22.71		20.70	17.05	22.08	15.55	20.56
8	Co14009	20.76	20.85	20.25	22.30	20.89	21.13	21.97	20.18	22.61		19.17	20.82	23.43	18.16	20.96
9	Co14012	21.78	22.26	21.57	22.10	20.47	21.59	24.35	23.72	23.66		21.26	19.74	24.15	21.47	22.16
10	Co14016	19.89	20.85	19.26	21.82	18.97	21.00	22.95	21.21	21.21		19.48	17.84	21.76	19.88	20.47
11	Co14022	20.31	22.00	20.12	21.84	20.28	21.70	22.24	19.92	21.51		20.79	21.12	22.23	22.05	21.24
12	Co14023	19.66	22.04	19.92	22.09	19.03	19.38	21.36	20.78	21.86		18.36	19.23	25.78	20.21	20.75
13	Co14025	20.77	21.63	20.87	21.38	20.70	20.23	22.67	22.40	22.66		19.96	19.65	22.02	19.75	21.13
14	Co14026	20.69	20.64	18.44	22.27	20.17	21.32	21.35	18.75	22.26		19.62	16.24	23.17	18.08	20.23
15	Co14027	20.50	21.84	18.93	21.13	20.68	19.93	22.63	20.97	21.96		19.89	18.61	22.54	20.55	20.78
16	Co14030	20.91	19.74	19.13	22.67	20.46	21.62	23.07	23.06	22.71		21.18	21.39	24.15	20.87	21.61
17	Co14031	20.72	22.61	18.84	22.05	19.47	23.87	23.12	22.62	22.56		19.96	16.74	22.65	17.97	21.01
18	Co14032	22.18	23.30	20.61	21.82	19.97	20.35	24.46	23.61	23.91		20.93	20.52	23.77	16.53	21.69
19	CoN14071	20.02	19.68	19.41	18.31	18.95	20.31	21.37	19.90	21.02		19.71	17.43	20.52	17.75	19.57
20	CoN14072	19.64	22.14	18.19	18.30	17.92	19.72	21.35	19.35	21.26		19.27	18.79	21.66	19.08	19.74
21	CoN14073	19.83	20.65	18.70	20.04	18.28	20.82	22.38	19.57	20.51		20.99	17.87	21.23	18.05	19.92
22	CoN14074	20.44	20.69	19.91	20.69	19.03	20.51	21.66	17.88	21.96		19.61	15.90	21.48	17.66	19.80
23	CoSnk14101	20.20	23.19	19.51	19.91	18.18	19.16	21.46	20.22	22.21		19.34	18.99	21.54	19.60	20.27
24	CoSnk14102	19.65	22.19	19.35	20.45	19.46	21.27	21.71	20.81	20.31		19.78	18.94	20.38	20.07	20.34
25	CoSnk14103	20.64	21.36	20.37	21.97	20.54	20.66	20.98	21.80	21.96		20.45	19.82	20.97	18.95	20.81
26	CoT14366	22.27	21.81	20.08	21.36	18.47	20.03	22.98	21.97	22.11		19.96	17.75	21.89	19.47	20.78
27	CoT14367	19.91	21.90	20.93	19.90	19.72	19.24	23.08	21.91	21.16		17.43	20.82	21.76	18.33	20.47
28	CoT114111	19.86	21.13	19.19	22.34	18.99	21.78	22.45	21.87	22.16		17.43	19.38	22.37	17.79	20.52
29	CoT114112	17.42	20.25	20.58	21.49	18.83	20.76	22.43	20.58	21.02		18.70	16.94	22.08	18.00	19.93
30	CoVC14061	20.60	21.75	20.54	22.05	20.39	20.36	23.01	21.43	21.81		19.62	19.24	23.43	18.66	20.99
31	CoVC14062	22.19	20.28	20.84	21.63	20.45	22.60	23.52	22.35	22.71		19.71	19.10	22.53	19.25	21.32
32	MS14081	19.70	20.30	19.64	20.97	20.28	20.71	22.29	20.37	21.61		21.59	19.70	21.48	20.15	20.68
33	MS14082	20.20	20.44	19.41	21.47	20.28	21.26	22.19	23.08	21.56		20.91	18.71	21.48	20.86	20.91
34	PII4131	22.80	23.74	19.79	23.67	18.92	22.92	24.15	22.25	24.16		21.97	19.84	25.17	20.08	22.27
35	PII4132	23.16	21.64	21.27	22.98	18.93	22.71	23.59	21.37	23.71		19.79	20.99	25.05	18.05	21.79
36	VSI14121	20.02	20.54	18.23	22.52	20.96	21.42	22.23	22.31	21.96		19.98	19.09	22.39	18.92	20.81
37	VSI14122	20.48	20.71	19.22	22.32	18.54	23.16	19.45	19.99	22.46		20.40	18.86	21.48	19.35	20.49
	Standards															
1	Co 86032	20.60	23.23	18.55	20.64	19.49	19.51	22.19	22.22	22.26		21.13	18.11	22.12	20.09	20.78
2	CoC 671	23.27	22.75	21.82	21.57	20.08	20.72	24.54	23.83	23.56		20.80	20.64	23.84	21.20	22.20
3	CoSnk 05103	19.66	21.65	20.12	21.72	19.64	20.74	21.72	18.33	21.86		20.27	18.84	22.68	17.91	20.40
	GM	20.64	21.46	19.69	21.41	19.65	20.99	22.47	21.15	22.16		20.06	18.98	22.44	19.32	20.80
	CV	3.56	2.88	4.17	3.30	3.16	5.59	2.48	3.98	0.97		1.60	10.09	2.59	5.36	

Table 2.8.6 Purity % (12m)

Sl.No	Entries	Coimbatore	Akola	Basmath Nagar	Kolhapur	Man dya	Nav sari	Padegaon	Perumallapalle	Pravara nagar	Pune	Rudrur	Sameerwadi	Sanke shwar	Thiruvalla	Mean
1	Co13021	92.83	78.82	87.89	95.03	91.53	96.14	91.46	90.00	92.95	92.84	93.87	87.14	89.41	90.77	90.76
2	Co13022	91.70	92.22	83.94	93.75	92.97	88.30	90.98	88.44	94.34	92.75	90.84	88.74	85.04	90.06	90.29
3	Co14002	91.43	80.34	86.75	94.53	92.13	89.66	92.86	89.98	92.61	94.04	90.35	82.25	88.93	90.97	89.77
4	Co14003	92.84	80.64	86.13	95.01	93.72	91.59	98.13	89.70	89.20	93.15	92.89	86.96	86.75	90.80	90.54
5	Co14004	90.72	92.44	86.11	95.13	92.94	86.93	93.98	89.03	90.86	91.15	86.42	90.93	89.29	90.61	90.47
6	Co14006	93.53	77.49	85.53	96.11	92.34	89.84	94.18	92.18	96.23	92.79	91.24	91.98	90.52	90.50	91.03
7	Co14008	89.67	77.96	85.26	93.44	92.33	90.39	93.09	86.70	93.50	94.20	80.83	90.10	85.12	90.13	88.77
8	Co14009	93.60	86.57	86.24	95.36	91.44	91.20	91.65	88.00	94.50	93.73	89.16	85.81	87.62	88.64	90.25
9	Co14012	89.46	89.01	84.49	95.31	92.24	89.59	92.01	84.51	94.16	92.71	85.78	87.29	89.90	90.18	89.76
10	Co14016	93.49	87.00	84.82	95.32	93.45	88.23	93.76	91.61	94.55	94.81	92.03	90.83	90.54	90.37	91.49
11	Co14022	90.50	76.41	87.79	93.61	95.23	95.41	94.01	90.74	93.35	92.49	88.48	85.34	89.99	90.45	90.27
12	Co14023	91.25	76.17	86.21	95.17	94.69	90.42	90.63	92.96	91.89	90.19	86.62	88.45	89.74	86.79	89.37
13	Co14025	85.05	89.49	83.98	93.75	93.96	92.58	89.80	89.78	91.25	93.13	85.17	88.17	72.11	90.49	88.48
14	Co14026	91.17	84.32	85.64	93.54	92.58	97.36	93.12	92.11	93.54	92.97	88.78	73.12	87.80	90.30	89.74
15	Co14027	90.97	73.94	86.11	98.67	90.90	91.54	92.80	87.70	93.14	91.22	87.48	87.03	90.23	90.60	89.45
16	Co14030	89.93	96.88	85.21	94.66	91.17	87.78	90.56	93.57	92.54	94.05	92.32	84.85	90.15	90.70	91.03
17	Co14031	93.75	86.38	85.46	95.33	89.92	90.30	93.60	90.69	95.55	94.53	89.58	89.48	90.63	90.80	91.14
18	Co14032	91.98	72.71	85.94	94.27	91.26	79.58	94.10	90.70	92.35	92.28	92.48	87.09	89.29	89.42	88.82
19	CoN14071	90.37	88.11	86.25	93.48	92.50	92.84	93.47	82.67	94.36	94.58	90.61	84.17	91.20	89.00	90.26
20	CoN14072	93.69	78.13	85.71	94.71	93.86	87.67	83.58	93.15	94.44	95.22	92.25	81.76	95.21	89.94	89.95
21	CoN14073	89.19	93.57	85.04	88.94	93.56	92.13	92.46	85.79	95.40	92.99	88.02	84.58	80.62	89.05	89.38
22	CoN14074	89.32	94.94	86.13	94.19	88.82	84.64	91.51	87.80	92.23	93.42	89.19	87.75	85.24	91.20	89.74
23	CoSnk14101	89.28	80.53	85.55	95.12	89.88	94.61	91.48	84.81	96.40	90.93	93.76	84.84	84.87	89.89	89.43
24	CoSnk14102	89.30	72.51	84.45	93.49	89.58	88.05	90.48	83.37	92.71	93.38	89.87	82.21	83.97	89.79	87.37
25	CoSnk14103	90.11	82.46	85.94	93.65	92.61	86.60	91.05	91.11	91.25	94.40	86.16	84.85	87.05	90.93	89.16
26	CoT14366	91.61	81.46	84.81	93.25	93.34	88.69	90.09	88.38	93.99	94.07	90.12	86.66	87.13	89.95	89.54
27	CoT14367	91.64	91.92	85.00	92.25	92.53	88.99	91.89	95.10	91.92	93.87	89.13	88.38	83.59	90.60	90.49
28	CoT114111	92.02	87.45	84.86	92.88	91.76	90.42	92.43	89.80	92.76	90.58	88.82	90.74	87.40	89.91	90.13
29	CoT114112	92.86	83.12	84.25	90.44	92.61	94.12	93.29	89.83	90.78	93.15	81.63	91.95	85.99	90.02	89.57
30	CoVC14061	89.71	83.36	86.85	92.06	90.61	94.66	93.38	83.73	93.98	92.11	83.76	86.58	87.95	90.10	89.20
31	CoVC14062	89.63	88.87	85.96	94.07	92.23	85.48	91.41	87.18	92.76	92.82	81.29	89.45	88.25	89.82	89.23
32	MS14081	87.36	85.24	86.01	93.97	95.40	89.40	90.16	92.05	93.18	93.53	86.79	85.75	88.81	89.24	89.78
33	MS14082	91.54	82.54	85.11	96.71	92.47	91.42	89.34	87.05	91.80	92.42	87.96	86.93	91.07	90.23	89.76
34	PI14131	88.64	70.63	85.23	93.84	93.22	81.12	90.58	86.47	93.55	93.75	87.26	86.32	88.67	89.80	87.79
35	PI14132	91.56	90.67	85.45	93.16	93.52	90.68	95.34	93.51	94.37	91.23	91.11	88.82	89.64	90.59	91.40
36	VSI14121	90.86	82.28	84.19	94.26	91.31	90.72	94.73	84.16	94.30	92.17	89.59	86.16	86.99	90.74	89.46
37	VSI14122	91.83	78.22	86.90	96.57	95.43	89.63	92.21	90.36	93.24	94.23	92.01	88.46	93.46	90.45	90.93
	Standards															
1	Co 86032	93.16	72.26	84.29	95.04	94.47	86.67	89.87	94.86	92.39	94.13	89.11	85.20	94.43	89.55	89.67
2	CoC 671	92.28	82.05	85.20	94.64	91.68	90.68	92.07	88.24	94.02	94.88	88.77	90.24	87.85	90.15	90.20
3	CoSnk 05103	90.38	80.44	84.36	92.37	92.06	92.49	84.52	95.11	95.08	93.84	86.22	90.75	88.71	89.86	89.73
	GM	91.00	83.24	85.53	94.18	92.46	89.96	91.90	89.32	93.29	93.12	88.69	86.95	88.03	90.09	89.59
	CV	1.74	4.39	0.72	1.74	1.91	4.64	2.63	2.72	1.33	0.42	3.05	5.14	2.43	1.09	

Table 2.8.7 Pol % cane (12m)

Sl.No	Entries	Coimbatore	Akola	Basmath Nagar	Kolhapur	Mandya	Navsari	Padegaon	Perumallapalle	Pravara nagar	Pune	Rudrur	Sameer wadi	Sanke shwar	Thiruvalla	Mean
1	Co13021	14.35			15.01	14.44	13.85	15.63			13.36			12.87		14.22
2	Co13022	15.00			15.33	13.85	13.68	16.72			14.20			15.29		14.87
3	Co14002	16.30			16.46	13.69	16.19	16.74			14.49			14.92		15.54
4	Co14003	13.74			15.31	13.28	13.97	16.26			13.13			15.58		14.47
5	Co14004	16.54			15.96	13.57	13.61	16.67			13.39			16.47		15.17
6	Co14006	13.67			13.20	12.84	13.76	15.21			13.29			13.18		13.59
7	Co14008	13.82			15.57	14.72	15.58	15.54			13.89			14.68		14.83
8	Co14009	14.24			15.95	14.68	14.29	15.45			13.24			15.95		14.83
9	Co14012	15.74			16.03	14.22	14.33	17.75			14.73			16.09		15.56
10	Co14016	14.10			15.57	13.15	15.17	16.47			13.36			14.66		14.64
11	Co14022	14.13			15.99	14.29	14.84	15.33			13.91			15.06		14.79
12	Co14023	13.13			15.65	13.26	13.54	14.72			14.12			14.07		14.07
13	Co14025	14.66			15.29	14.38	14.79	16.30			13.54			14.48		14.78
14	Co14026	13.92			16.58	13.56	14.77	14.70			12.80			15.75		14.58
15	Co14027	14.29			14.91	14.11	13.26	15.47			14.23			15.32		14.51
16	Co14030	15.53			16.47	14.32	14.76	16.82			14.50			16.47		15.55
17	Co14031	14.81			15.81	13.48	14.42	17.07			13.32			15.26		14.88
18	Co14032	15.42			15.40	13.40	14.29	17.29			15.10			16.35		15.32
19	CoN14071	14.05			12.42	13.04	14.25	15.35			13.02			12.68		13.54
20	CoN14072	13.94			12.95	11.48	12.77	15.13			13.98			14.10		13.48
21	CoN14073	13.86			14.27	12.04	15.00	16.01			12.75			13.82		13.96
22	CoN14074	14.39			14.83	12.77	13.71	15.17			12.20			13.94		13.86
23	CoSnk14101	14.72			14.17	12.98	13.05	14.59			14.27			14.39		14.02
24	CoSnk14102	14.17			14.32	13.30	14.42	14.66			13.64			12.82		13.90
25	CoSnk14103	13.65			15.61	13.91	14.28	14.95			13.23			13.97		14.23
26	CoT14366	15.71			14.65	12.95	14.34	16.45			13.59			14.62		14.62
27	CoT14367	13.95			14.01	13.03	13.84	16.67			13.51			14.48		14.21
28	CoT114111	13.78			15.59	13.00	14.09	14.84			13.02			14.81		14.16
29	CoT114112	11.77			15.41	12.99	14.09	15.80			13.48			14.91		14.06
30	CoVC14061	14.42			16.13	13.78	14.14	15.69			13.37			15.96		14.78
31	CoVC14062	15.35			15.47	14.29	13.96	16.18			13.21			14.89		14.76
32	MS14081	14.08			14.71	14.27	14.32	16.41			13.60			14.74		14.59
33	MS14082	14.45			15.47	14.20	14.84	16.19			13.46			14.43		14.72
34	PII4131	16.13			17.37	12.39	15.68	17.06			15.33			17.52		15.93
35	PII4132	16.47			16.65	13.08	14.95	16.37			14.83			17.96		15.76
36	VSI14121	14.54			16.21	14.30	14.79	15.87			15.41			14.74		15.12
37	VSI14122	14.55			15.57	13.06	16.32	12.70			14.65			14.55		14.49
	Standards															
1	Co 86032	15.00			14.68	13.23	14.25	15.73			14.59			15.05		14.65
2	CoC 671	17.15			15.30	14.06	13.80	15.85			16.43			17.19		15.68
3	CoSnk 05103	13.35			15.28	13.38	13.61	14.51			14.45			14.96		14.22
	GM	14.57			15.29	13.52	14.34	15.81			13.86			14.98		14.62
	CV	3.87			4.54	4.20	6.62	3.25			2.59			3.78		

Table 2.8.8 Fibre % (12m)

Sl.No	Entries	Coimbatore	Akola	Basmath Nagar	Kolhapur	Mandya	Navsari	Padegaon	Perumallapalle	Pravara nagar	Pune	Rudrur	Sameer wadi	Sanke shwar	Thiruvalla	Mean
1	Co13021	12.65			14.34	13.29	13.53	12.13			16.13			14.50		13.80
2	Co13022	12.08			14.18	13.00	13.73	14.70			16.89			14.82		14.20
3	Co14002	11.27			14.06	13.73	13.52	12.78			14.04			14.18		13.37
4	Co14003	12.88			13.46	13.57	13.61	13.30			15.40			14.24		13.78
5	Co14004	11.63			14.04	13.92	13.94	12.63			13.46			12.37		13.14
6	Co14006	12.50			14.01	13.69	13.97	13.30			14.65			13.39		13.64
7	Co14008	13.43			14.45	12.50	14.21	16.04			16.18			14.16		14.42
8	Co14009	13.33			14.96	12.21	14.68	13.59			13.76			14.20		13.82
9	Co14012	12.68			13.97	12.63	14.72	12.15			16.22			16.44		14.12
10	Co14016	11.74			13.80	13.69	14.16	13.76			14.85			15.11		13.87
11	Co14022	13.70			13.06	13.21	14.26	13.89			13.36			14.53		13.72
12	Co14023	11.41			14.46	13.37	14.79	13.23			13.45			14.27		13.57
13	Co14025	12.61			13.58	13.01	14.78	12.83			16.04			15.14		14.00
14	Co14026	15.97			14.56	13.90	14.28	15.79			16.17			14.67		15.05
15	Co14027	12.48			15.47	13.88	14.42	14.51			16.32			14.71		14.54
16	Co14030	10.73			13.78	12.51	14.35	12.04			15.81			14.72		13.42
17	Co14031	12.30			13.94	12.93	14.15	11.46			10.67			14.56		12.86
18	Co14032	13.03			14.49	14.09	14.21	14.41			15.76			14.60		14.37
19	CoN14071	11.40			13.72	13.71	13.74	12.44			11.82			13.42		12.89
20	CoN14072	10.53			14.76	13.70	13.40	12.54			13.52			13.57		13.15
21	CoN14073	11.61			15.13	14.11	13.77	11.79			12.58			13.37		13.19
22	CoN14074	11.18			13.33	13.67	14.18	12.66			14.62			12.72		13.19
23	CoSnk14101	12.58			13.68	13.28	13.21	14.46			15.04			13.53		13.68
24	CoSnk14102	13.45			14.15	14.31	13.79	16.55			16.21			14.42		14.70
25	CoSnk14103	14.23			13.48	12.59	13.63	12.87			10.96			13.97		13.10
26	CoT14366	14.03			14.28	13.13	13.90	13.19			15.90			12.34		13.82
27	CoT14367	11.92			13.63	13.59	13.93	12.68			12.69			14.29		13.25
28	CoT114111	12.55			15.83	13.80	14.30	17.68			17.49			14.96		15.23
29	CoT114112	12.54			13.72	14.00	14.04	11.88			13.74			14.02		13.42
30	CoVC14061	13.57			14.31	13.81	14.00	13.55			13.79			15.13		14.02
31	CoVC14062	11.97			13.83	13.41	13.94	14.10			15.69			15.47		14.06
32	MS14081	11.87			14.72	12.31	13.66	12.80			10.77			13.52		12.81
33	MS14082	11.23			13.61	12.87	13.24	13.04			14.29			12.73		13.00
34	PI14131	13.03			14.03	14.70	13.43	13.44			14.67			15.52		14.12
35	PI14132	13.62			13.75	14.68	14.02	12.83			16.39			14.00		14.18
36	VSI14121	11.26			13.94	13.41	13.93	12.43			14.88			14.88		13.53
37	VSI14122	11.41			14.53	13.79	13.73	12.89			15.07			13.81		13.60
	Standards															
1	Co 86032	11.57			15.13	13.90	13.97	12.47			15.75			13.85		13.81
2	CoC 671	11.43			15.11	12.30	14.02	12.80			15.54			14.17		13.62
3	CoSnk 05103	14.59			14.84	13.21	14.08	16.63			14.49			14.08		14.56
	GM	12.45			14.20	13.44	13.98	13.46			14.63			14.21		13.77
	CV	8.29			6.68	6.08	2.27	6.56			3.28			5.89		

Table 2.8.9 Extraction % (12m)

Sl.No	Entries	Coimbatore	Akola	Basmath Nagar	Kolhapur	Mandya	Navsari	Padegaon	Perumallapalle	Pravara nagar	Pune	Rudrur	Sameer wadi	Sankeshwar	Thiruvalla	Mean
1	Co13021	42.44			52.59	52.94	56.77	54.97		52.23	48.44			50.67	55.23	51.81
2	Co13022	48.16			54.30	52.22	60.41	51.87		50.68	51.59			50.73	49.82	52.20
3	Co14002	46.78			46.70	56.06	58.81	55.64		54.32	51.95			55.23	59.80	53.92
4	Co14003	43.89			55.21	54.82	60.08	53.82		56.96	53.89			54.38	54.71	54.20
5	Co14004	44.14			48.31	56.52	56.38	55.22		52.29	49.17			56.02	57.83	52.88
6	Co14006	49.29			55.91	54.11	57.36	51.15		59.36	52.50			54.13	54.74	54.28
7	Co14008	47.64			49.35	50.18	60.19	50.56		58.20	52.92			60.55	58.66	54.25
8	Co14009	51.04			49.30	55.36	57.00	52.90		56.44	47.25			57.34	60.70	54.15
9	Co14012	46.08			50.94	52.54	58.71	56.27		50.68	49.28			56.31	57.07	53.10
10	Co14016	55.28			44.21	55.98	58.45	55.12		53.08	52.54			56.44	61.85	54.77
11	Co14022	42.89			45.86	56.13	55.67	53.81		54.45	50.71			53.74	52.97	51.80
12	Co14023	54.40			48.22	53.44	57.40	50.64		58.76	51.46			55.35	59.67	54.37
13	Co14025	48.28			43.90	49.61	53.37	55.57		50.55	48.99			56.85	59.88	51.89
14	Co14026	46.02			44.69	57.13	59.25	53.83		58.72	52.57			54.04	56.05	53.59
15	Co14027	44.92			50.10	54.32	58.13	50.13		54.07	48.42			51.52	53.95	51.73
16	Co14030	46.34			43.29	54.34	59.79	54.19		49.94	50.97			54.09	50.90	51.54
17	Co14031	43.88			43.41	48.64	55.41	52.98		55.58	49.17			50.00	55.25	50.48
18	Co14032	46.93			44.91	56.18	60.67	54.94		57.33	51.43			54.97	62.88	54.47
19	CoN14071	48.23			49.51	55.11	59.19	48.95		57.55	53.60			54.79	61.67	54.29
20	CoN14072	46.35			51.00	57.23	58.76	54.00		54.74	51.38			56.56	62.67	54.74
21	CoN14073	46.59			45.17	57.03	57.20	54.66		57.36	48.67			56.10	58.99	53.53
22	CoN14074	45.64			45.07	56.74	56.46	52.56		58.29	48.75			56.68	59.88	53.34
23	CoSnk14101	43.34			39.72	56.32	56.92	53.98		54.56	53.77			55.99	58.35	52.55
24	CoSnk14102	42.28			42.06	56.34	58.09	46.61		56.18	50.83			48.94	54.65	50.66
25	CoSnk14103	46.80			47.58	50.94	58.74	54.51		52.91	48.49			56.54	53.68	52.24
26	CoT14366	50.13			51.95	55.94	56.64	52.86		54.01	50.14			56.56	56.14	53.82
27	CoT14367	50.36			51.70	54.48	56.28	43.93		53.21	48.72			53.99	57.35	52.22
28	CoT114111	43.92			46.86	53.12	61.07	47.60		56.52	50.87			48.44	58.79	51.91
29	CoT114112	45.65			47.55	59.08	61.07	43.87		50.45	51.98			55.32	64.75	53.30
30	CoVC14061	47.24			50.60	59.26	59.17	52.75		55.29	50.30			58.80	58.12	54.61
31	CoVC14062	51.20			51.24	55.01	59.04	54.32		48.77	53.43			56.38	64.72	54.90
32	MS14081	44.55			42.71	55.73	60.22	53.77		59.18	51.59			57.52	57.07	53.59
33	MS14082	47.26			41.82	53.24	57.12	53.50		53.58	50.29			60.64	55.55	52.56
34	PI14131	46.09			44.17	52.33	55.30	54.21		49.79	50.60			55.58	55.18	51.47
35	PI14132	46.98			39.55	52.02	57.10	53.50		51.69	49.13			56.71	56.21	51.43
36	VSI14121	48.39			43.84	54.14	57.84	53.61		55.68	52.57			55.95	57.74	53.31
37	VSI14122	54.52			46.97	54.04	57.71	48.17		52.91	51.90			54.93	59.02	53.35
	Standards															
1	Co 86032	45.09			51.27	54.02	60.83	55.03		55.69	52.64			49.49	57.81	53.54
2	CoC 671	46.54			49.73	55.98	56.10	54.14		50.02	52.50			53.76	55.69	52.72
3	CoSnk 05103	44.04			41.05	54.86	55.99	51.26		48.87	50.50			50.67	61.16	50.93
	GM	46.99			47.31	54.59	58.02	52.53		54.27	50.90			54.82	57.68	53.01
	CV	4.26			11.49	5.76	3.40	7.93		1.95	1.76			5.41	6.53	

Table 2.8.10 NMC (‘000/ha) 12m

Sl.No	Entries	Coimbatore	Akola	Basmath Nagar	Kolhapur	Mandya	Navsari	Padegaon	Perumallapalle	Pravara nagar	Pune	Rudrur	Sameerwadi	Sanke shwar	Thiruvalla	Mean
1	Co13021	100.7		56.3	110.4	114.4	110.7	87.2	103.2	110.3	97.41	92.6	67.1	46.2	86.9	91.03
2	Co13022	66.0		63.2	88.5	113.8	119.2	77.1	66.7	114.6	79.01	75.1	42.2	39.3	58.4	77.16
3	Co14002	98.0		51.1	96.7	103.5	106.2	96.4	14.8	102.2	90.22	87.5	69.4	74.3	103.6	84.13
4	Co14003	75.3		58.5	87.8	101.4	112.2	82.7	17.1	105.1	94.37	75.3	63.3	69.4	53.8	76.62
5	Co14004	121.0		60.1	98.9	98.8	109.6	87.5	97.3	102.0	106.90	89.5	129.7	67.8	72.2	95.48
6	Co14006	66.5		55.2	93.2	106.8	126.9	65.5	42.2	103.5	96.08	55.3	60.2	48.4	60.2	75.37
7	Co14008	82.1		61.4	100.2	91.8	112.6	74.5	66.7	107.5	87.59	52.1	77.9	49.8	83.3	80.57
8	Co14009	76.5		70.0	92.7	103.8	112.1	72.1	77.6	98.2	78.50	61.3	68.2	57.4	72.1	80.04
9	Co14012	108.3		64.5	101.5	98.7	111.8	87.2	89.5	113.4	106.40	87.2	70.9	61.9	84.2	91.19
10	Co14016	108.5		63.9	113.8	95.1	108.3	93.9	99.9	114.5	88.61	89.0	57.3	61.9	101.0	91.97
11	Co14022	89.8		56.6	107.0	107.2	96.0	65.5	60.7	117.4	93.31	62.1	76.7	69.9	47.2	80.72
12	Co14023	73.6		64.4	88.7	93.1	123.9	75.4	77.7	117.4	98.35	65.1	65.9	42.5	70.3	81.25
13	Co14025	98.1		51.4	101.2	98.0	125.1	80.4	93.8	106.3	102.60	86.9	72.3	79.6	93.6	91.48
14	Co14026	67.1		52.5	85.2	101.8	110.4	71.7	48.1	108.2	88.75	58.1	64.3	60.4	68.1	75.72
15	Co14027	79.7		60.6	98.6	115.9	105.9	69.5	70.3	117.2	88.93	57.5	55.7	63.3	78.5	81.66
16	Co14030	107.9		59.5	107.8	113.7	123.4	78.2	62.1	117.8	104.30	81.3	81.5	59.0	64.3	89.29
17	Co14031	89.0		51.7	92.2	100.3	128.9	73.5	67.3	103.0	95.05	72.1	65.7	67.1	99.3	85.01
18	Co14032	69.2		59.6	109.8	104.5	113.9	70.4	79.8	97.7	96.34	74.0	75.6	52.0	58.5	81.64
19	CoN14071	84.2		56.4	92.0	118.9	109.7	71.3	104.7	117.2	97.80	72.2	94.2	75.2	73.6	89.79
20	CoN14072	81.9		52.5	98.5	105.9	123.7	70.2	92.5	119.2	87.50	78.0	63.6	81.1	59.3	85.68
21	CoN14073	81.9		58.5	94.1	104.2	129.1	59.8	88.5	93.6	101.90	72.0	85.0	48.7	80.7	84.47
22	CoN14074	98.0		58.7	94.9	114.8	132.2	82.5	92.8	91.4	103.70	83.5	66.3	90.2	61.8	90.05
23	CoSnk14101	68.1		57.4	94.0	99.1	105.9	75.4	41.0	110.8	100.70	82.6	67.3	58.5	80.6	80.10
24	CoSnk14102	101.2		73.1	86.2	120.4	128.0	87.4	85.4	94.1	107.00	76.2	58.6	83.1	72.1	90.20
25	CoSnk14103	90.4		57.9	85.5	113.2	107.8	59.5	79.3	104.7	66.52	75.9	69.4	27.2	68.4	77.37
26	CoT14366	74.9		60.0	84.3	99.0	118.5	77.0	78.4	99.8	99.47	71.1	61.2	55.8	68.4	80.60
27	CoT14367	56.3		57.8	95.2	111.3	121.8	73.0	83.9	108.8	84.08	73.4	48.5	68.2	67.9	80.79
28	CoT114111	81.8		60.6	100.7	101.7	121.5	72.9	86.9	103.8	93.02	75.5	71.7	62.2	80.6	85.60
29	CoT114112	92.8		54.8	98.4	123.4	118.9	85.6	88.6	103.5	87.90	97.2	76.7	88.3	102.9	93.76
30	CoVC14061	79.2		54.1	95.7	111.6	126.3	80.5	80.4	109.1	92.04	72.6	89.9	60.8	61.5	85.67
31	CoVC14062	69.5		53.4	93.0	101.7	133.4	71.7	81.7	107.8	90.20	77.8	74.6	63.7	88.5	85.14
32	MS14081	69.1		39.3	74.3	107.5	118.9	72.8	74.1	102.1	88.88	67.6	79.5	80.3	46.0	78.48
33	MS14082	105.2		66.5	94.2	119.8	125.8	96.6	94.7	113.3	93.13	92.0	76.5	83.9	78.6	95.40
34	PI14131	80.5		52.2	100.4	109.8	101.6	92.3	74.8	94.3	82.50	67.4	63.8	57.7	105.7	83.30
35	PI14132	66.3		55.8	111.6	103.9	116.6	71.3	60.2	101.0	80.00	66.4	63.2	56.2	61.6	78.01
36	VSI14121	72.8		64.5	103.0	112.7	136.5	76.5	60.6	104.7	82.36	72.9	57.0	56.9	65.1	81.95
37	VSI14122	70.7		64.5	85.0	104.7	120.1	83.9	68.6	105.5	63.20	76.4	63.5	54.8	71.4	79.40
	Standards															
1	Co 86032	91.1		68.0	97.2	108.7	122.1	79.2	119.8	126.8	97.35	97.3	73.3	85.0	74.3	95.38
2	CoC 671	73.0		64.9	77.8	107.0	115.3	83.0	91.9	116.7	78.98	73.7	72.9	55.0	75.7	83.53
3	CoSnk 05103	119.7		68.8	113.4	97.6	117.1	100.3	111.2	118.5	97.03	103.7	96.6	64.5	77.7	98.94
	GM	84.6		59.0	96.1	106.5	117.7	78.3	76.9	108.2	91.71	76.2	70.9	63.2	74.5	84.90
	CV	9.3		9.0	8.1	7.3	11.6	4.6	10.8	0.8	7.57	11.1	21.9	22.1	7.8	

Table 2.8.11 Cane length (cm) 12m

Sl.No	Entries	Coimbatore	Basmath Nagar	Kawar dha	Kolhapur	Man dya	Nav sari	Pade gaon	Perumalpal	Pravara nagar	Pune	Rudrur	Sameer wadi	Sanke shwar	Thiruvalla	Mean
1	Co13021	252.1	209.8	318.7	235.1	217.2	228.1		245.7	177.5	246.0	239.0	143.9	194.0	245.1	227.1
2	Co13022	213.1	162.9	363.1	244.3	223.6	246.0		208.1	166.0	195.9	234.3	168.5	155.2	209.8	214.7
3	Co14002	253.3	241.6	361.6	253.5	231.9	247.2		276.0	266.0	273.6	287.2	148.5	291.8	283.2	262.7
4	Co14003	294.4	220.1	323.0	250.0	248.2	234.3		247.4	253.5	283.5	282.6	173.2	228.7	262.7	254.0
5	Co14004	207.1	201.2	387.5	235.7	257.6	247.9		266.9	174.5	240.4	231.1	180.6	212.1	205.8	234.5
6	Co14006	245.2	179.5	295.8	233.1	213.1	236.2		263.4	209.5	248.7	279.7	156.0	210.2	272.6	234.1
7	Co14008	242.2	167.2	343.2	249.2	243.1	228.2		292.1	254.0	229.3	274.0	199.2	261.6	312.4	253.5
8	Co14009	282.6	250.6	171.5	251.3	235.9	258.6		317.0	239.0	238.4	204.2	133.2	228.0	269.0	236.9
9	Co14012	225.8	186.1	274.4	225.2	227.6	228.3		221.7	168.5	228.1	258.2	113.7	212.0	239.7	216.1
10	Co14016	235.7	218.8	290.0	220.3	267.1	240.0		290.4	156.5	271.9	259.5	150.1	193.1	277.9	236.3
11	Co14022	272.1	215.2	345.3	241.5	231.9	247.3		271.2	210.0	222.0	264.5	144.9	233.0	287.8	245.1
12	Co14023	256.4	167.6	302.4	217.9	245.2	254.3		216.5	178.5	219.7	222.6	152.6	204.8	220.4	219.9
13	Co14025	228.5	211.3	287.0	209.9	208.1	229.3		267.1	232.0	208.3	280.6	149.8	235.4	272.8	232.3
14	Co14026	305.6	230.1	334.4	228.4	257.9	254.2		301.0	243.5	226.9	263.2	162.3	246.0	271.3	255.8
15	Co14027	248.4	175.0	314.2	212.2	221.2	235.6		296.4	222.0	214.8	238.4	108.3	214.7	231.7	225.6
16	Co14030	207.6	188.4	319.0	243.8	202.6	247.6		242.7	206.0	234.4	227.8	116.9	206.7	244.0	222.1
17	Co14031	253.3	204.8	307.3	243.9	220.6	200.5		221.4	217.5	277.9	264.1	155.7	239.5	254.2	235.4
18	Co14032	273.2	200.2	397.3	242.3	266.1	221.5		270.4	228.0	209.2	367.4	140.6	249.1	269.4	256.5
19	CoN14071	311.0	256.3	379.4	284.1	252.1	282.3		302.9	258.5	270.5	290.1	190.8	273.9	294.3	280.5
20	CoN14072	305.6	286.4	374.8	278.9	262.9	285.0		281.0	246.0	255.9	282.7	208.8	302.5	200.8	274.7
21	CoN14073	297.1	264.1	371.5	259.0	267.9	275.0		289.2	247.5	233.5	272.9	188.4	301.5	273.3	272.4
22	CoN14074	276.4	226.8	358.3	264.5	261.2	269.3		316.5	252.0	282.8	236.6	159.1	301.8	280.9	268.2
23	CoSnk14101	245.9	169.8	340.2	214.3	228.2	238.5		312.4	159.0	235.3	260.4	169.8	254.2	254.7	237.1
24	CoSnk14102	262.6	218.3	347.7	300.1	250.6	253.8		297.7	230.0	280.1	292.9	206.9	259.2	293.5	268.7
25	CoSnk14103	277.1	182.1	333.7	255.1	188.2	242.5		251.4	242.0	226.3	245.3	128.4	267.0	227.1	235.9
26	CoT14366	248.3	195.2	360.7	262.7	222.6	263.0		304.2	209.0	278.6	265.7	130.7	261.0	243.7	249.6
27	CoT14367	203.2	196.8	301.1	227.3	244.1	232.7		254.8	200.0	172.9	267.8	157.1	222.1	243.4	224.9
28	CoT114111	270.6	256.0	353.4	253.4	269.6	223.8		303.4	241.5	291.2	283.3	192.5	291.7	271.8	269.4
29	CoT114112	204.7	220.3	293.3	208.3	227.1	269.0		222.5	192.5	191.5	256.1	147.2	232.1	238.4	223.3
30	CoVC14061	290.1	238.4	381.1	255.5	250.9	273.3		305.3	216.0	169.7	259.2	213.2	294.0	274.0	263.1
31	CoVC14062	233.5	223.0	318.6	244.9	224.1	243.1		298.9	209.0	237.3	289.3	183.3	240.4	280.3	248.1
32	MS14081	249.6	223.8	336.9	237.8	224.9	252.3		258.7	246.5	255.9	253.7	198.4	265.0	276.3	252.3
33	MS14082	283.9	206.1	290.2	254.9	264.2	248.5		256.7	245.0	250.3	267.6	133.1	244.8	273.4	247.6
34	PI14131	225.6	202.6	287.7	210.5	216.9	242.0		209.5	200.5	193.4	238.2	135.3	186.0	214.8	212.5
35	PI14132	190.9	156.4	262.2	199.3	211.2	209.4		208.3	228.0	196.0	281.9	105.3	208.7	177.2	202.7
36	VSI14121	250.1	201.1	287.3	234.7	235.6	227.1		233.4	235.0	255.7	243.1	156.9	226.2	252.0	233.7
37	VSI14122	274.6	182.9	257.8	208.8	122.2	208.0		278.9	238.0	194.8	260.0	147.4	225.0	223.1	217.0
	Standards															
1	Co 86032	240.6	225.8	329.0	224.3	214.6	222.3		231.1	214.5	232.9	280.8	143.5	211.7	252.8	232.6
2	CoC 671	234.7	214.9	353.9	227.5	226.1	223.3		290.6	204.5	234.5	278.3	156.7	235.6	230.9	239.3
3	CoSnk 05103	247.6	219.9	353.6	250.1	245.9	247.0		292.0	207.5	251.6	317.0	175.2	278.0	260.0	257.3
	GM	253.0	209.9	325.2	239.8	233.3	242.9		267.9	218.1	236.5	265.0	158.2	240.0	254.2	241.8
	CV	7.6	11.7	13.3	3.5	10.0	8.1		8.6	1.7	4.6	3.9	21.1	8.3	7.3	

Table 2.8.12 Cane diameter (cm) 12m

Sl.No	Entries	Coimbatore	Basmath Nagar	Kawar dha	Kolhapur	Man dya	Nav sari	Pade gaon	Perumalpal	Pravara nagar	Pune	Rudrur	Sameer wadi	Sanke shwar	Thiruvalla	Mean
1	Co13021	3.20	3.05	2.61	2.80	3.53	2.46	1.75	2.87	2.48	3.08	2.76	2.83	2.92	2.78	2.79
2	Co13022	3.34	3.12	3.04	2.89	3.56	2.52	1.60	3.12	2.53	2.89	3.20	2.94	2.82	2.96	2.90
3	Co14002	3.05	2.83	2.59	2.73	3.39	2.50	1.71	2.95	2.66	2.97	2.81	2.50	2.85	2.45	2.71
4	Co14003	3.11	3.11	2.85	3.33	3.42	2.58	1.86	2.73	2.42	3.16	3.07	3.12	2.96	2.86	2.90
5	Co14004	2.87	2.94	2.72	2.95	3.23	2.54	1.55	2.52	2.52	2.82	2.65	2.46	2.46	2.61	2.63
6	Co14006	3.15	3.19	2.73	3.25	3.66	2.60	1.82	2.90	2.63	3.12	3.45	3.22	3.34	2.88	3.00
7	Co14008	3.13	2.75	2.97	3.00	3.00	2.58	1.82	2.68	2.54	2.91	3.03	2.89	3.10	2.74	2.80
8	Co14009	2.90	2.73	2.74	3.07	3.62	2.57	2.14	2.67	2.60	3.00	3.04	2.75	2.97	2.87	2.83
9	Co14012	2.86	2.70	2.64	2.62	3.18	2.44	1.65	2.46	2.52	2.64	2.88	2.49	2.69	2.63	2.60
10	Co14016	3.04	2.92	2.63	2.76	3.75	2.59	1.44	2.39	2.56	2.79	2.89	2.86	2.50	2.59	2.69
11	Co14022	2.92	2.90	2.61	2.72	3.34	2.50	1.95	2.70	2.55	3.11	3.23	2.67	2.59	2.56	2.74
12	Co14023	3.44	3.16	2.94	3.05	3.41	2.50	1.82	3.30	2.65	3.44	3.29	2.58	3.36	3.04	3.00
13	Co14025	3.08	2.77	2.66	2.85	3.25	2.54	1.89	2.48	2.49	2.78	2.84	2.51	2.68	2.67	2.68
14	Co14026	3.02	2.90	2.78	2.80	3.41	2.47	1.94	2.96	2.64	3.12	3.22	2.64	2.94	2.70	2.82
15	Co14027	3.04	2.97	2.99	2.83	3.45	2.49	1.75	3.18	2.62	2.90	2.91	3.00	3.06	2.62	2.84
16	Co14030	2.82	2.76	2.69	2.47	3.26	2.57	1.56	2.64	2.55	3.10	2.87	2.79	2.49	2.68	2.66
17	Co14031	2.98	3.07	2.92	2.67	3.44	2.54	1.92	3.11	2.49	3.10	2.89	3.49	2.70	2.46	2.84
18	Co14032	3.12	3.05	3.13	2.85	3.56	2.72	1.63	2.34	2.57	2.94	2.99	3.06	2.76	2.90	2.83
19	CoN14071	3.09	3.02	2.58	2.89	3.19	2.78	2.17	2.78	2.61	3.17	3.17	2.66	2.89	2.38	2.81
20	CoN14072	2.97	2.93	2.57	3.12	3.15	2.77	2.18	2.71	2.46	3.02	2.80	2.44	2.64	2.90	2.76
21	CoN14073	2.98	2.88	2.84	2.94	3.24	2.70	1.92	2.70	2.54	3.05	2.91	2.67	2.77	2.67	2.77
22	CoN14074	2.87	2.89	2.56	2.24	3.29	2.74	1.61	2.55	2.54	2.88	2.96	2.38	2.83	2.67	2.64
23	CoSnk14101	3.10	3.03	2.72	3.18	3.27	2.54	1.78	3.08	2.58	3.03	2.45	2.80	2.69	2.48	2.77
24	CoSnk14102	2.80	2.36	2.61	2.82	3.04	2.48	1.60	2.39	2.45	2.92	2.34	2.69	2.55	2.70	2.55
25	CoSnk14103	3.00	2.94	2.9	2.96	3.42	2.60	2.16	2.97	2.58	3.12	3.13	2.78	3.04	2.39	2.86
26	CoT14366	3.36	2.91	2.9	3.32	2.92	2.49	1.99	2.96	2.45	2.88	2.98	3.04	3.00	2.52	2.84
27	CoT14367	3.45	3.10	2.94	3.39	3.35	2.65	1.78	3.14	2.55	3.17	3.03	3.26	3.04	2.36	2.94
28	CoT114111	3.07	3.25	2.33	2.56	3.71	2.58	2.01	2.77	2.54	2.82	2.90	2.99	2.61	2.80	2.78
29	CoT114112	3.04	2.86	3.13	3.07	3.30	2.76	1.90	2.93	2.53	2.91	3.05	2.99	3.26	2.70	2.89
30	CoVC14061	3.20	2.84	2.75	2.79	3.30	2.60	1.75	2.57	2.60	2.91	3.19	2.95	3.17	2.62	2.80
31	CoVC14062	3.12	3.11	2.69	3.02	3.37	2.55	2.09	3.03	2.46	2.88	2.86	2.86	2.79	2.63	2.82
32	MS14081	3.00	2.49	2.8	2.96	3.36	2.58	2.08	2.60	2.62	3.13	2.96	2.82	2.87	2.72	2.79
33	MS14082	2.98	2.79	2.62	2.81	3.17	2.53	1.63	2.60	2.65	2.85	2.87	2.48	2.79	2.77	2.68
34	PI14131	3.13	2.95	2.47	2.83	3.35	2.49	1.51	2.51	2.59	2.61	2.78	2.54	2.55	2.52	2.63
35	PI14132	3.05	2.98	2.54	2.51	2.90	2.54	1.67	2.73	2.52	2.98	3.09	2.85	2.58	2.70	2.69
36	VSI14121	3.01	3.13	2.67	2.58	3.29	2.49	1.73	2.99	2.62	3.33	3.18	2.89	2.78	2.42	2.79
37	VSI14122	3.34	3.07	2.65	2.90	3.21	2.54	1.96	3.02	2.52	3.19	2.98	3.13	2.76	2.83	2.86
	Standards															
1	Co 86032	2.98	3.50	2.79	2.69	3.33	2.48	1.84	2.37	2.59	3.25	2.94	2.54	2.61	2.77	2.76
2	CoC 671	3.07	3.09	2.92	3.27	3.30	2.66	1.79	2.63	2.45	3.21	2.99	2.49	2.89	2.78	2.82
3	CoSnk 05103	2.48	3.09	2.24	2.62	3.12	2.65	1.18	2.02	2.43	2.74	2.18	2.40	2.57	2.52	2.45
	GM	3.05	2.95	2.74	2.88	3.33	2.57	1.80	2.75	2.55	3.00	2.94	2.79	2.82	2.67	2.77
	CV	4.30	7.24	5.71	5.52	3.78	2.78	13.50	5.57	1.63	3.35	1.74	8.32	5.20	6.69	

Table 2.8.13 Single cane wt. (kg) 12m

Sl.No	Entries	Coimbatore	Basmath Nagar	Kawar dha	Kolhapur	Man dya	Nav sari	Pade gaon	Perumalappalle	Pravara nagar	Pune	Rudrur	Sameer wadi	Sanke shwar	Thiruvalla	Mean
1	Co13021	1.57	1.68	1.38	1.11	1.76	1.08	1.75	1.24	1.73		1.20	0.75	1.26	1.57	1.39
2	Co13022	1.58	1.48	2.76	1.31	1.72	1.15	1.60	1.31	1.69		1.59	0.61	1.19	1.42	1.49
3	Co14002	1.43	1.35	1.76	1.19	1.34	1.09	1.71	1.65	1.60		1.29	0.55	1.88	1.32	1.40
4	Co14003	1.85	1.87	2.03	1.56	1.53	1.15	1.86	1.27	1.76		1.75	1.07	1.92	1.65	1.64
5	Co14004	1.07	1.58	2.26	1.27	1.55	1.12	1.55	1.13	1.34		0.93	0.74	1.23	1.13	1.30
6	Co14006	1.76	2.03	1.65	1.31	1.52	1.16	1.82	1.69	1.96		1.59	0.96	1.97	1.83	1.63
7	Co14008	1.62	1.59	2.13	1.40	1.46	1.24	1.82	1.57	2.08		1.64	1.22	1.90	1.77	1.65
8	Co14009	1.89	1.68	1.91	1.51	1.62	1.19	2.14	1.31	2.08		1.18	0.53	1.60	1.44	1.54
9	Co14012	1.13	1.05	1.6	1.11	1.47	1.21	1.65	1.11	1.49		1.19	0.45	1.25	1.37	1.24
10	Co14016	1.43	1.27	1.39	1.16	1.83	1.22	1.44	1.30	1.44		1.64	0.61	1.13	1.58	1.34
11	Co14022	1.45	1.12	1.55	1.33	1.84	1.06	1.95	1.47	1.55		1.73	0.71	1.35	1.54	1.43
12	Co14023	2.05	1.66	2.05	1.42	1.63	1.07	1.82	1.44	1.98		1.40	0.76	1.93	1.61	1.60
13	Co14025	1.30	1.09	1.44	1.18	1.25	1.17	1.89	1.16	1.43		1.24	0.66	1.32	1.55	1.28
14	Co14026	1.82	1.38	2.06	1.30	1.92	1.06	1.94	1.68	2.16		1.57	0.71	1.81	1.58	1.61
15	Co14027	1.80	1.52	1.78	1.19	1.46	1.16	1.75	1.81	1.63		1.38	0.60	1.61	1.24	1.46
16	Co14030	0.95	1.36	1.87	1.38	1.12	1.13	1.56	1.30	1.67		1.00	0.43	1.20	1.28	1.25
17	Co14031	1.37	1.48	2.07	1.36	1.46	1.08	1.92	1.32	1.72		1.65	1.22	1.56	1.24	1.50
18	Co14032	1.53	1.32	2.17	1.32	1.94	1.04	1.63	1.07	1.83		1.77	1.02	1.70	1.88	1.56
19	CoN14071	1.74	1.84	1.7	1.51	1.47	1.28	2.17	1.49	1.82		1.74	0.92	1.90	1.78	1.64
20	CoN14072	1.74	1.58	1.86	1.51	1.58	1.29	2.18	1.29	1.78		1.59	0.81	1.87	1.39	1.57
21	CoN14073	1.66	1.51	2.09	1.48	1.65	1.17	1.92	1.64	1.74		1.55	1.00	1.84	1.55	1.60
22	CoN14074	1.52	1.70	1.8	1.16	1.41	1.23	1.61	1.43	1.79		1.12	1.17	2.04	1.72	1.52
23	CoSnk14101	1.62	1.06	1.88	1.41	1.52	1.16	1.78	2.06	1.60		0.76	0.98	1.51	1.34	1.44
24	CoSnk14102	1.15	1.33	1.87	1.59	1.46	1.15	1.60	1.45	1.64		1.24	0.80	1.55	1.55	1.41
25	CoSnk14103	1.65	1.45	2.26	1.59	1.23	1.09	2.16	1.41	1.56		1.26	0.81	1.94	1.08	1.50
26	CoT14366	1.91	1.75	2.31	1.54	1.56	1.23	1.99	2.00	1.52		1.54	0.72	1.91	1.23	1.63
27	CoT14367	1.41	1.52	2.04	1.56	1.62	1.12	1.78	1.76	1.46		1.68	1.02	1.68	1.20	1.53
28	CoT114111	1.32	1.37	1.6	1.14	1.62	1.15	2.01	1.60	1.73		1.04	0.89	1.70	1.61	1.44
29	CoT114112	1.24	1.21	2.13	1.40	1.68	1.31	1.90	1.34	1.55		1.36	0.88	1.92	1.37	1.48
30	CoVC14061	1.73	1.28	2.18	1.35	1.81	1.10	1.75	1.56	1.91		1.44	1.06	2.31	1.56	1.62
31	CoVC14062	1.42	1.64	1.65	1.58	1.68	1.07	2.09	1.87	1.44		1.39	0.83	1.53	1.60	1.52
32	MS14081	1.40	1.17	1.9	1.49	1.56	1.17	2.08	1.38	2.02		1.26	1.15	1.71	1.53	1.52
33	MS14082	1.74	1.46	1.64	1.58	1.57	1.13	1.63	1.28	1.52		1.24	0.91	1.60	1.63	1.46
34	PI14131	1.30	1.58	1.33	1.31	1.52	1.08	1.51	0.99	1.50		1.17	0.47	1.21	1.35	1.26
35	PI14132	1.26	1.51	1.3	1.05	1.31	1.00	1.67	1.25	1.59		1.81	0.60	1.24	1.03	1.28
36	VSI14121	1.39	1.64	1.74	1.30	1.49	0.98	1.73	1.31	1.71		1.26	0.77	1.46	1.46	1.40
37	VSI14122	1.94	1.82	1.49	1.42	1.27	1.06	1.96	1.69	1.54		1.72	1.08	1.51	1.54	1.54
	Standards															
1	Co 86032	1.37	2.23	2.03	1.53	1.29	0.99	1.84	0.97	1.59		1.29	0.48	1.27	1.62	1.42
2	CoC 671	1.69	1.99	2.08	1.54	1.24	1.09	1.79	1.37	1.52		1.58	0.76	1.57	1.47	1.51
3	CoSnk 05103	0.81	2.08	1.23	1.20	1.19	1.02	1.18	0.82	1.12		0.85	0.64	1.56	1.23	1.15
	GM	1.52	1.53	1.85	1.37	1.53	1.13	1.80	1.42	1.67		1.39	0.81	1.62	1.47	1.47
	CV	11.42	13.50	12.8	8.20	8.12	6.89	13.50	11.50	3.45		2.48	35.20	12.90	7.03	

Table 2.8.14 CCS % (10m)

Sl.No	Entries	Coimbatore	Akola	Basmath Nagar	Kolhapur	Mandya	Navsari	Padegaon	Perumallapalle	Pravara nagar	Pune	Rudrur	Sameerwadi	Sanke shwar	Thiruvalla	Mean
1	Co13021	10.44				12.19	13.45	12.58	10.64	8.68	12.24		8.82	9.74	8.90	10.71
2	Co13022	10.14				10.30	12.80	11.54	11.11	9.58	12.22		10.28	9.71	9.05	11.60
3	Co14002	13.40				11.74	12.82	13.03	13.69	8.66	12.75		12.16	11.51	9.45	11.07
4	Co14003	10.39				11.59	12.34	12.14	11.68	6.37	13.37		11.00	10.97	10.10	12.81
5	Co14004	11.87				11.83	12.65	11.19	12.26	9.36	13.98		12.90	12.29	8.16	11.73
6	Co14006	10.38				8.24	11.93	11.92	12.07	7.38	12.80		9.42	11.18	7.27	10.13
7	Co14008	10.35				13.03	13.41	12.65	11.83	7.81	13.21		10.68	8.88	8.74	8.26
8	Co14009	10.92				12.90	13.34	12.25	13.17	8.89	12.54		10.24	12.23	11.10	10.22
9	Co14012	12.59				12.12	12.97	12.36	14.26	10.70	13.56		11.60	11.68	11.10	12.22
10	Co14016	9.51				11.00	12.28	12.13	11.48	8.28	11.52		9.92	9.71	7.87	10.78
11	Co14022	11.44				12.82	13.21	12.08	12.32	9.18	11.95		12.41	11.93	9.05	11.71
12	Co14023	9.76				11.79	12.27	11.48	11.61	8.82	12.18		10.26	11.17	8.20	11.57
13	Co14025	10.31				12.91	13.31	11.98	11.58	10.10	12.36		13.00	11.54	8.84	10.86
14	Co14026	10.14				14.26	12.64	12.24	12.10	6.95	13.01		10.44	11.03	7.37	9.79
15	Co14027	12.10				12.88	12.95	11.61	12.89	9.62	12.93		11.45	11.18	10.70	11.52
16	Co14030	10.94				13.24	13.16	11.55	13.40	9.80	12.40		12.47	12.21	10.90	12.12
17	Co14031	12.37				12.92	12.36	14.14	12.95	7.76	13.73		11.03	9.08	8.96	9.91
18	Co14032	13.40				12.01	12.49	11.51	13.03	8.93	13.09		9.79	11.45	9.12	9.32
19	CoN14071	10.15				8.95	12.12	11.75	11.37	8.22	12.04		11.02	11.64	6.27	9.99
20	CoN14072	10.25				9.38	10.46	10.66	11.97	8.82	11.86		8.30	10.60	6.27	10.92
21	CoN14073	10.49				11.99	11.14	12.09	12.07	8.12	11.36		8.84	8.72	8.03	9.62
22	CoN14074	11.38				11.41	11.83	12.10	10.88	8.10	11.56		10.80	10.01	7.32	9.83
23	CoSnk14101	12.26				11.35	12.10	11.10	11.86	8.16	12.02		12.17	10.57	7.85	10.80
24	CoSnk14102	10.69				10.72	12.45	12.42	11.82	10.10	11.78		11.49	10.10	8.11	11.64
25	CoSnk14103	12.54				13.15	12.50	12.12	11.64	8.88	11.45		11.00	12.53	10.40	10.34
26	CoT14366	12.83				10.64	11.98	11.63	10.51	10.10	11.34		10.24	11.10	8.90	11.60
27	CoT14367	10.84				9.58	12.02	11.17	11.35	9.91	13.38		9.33	11.03	6.75	9.71
28	CoT114111	11.52				12.40	12.08	12.40	12.94	8.75	13.27		8.27	10.54	9.90	9.74
29	CoT114112	9.02				11.46	12.14	12.05	12.39	7.87	12.15		11.63	9.66	9.41	10.08
30	CoVC14061	13.07				13.11	12.75	12.39	13.68	9.28	13.04		10.24	11.38	10.40	10.19
31	CoVC14062	10.78				13.18	13.21	13.51	12.86	10.30	13.13		11.25	10.43	8.72	10.73
32	MS14081	10.17				11.90	12.96	11.56	12.68	10.20	13.01		12.89	11.00	8.29	11.18
33	MS14082	10.44				11.53	13.05	12.75	13.22	9.55	12.97		12.34	8.97	8.85	11.95
34	PI14131	14.08				15.17	11.60	13.13	15.12	11.40	15.03		10.98	11.20	12.20	11.07
35	PI14132	13.37				15.32	12.41	12.90	14.77	8.77	14.78		11.60	11.56	13.20	10.24
36	VSI14121	12.03				12.37	13.22	12.43	12.27	10.40	13.87		13.53	11.04	9.83	10.68
37	VSI14122	10.86				9.52	12.24	13.18	12.10	7.76	12.38		9.41	11.48	8.78	11.08
	Standards															
1	Co 86032	11.60				12.56	12.26	11.17	11.99	9.89	13.13		11.47	11.19	9.15	11.71
2	CoC 671	14.17				12.04	12.79	12.35	13.24	9.10	13.84		9.69	10.98	9.91	12.61
3	CoSnk 05103	10.34				11.77	12.29	12.13	12.50	8.55	12.21		11.94	10.66	9.42	9.58
	GM	11.33				11.93	12.50	12.13	12.38	8.99	12.73		10.91	10.85	9.08	10.79
	CV	5.61				4.62	4.80	5.68	5.69	11.30	6.16		5.35	10.44	8.93	7.42

Table 2.8.15 Sucrose % (10m)

Sl.No	Entries	Coimbatore	Akola	Basmath Nagar	Kolhapur	Mandya	Navsari	Padegaon	Perumallapalle	Pravara nagar	Pune	Rudrur	Sameerwadi	Sanke shwar	Thiruvalla	Mean
1	Co13021	15.09				17.24	18.82	17.82	15.31	15.31	17.92		12.85	14.22	13.65	15.32
2	Co13022	14.71				15.42	17.98	16.68	16.12	16.12	17.64		14.91	14.45	13.85	16.59
3	Co14002	19.02				16.81	17.95	18.88	19.18	19.18	18.61		17.10	16.60	14.35	15.83
4	Co14003	15.10				16.73	17.37	17.46	16.72	16.72	19.16		15.51	15.88	15.12	18.22
5	Co14004	17.00				16.99	17.84	16.17	17.31	17.31	20.10		17.94	17.81	12.68	16.74
6	Co14006	15.43				12.42	16.83	17.11	17.34	17.34	17.91		13.70	16.31	11.34	14.48
7	Co14008	15.25				18.46	18.98	18.13	17.31	17.31	18.84		15.16	13.35	13.40	11.88
8	Co14009	15.73				18.18	18.88	17.65	18.72	18.72	18.93		14.68	17.89	16.30	14.65
9	Co14012	17.98				17.28	18.38	17.79	19.98	19.98	19.27		16.48	17.24	16.38	17.42
10	Co14016	14.04				15.77	17.24	17.49	16.68	16.68	16.64		14.24	14.47	12.37	15.40
11	Co14022	16.46				18.09	18.60	17.54	17.94	17.94	17.14		17.38	17.31	13.84	16.68
12	Co14023	14.33				17.11	17.31	16.48	16.70	16.70	17.70		14.74	16.31	12.70	16.54
13	Co14025	15.15				18.09	18.68	17.19	18.21	18.21	18.24		17.92	16.65	13.52	15.56
14	Co14026	14.77				20.23	17.83	17.78	17.27	17.27	18.52		14.86	15.98	11.73	14.07
15	Co14027	17.60				17.91	18.53	16.70	18.58	18.58	19.11		16.18	16.35	15.86	16.48
16	Co14030	15.72				18.63	18.49	17.03	19.03	19.03	17.77		17.44	17.64	16.17	17.27
17	Co14031	17.64				18.29	17.49	20.26	18.25	18.25	19.33		15.59	13.28	13.54	14.22
18	Co14032	19.06				17.04	17.65	16.74	18.94	18.94	19.07		14.11	16.89	13.88	13.33
19	CoN14071	14.99				13.65	17.09	16.92	16.55	16.55	17.44		15.68	14.77	10.32	14.31
20	CoN14072	15.13				14.09	15.06	15.53	17.50	17.50	17.02		12.47	15.52	10.46	15.58
21	CoN14073	15.37				17.00	15.87	17.39	17.58	17.58	16.46		13.26	13.36	12.56	13.79
22	CoN14074	16.47				16.43	16.73	17.39	16.00	16.00	16.70		15.23	14.82	11.69	14.11
23	CoSnk14101	17.60				16.24	16.92	15.95	17.19	17.19	17.18		16.91	15.59	12.16	15.47
24	CoSnk14102	15.25				15.50	17.58	17.88	17.10	17.10	16.93		16.37	14.91	12.64	16.61
25	CoSnk14103	17.94				18.46	17.96	17.37	16.34	16.34	16.74		15.46	17.76	15.46	14.85
26	CoT14366	18.35				15.59	16.84	16.74	15.29	15.29	16.40		14.64	15.83	13.72	16.54
27	CoT14367	15.81				14.25	17.05	16.16	16.90	16.90	18.79		13.42	16.27	10.93	13.91
28	CoT114111	16.56				17.71	17.06	17.93	18.39	18.39	19.04		12.13	15.48	14.82	13.94
29	CoT114112	13.25				16.43	17.10	17.25	17.95	17.95	17.50		16.23	15.00	13.98	14.44
30	CoVC14061	18.49				18.39	18.09	17.59	19.41	19.41	18.71		14.98	16.67	15.45	14.54
31	CoVC14062	15.82				18.64	18.66	19.34	18.49	18.49	18.86		15.92	15.19	13.34	15.33
32	MS14081	14.79				16.86	18.36	16.74	17.99	17.99	18.71		17.96	15.97	12.83	15.96
33	MS14082	15.20				16.49	18.42	18.23	18.80	18.80	18.67		17.20	14.23	13.50	17.10
34	PI14131	20.01				21.11	16.46	18.93	21.45	21.45	21.48		15.55	16.32	18.01	15.81
35	PI14132	19.07				21.28	17.37	18.63	21.01	21.01	20.95		16.30	17.13	19.21	14.62
36	VSI14121	17.10				17.50	18.69	17.85	17.63	17.63	19.71		18.23	15.80	14.73	15.33
37	VSI14122	15.89				14.38	17.14	18.87	17.37	17.37	18.78		13.87	16.22	13.44	15.90
	Standards															
1	Co 86032	16.52				17.55	17.39	16.24	17.10	17.10	18.81		16.12	16.28	13.98	16.69
2	CoC 671	20.20				17.23	18.10	17.65	19.27	19.27	19.42		13.88	16.59	14.85	17.94
3	CoSnk 05103	14.84				16.79	17.42	17.45	17.90	17.90	18.62		16.77	15.93	14.15	13.73
	GM	16.37				17.06	17.65	17.47	17.82	17.82	18.37		15.48	15.86	13.82	15.43
	CV	4.92				3.89	4.27	5.42	4.94	4.94	5.34		3.81	9.30	7.39	7.24

Table 2.8.16 Brix % (10 m)

Sl.No	Entries	Coimbatore	Akola	Basmath Nagar	Kolhapur	Mandya	Navsari	Padegaon	Perumallapalle	Pravara nagar	Pune	Rudrur	Sameerwadi	Sanke shwar	Thiruvalla	Mean
1	Co13021	17.06	20.96		18.66	19.87	19.31	17.62	17.62	19.99		15.07	17.19	17.30	16.94	18.13
2	Co13022	16.76	20.93		18.64	19.16	18.89	18.76	18.76	19.94		17.38	17.25	17.49	18.32	18.52
3	Co14002	20.70	21.67		18.72	18.94	21.49	20.91	20.91	20.74		18.50	18.50	17.88	17.51	19.71
4	Co14003	17.27	21.68		18.87	18.58	19.55	18.74	18.74	20.49		16.93	17.85	18.07	19.93	18.89
5	Co14004	18.85	20.79		18.94	19.17	18.29	20.18	20.18	21.24		18.99	20.13	16.44	18.40	19.30
6	Co14006	18.45	20.96		15.24	18.06	19.07	19.01	19.01	18.89		16.08	19.05	14.80	16.02	17.89
7	Co14008	17.94	21.60		19.90	20.57	20.14	19.16	19.16	20.74		16.84	15.84	16.96	13.30	18.51
8	Co14009	17.66	20.85		19.52	20.41	19.84	20.44	20.44	20.34		16.61	11.32	18.94	16.29	18.56
9	Co14012	19.81	22.26		18.99	19.94	19.95	21.99	21.99	21.04		18.36	19.81	19.22	19.14	20.21
10	Co14016	16.56	20.85		17.40	18.31	19.66	18.60	18.60	18.79		16.23	16.52	16.33	16.96	17.90
11	Co14022	18.46	22.00		19.43	19.91	20.06	20.21	20.21	19.14		18.68	18.74	17.44	18.27	19.38
12	Co14023	16.73	22.04		19.61	18.59	18.40	18.64	18.64	20.24		16.73	19.54	16.37	18.28	18.65
13	Co14025	17.72	21.63		19.09	19.84	19.15	18.84	18.84	20.29		18.56	19.09	17.07	17.28	18.95
14	Co14026	16.98	20.64		21.93	19.15	20.31	19.05	19.05	20.29		16.61	17.23	15.81	15.69	18.56
15	Co14027	20.14	21.84		18.61	20.59	18.73	20.44	20.44	21.39		17.70	18.89	18.86	18.21	19.65
16	Co14030	17.56	19.74		19.84	19.66	20.04	21.07	21.07	19.74		18.73	20.90	19.12	18.92	19.70
17	Co14031	19.40	22.61		19.79	18.94	22.50	20.42	20.42	21.14		17.16	16.08	16.72	15.84	19.25
18	Co14032	20.81	23.30		18.40	19.06	19.18	21.20	21.20	20.64		16.28	19.46	17.33	14.71	19.30
19	CoN14071	17.72	19.68		17.09	18.34	18.97	19.09	19.09	19.04		17.51	17.66	14.65	15.88	17.89
20	CoN14072	17.85	22.14		17.18	16.90	17.86	19.61	19.61	18.99		15.61	17.03	15.14	17.14	17.92
21	CoN14073	17.85	20.65		18.48	17.41	19.49	19.81	19.81	19.19		16.53	15.93	16.44	15.32	18.08
22	CoN14074	18.68	20.69		18.51	18.34	19.43	18.68	18.68	18.89		16.63	18.28	15.87	15.73	18.20
23	CoSnk14101	19.59	23.19		18.01	17.84	17.85	19.09	19.09	18.49		17.80	18.33	15.69	17.16	18.51
24	CoSnk14102	16.77	22.19		17.54	18.91	20.04	19.43	19.43	18.94		18.43	18.18	16.45	18.27	18.72
25	CoSnk14103	19.83	21.36		19.66	20.12	19.29	19.38	19.38	19.89		16.72	20.01	18.47	16.54	19.22
26	CoT14366	20.29	21.81		18.14	17.94	18.78	18.68	18.68	18.59		16.56	18.08	17.55	18.19	18.61
27	CoT14367	18.20	21.90		16.95	18.56	18.34	18.90	18.90	19.99		15.43	18.72	15.16	15.41	18.04
28	CoT114111	18.49	21.13		19.44	18.41	20.31	20.44	20.44	21.24		14.53	17.99	17.99	15.42	18.82
29	CoT114112	15.51	20.25		18.20	18.32	19.14	19.50	19.50	19.69		17.34	17.22	16.71	16.00	18.12
30	CoVC14061	19.95	21.75		19.52	19.66	19.16	21.11	21.11	20.84		17.71	19.13	18.44	15.99	19.53
31	CoVC14062	18.47	20.28		20.04	20.09	21.45	20.70	20.70	21.09		17.61	17.74	16.82	16.93	19.33
32	MS14081	16.94	20.30		18.28	19.91	19.01	19.86	19.86	20.64		19.08	17.50	16.52	17.57	18.79
33	MS14082	17.43	20.44		18.31	19.84	20.15	20.47	20.47	20.74		18.23	17.80	16.95	18.93	19.15
34	PI14131	21.84	23.74		22.88	17.90	21.31	23.37	23.37	23.74		17.16	17.85	21.06	17.39	20.97
35	PI14132	20.97	21.64		22.75	18.34	21.05	22.47	22.47	22.74		17.65	20.82	21.86	16.11	20.74
36	VSI14121	18.65	20.54		18.89	20.16	19.94	20.02	20.02	21.49		17.88	18.97	17.87	17.07	19.29
37	VSI14122	18.43	20.71		17.81	18.12	20.91	19.82	19.82	19.94		16.62	18.77	16.97	17.69	18.80
	Standards															
1	Co 86032	18.08	23.23		18.34	18.91	18.61	19.19	19.19	20.74		17.53	18.60	17.57	18.32	19.03
2	CoC 671	22.21	22.75		18.85	19.57	19.49	21.21	21.21	22.14		15.79	19.98	18.04	19.60	20.07
3	CoSnk 05103	16.53	21.65		18.52	18.91	19.54	19.85	19.85	19.59		18.16	19.03	17.27	15.24	18.68
	GM	18.48	21.46		18.87	19.03	19.62	19.90	19.90	20.29		17.20	18.18	17.29	17.05	18.94
	CV	3.88	2.88		2.92	3.65	5.21	3.39	3.39	3.52		1.49	13.42	5.23	6.87	

Table 2.8.17 Purity % (10m)

Sl.No	Entries	Coimbatore	Akola	Basmath Nagar	Kolhapur	Mandya	Navsari	Padegaon	Perumallapalle	Pravara nagar	Pune	Rudrur	Sameerwadi	Sankeshwar	Thiruvalla	Mean
1	Co13021	88.49	78.82		92.45	95.02	92.41	87.77	80.87	90.51		86.93	87.01	78.88	89.44	87.38
2	Co13022	87.72	92.22		82.86	94.00	88.38	86.60	85.34	88.59		87.86	84.18	78.69	89.59	87.17
3	Co14002	91.91	80.34		89.81	95.02	87.80	93.23	82.92	90.99		94.09	86.94	80.33	89.52	88.58
4	Co14003	87.44	80.64		88.77	93.76	89.26	89.67	74.43	87.47		93.32	87.83	83.69	90.70	87.25
5	Co14004	90.17	92.44		89.57	93.22	88.47	88.76	82.88	93.17		96.42	89.41	77.23	90.05	89.32
6	Co14006	83.91	77.49		81.33	93.29	89.69	90.42	77.83	94.91		87.17	87.83	76.66	89.43	85.83
7	Co14008	84.95	77.96		92.71	92.53	89.90	88.87	77.67	90.92		91.92	82.39	78.93	88.31	86.42
8	Co14009	89.02	86.57		93.13	92.69	88.93	91.72	82.84	90.96		90.17	87.23	86.12	88.97	89.03
9	Co14012	90.75	89.01		91.04	92.27	89.21	92.04	87.69	90.10		91.74	88.60	85.28	90.17	89.83
10	Co14016	84.82	87.00		90.64	94.31	88.92	88.92	80.20	88.74		89.81	85.61	75.55	89.84	87.03
11	Co14022	89.25	76.41		93.06	93.73	87.49	88.26	83.51	89.78		94.74	86.47	79.20	90.30	87.68
12	Co14023	85.59	76.17		87.23	93.34	89.52	89.43	82.77	87.53		89.69	87.18	77.48	89.64	86.30
13	Co14025	85.55	89.49		94.76	94.27	89.79	88.76	86.84	89.70		98.69	79.86	79.18	89.12	88.83
14	Co14026	86.89	84.32		92.32	93.30	87.41	90.81	76.62	91.42		91.53	87.95	74.25	88.63	87.12
15	Co14027	87.26	73.94		96.23	90.37	89.20	90.16	83.17	90.58		92.91	86.01	84.00	89.62	87.79
16	Co14030	89.46	96.88		93.89	94.10	85.29	90.85	82.60	90.17		94.96	88.91	84.66	90.37	90.18
17	Co14031	90.96	86.38		92.45	92.52	90.07	90.69	80.69	92.24		92.94	84.33	81.08	88.77	88.59
18	Co14032	91.49	72.71		92.63	92.80	87.22	88.53	80.59	91.65		88.96	85.15	79.90	89.49	86.76
19	CoN14071	84.63	88.11		79.80	93.32	89.14	86.38	78.32	92.60		91.50	83.71	70.24	89.12	85.57
20	CoN14072	84.73	78.13		81.86	89.21	86.98	88.44	82.78	89.77		82.19	86.11	69.19	89.93	84.11
21	CoN14073	86.14	93.57		91.96	91.39	89.22	88.17	79.00	86.60		82.21	79.18	76.37	89.00	86.07
22	CoN14074	88.19	94.94		88.78	92.73	89.46	85.50	82.30	88.52		93.31	84.64	73.52	88.69	87.55
23	CoSnk14101	89.83	80.53		90.22	95.14	89.31	89.09	81.73	90.62		96.51	84.57	77.43	89.22	87.85
24	CoSnk14102	90.68	72.51		88.17	93.02	89.19	88.46	88.08	89.52		91.03	86.64	77.01	90.02	87.03
25	CoSnk14103	90.38	82.46		93.93	89.52	90.07	87.40	82.57	85.26		94.14	90.01	83.83	88.74	88.19
26	CoT14366	90.45	81.46		86.00	94.01	89.16	82.60	89.13	88.32		90.56	89.64	78.14	90.02	87.46
27	CoT14367	86.78	91.92		84.03	92.03	88.13	87.50	86.43	94.14		89.29	85.11	72.13	89.19	87.22
28	CoT114111	89.56	87.45		91.17	92.82	88.30	90.49	82.79	89.74		85.99	85.87	82.38	89.29	87.99
29	CoT114112	85.72	83.12		90.22	93.57	90.06	90.57	78.45	89.09		95.56	85.47	83.51	89.31	87.89
30	CoVC14061	92.76	83.36		94.18	92.18	91.80	91.65	81.76	91.38		86.23	86.90	83.86	89.92	88.83
31	CoVC14062	85.67	88.87		93.00	93.01	90.23	89.35	90.06	89.47		92.58	85.48	79.21	89.62	88.88
32	MS14081	87.38	85.24		92.20	92.52	88.03	91.39	84.09	90.88		95.84	86.46	77.74	89.90	88.47
33	MS14082	87.16	82.54		90.01	93.12	90.47	91.80	82.08	91.14		95.81	83.19	79.70	89.54	88.05
34	PI14131	91.64	70.63		92.35	92.16	88.78	91.89	88.12	90.57		92.43	86.69	85.32	89.93	88.38
35	PI14132	90.83	90.67		93.49	95.02	88.52	92.88	77.67	92.29		93.86	84.69	87.97	89.67	89.80
36	VSI14121	91.62	82.28		92.65	92.71	89.53	88.67	88.34	90.78		104.30	87.59	82.55	88.77	89.98
37	VSI14122	86.19	78.22		80.70	94.88	90.29	88.37	78.22	89.34		85.02	88.60	79.12	88.94	85.66
	Standards															
1	Co 86032	91.33	72.26		95.74	92.06	87.36	89.70	87.91	90.59		94.06	87.62	79.53	90.19	88.20
2	CoC 671	90.84	82.05		91.36	92.67	90.54	89.44	82.36	89.79		89.90	81.32	82.20	90.66	87.76
3	CoSnk 05103	89.72	80.44		90.63	92.35	89.27	90.25	81.23	89.65		94.12	83.52	82.00	88.97	87.68
	GM	88.45	83.24		90.18	93.00	89.07	89.39	82.57	90.23		91.76	85.90	79.60	89.52	87.74
	CV	2.05	4.39		2.15	2.00	1.60	2.34	5.85	1.73		3.60	3.43	3.52	0.67	

Table 2.8.18 Extraction % (10m)

Sl.No	Entries	Coimbatore	Akola	Basmath Nagar	Kolhapur	Man dya	Nav sari	Padegaon	Perumalpalalle	Pravara nagar	Pune	Rudrur	Sameer wadi	Sanke shwar	Thiruvalla	Mean
1	Co13021	44.36						51.31	48.99	48.99				55.09	46.17	49.15
2	Co13022	49.69						53.08	46.05	46.05				57.89	57.81	51.76
3	Co14002	46.94						51.22	46.65	46.65				61.27	49.90	50.44
4	Co14003	46.89						54.47	49.33	49.33				58.61	52.58	51.87
5	Co14004	42.63						54.87	46.13	46.13				56.29	55.24	50.22
6	Co14006	42.03						58.79	49.24	49.24				61.92	53.00	52.37
7	Co14008	51.88						53.47	50.19	50.19				60.84	57.83	54.07
8	Co14009	46.74						51.47	48.54	48.54				59.92	55.63	51.81
9	Co14012	46.65						51.58	42.44	42.44				63.01	58.37	50.75
10	Co14016	54.49						53.83	43.99	43.99				64.36	57.41	53.01
11	Co14022	38.39						52.59	46.65	46.65				61.98	49.16	49.24
12	Co14023	51.82						54.92	50.03	50.03				55.44	58.21	53.41
13	Co14025	51.42						54.03	42.8	42.80				53.98	57.78	50.47
14	Co14026	49.82						52.66	51.02	51.02				59.48	59.28	53.88
15	Co14027	45.75						52.50	46.19	46.19				56.57	50.29	49.58
16	Co14030	44.61						54.08	46.14	46.14				60.96	53.39	50.89
17	Co14031	41.92						58.42	47.93	47.93				61.42	56.25	52.31
18	Co14032	46.65						54.09	48.57	48.57				59.69	63.44	53.50
19	CoN14071	50.33						59.60	48.44	48.44				60.13	55.87	53.80
20	CoN14072	48.73						52.77	48.76	48.76				59.92	56.64	52.60
21	CoN14073	50.13						52.47	49.41	49.41				62.37	57.20	53.50
22	CoN14074	49.84						50.54	48.93	48.93				55.21	58.81	52.04
23	CoSnk14101	45.82						52.21	46.52	46.52				60.63	60.08	51.96
24	CoSnk14102	37.44						50.87	48.66	48.66				59.40	50.06	49.18
25	CoSnk14103	45.61						51.48	44.94	44.94				64.41	53.33	50.79
26	CoT14366	48.40						53.01	44.05	44.05				64.67	52.48	51.11
27	CoT14367	46.25						54.44	43.4	43.40				50.79	54.35	48.77
28	CoT114111	47.06						54.76	49.9	49.90				57.85	57.77	52.87
29	CoT114112	49.82						53.97	44.2	44.20				62.53	62.38	52.85
30	CoVC14061	42.20						51.43	49.19	49.19				54.76	56.20	50.50
31	CoVC14062	51.31						51.42	41.75	41.75				60.94	59.29	51.08
32	MS14081	41.53						52.30	50.37	50.37				59.91	51.46	50.99
33	MS14082	46.33						51.57	44.84	44.84				54.37	53.33	49.21
34	PII4131	47.73						53.28	44.33	44.33				58.33	46.98	49.16
35	PII4132	44.34						52.68	45.66	45.66				59.52	52.68	50.09
36	VSI14121	47.65						51.47	50.04	50.04				51.67	54.55	50.90
37	VSI14122	51.95						51.61	45.44	45.44				56.09	55.45	51.00
	Standards															
1	Co 86032	46.84						51.81	48.49	48.49				62.24	58.22	52.68
2	CoC 671	53.38						54.92	44.79	44.79				60.62	57.82	52.72
3	CoSnk 05103	34.62						51.75	42.69	42.69				59.27	52.86	47.31
	GM	46.75						53.19	46.89	46.89				59.11	55.24	51.35
	CV	6.30						4.39	2.48	2.48				6.64	7.39	

Table 2.8.19 NMC (‘000/ha) at 10m

Sl.No	Entries	Coimbatore	Akola	Basmath Nagar	Kolhapur	Mandya	Navsari	Padegaon	Perumallapalle	Pravara nagar	Pune	Rudrur	Sameerwadi	Sanke shwar	Thiruvalla	Mean
1	Co13021	93.0	40.5		99.3		127.2	87.14		130.7			53.7	87.0	78.5	88.56
2	Co13022	106.8	31.4		111.3		115.8	77.87		112.3			59.7	45.1	88.4	83.19
3	Co14002	69.2	27.6		89.6		124.7	96.21		116.2			51.6	33.0	64.2	74.70
4	Co14003	100.3	34.9		97.8		111.5	83.42		105.6			62.3	48.3	106.3	83.38
5	Co14004	81.3	38.1		90.4		118.1	87.5		110.7			60.5	53.4	58.9	77.66
6	Co14006	118.2	28.3		100.2		115.0	63.31		105.4			96.9	66.2	76.1	85.50
7	Co14008	70.5	30.9		93.9		132.3	73.65		107.2			49.5	65.5	65.2	76.52
8	Co14009	81.1	37.8		100.7		118.0	74.3		111.8			69.8	67.1	91.4	83.55
9	Co14012	80.4	36.5		93.0		117.5	84.02		100.0			52.0	90.1	76.7	81.13
10	Co14016	109.6	35.2		103.5		117.3	94.35		116.2			52.0	69.2	86.8	87.15
11	Co14022	117.6	32.4		114.9		113.7	78.39		118.1			58.3	54.2	108.8	88.47
12	Co14023	89.0	35.3		108.0		101.3	75.41		119.5			61.0	67.7	52.5	78.84
13	Co14025	85.8	31.6		89.3		129.8	80.82		118.1			59.0	64.7	72.7	81.31
14	Co14026	106.3	34.7		102.4		130.4	70.27		109.4			60.5	75.7	98.0	87.53
15	Co14027	74.3	29.5		87.1		115.8	71.29		109.1			58.0	65.8	72.4	75.91
16	Co14030	85.6	35.9		100.9		111.1	78.31		120.1			48.8	63.6	81.2	80.63
17	Co14031	112.3	33.1		108.5		128.9	71.17		119.2			61.2	54.1	67.7	84.02
18	Co14032	91.7	32.9		93.8		134.4	70.97		103.2			54.6	57.2	102.3	82.34
19	CoN14071	72.6	38.1		109.8		119.3	71.22		100.9			68.7	77.4	64.7	80.29
20	CoN14072	89.1	37.2		80.1		120.7	71.31		119.9			55.0	58.5	84.6	79.59
21	CoN14073	94.3	34.9		94.7		115.0	61.61		119.0			84.3	71.3	79.5	83.84
22	CoN14074	89.6	37.2		100.3		129.1	84.79		123.9			59.5	72.0	64.5	84.55
23	CoSnk14101	85.0	47.2		95.8		134.5	75.57		97.7			83.9	91.3	87.0	88.66
24	CoSnk14102	104.5	38.8		96.0		138.1	86.18		99.3			61.9	54.6	64.4	82.64
25	CoSnk14103	122.4	41.3		115.4		122.5	59.94		119.7			69.1	46.6	82.0	86.55
26	CoT14366	79.7	40.6		94.6		111.1	73.95		114.9			45.7	51.6	85.7	77.53
27	CoT14367	101.5	37.4		87.0		133.1	70.16		97.2			50.3	65.6	77.8	80.01
28	CoT114111	93.0	30.3		87.5		112.9	73.71		107.4			69.8	72.2	71.2	79.77
29	CoT114112	82.0	39.0		86.4		123.9	85		103.5			49.6	54.1	71.7	77.26
30	CoVC14061	76.8	34.3		96.5		127.2	80.32		113.0			52.2	79.0	74.8	81.57
31	CoVC14062	72.9	34.3		101.7		127.0	68.21		104.4			63.1	73.0	84.6	81.03
32	MS14081	98.7	30.3		100.4		124.2	64.97		100.7			64.3	67.6	110.6	84.64
33	MS14082	90.7	43.2		95.6		131.7	99.02		112.4			72.4	56.2	64.8	85.09
34	PI14131	80.2	37.0		95.4		138.8	88.9		109.1			68.9	60.5	92.6	85.71
35	PI14132	79.6	34.5		76.1		124.3	73.26		118.1			69.5	74.6	50.8	77.87
36	VSI14121	110.3	36.9		95.3		131.0	74.03		114.1			73.9	51.2	84.8	85.71
37	VSI14122	86.1	39.3		102.8		107.1	78.23		97.4			58.0	68.7	111.3	83.21
	Standards															
1	Co 86032	73.5	32.3		114.5		121.7	81.69		102.8			48.1	52.7	67.5	77.18
2	CoC 671	77.9	35.2		105.1		142.1	84.53		107.6			41.3	55.8	70.2	79.95
3	CoSnk 05103	74.6	34.2		85.8		125.2	97.1		110.6			48.4	45.4	75.5	77.42
	GM	90.2	35.5		97.6		123.1	78.05		110.8			60.7	63.2	79.2	82.03
	CV	7.9	13.5		7.4		11.2	5.02		0.5			16.8	25.1	8.2	

Table 2.8.20 Cane length (cm) 10m

Sl.No	Entries	Coimbatore	Akola	Basmath Nagar	Kolhapur	Mandya	Navsari	Padegaon	Perumallapalle	Pravara nagar	Pune	Rudrur	Sameerwadi	Sanke shwar	Thiruvalla	Mean
1	Co13021	237.4	162.5		190.2	197.3	242.2	218.0	194.5	162.0			124.1	176.2	232.0	194.2
2	Co13022	190.2	157.1		196.0	197.6	218.5	176.4	210.1	140.5			132.5	218.2	186.4	184.0
3	Co14002	220.4	181.4		248.6	210.8	227.6	228.3	239.6	258.0			138.1	214.2	240.4	218.9
4	Co14003	262.5	174.4		246.5	228.4	206.3	272.0	203.9	240.0			144.2	243.4	242.7	224.0
5	Co14004	201.7	143.8		225.4	232.9	217.2	183.5	269.3	158.0			159.2	195.0	212.4	199.8
6	Co14006	230.4	160.7		219.9	190.8	215.1	181.0	220.3	195.0			127.4	242.2	195.8	198.1
7	Co14008	246.7	190.2		220.4	221.8	189.1	252.6	264.9	235.0			164.4	220.7	273.9	225.4
8	Co14009	255.7	183.8		250.3	220.2	211.8	192.9	304.4	217.0			118.9	220.7	240.1	219.6
9	Co14012	187.6	186.5		199.2	210.5	207.0	209.8	219.2	154.0			100.0	203.5	214.2	190.1
10	Co14016	210.2	172.3		189.0	255.5	224.2	240.4	254.0	141.5			123.2	223.5	217.8	204.7
11	Co14022	219.5	176.3		213.7	215.1	209.6	219.5	248.1	196.0			137.3	214.2	250.2	209.0
12	Co14023	177.7	155.0		191.4	229.6	216.3	200.1	190.9	167.5			122.4	193.2	200.2	185.8
13	Co14025	222.6	178.4		197.2	188.4	212.6	203.9	197.3	218.5			126.1	196.8	241.1	198.4
14	Co14026	220.5	160.3		184.4	245.9	228.3	257.4	268.0	225.5			139.7	203.5	234.6	215.3
15	Co14027	246.5	179.1		188.8	202.6	193.8	199.2	245.3	207.5			101.3	180.7	204.7	195.4
16	Co14030	185.4	186.9		202.9	179.9	211.0	196.9	238.1	200.0			101.2	242.0	200.4	195.0
17	Co14031	235.1	169.0		205.7	202.5	187.5	217.3	266.7	205.5			128.4	190.0	235.7	203.9
18	Co14032	267.7	205.3		208.5	247.5	201.0	217.9	294.9	210.0			155.7	206.5	256.8	224.7
19	CoN14071	277.6	195.4		224.2	232.4	274.1	268.9	245.6	238.0			170.1	160.3	256.6	231.2
20	CoN14072	245.5	192.0		244.9	242.9	265.3	237.4	273.0	226.0			174.2	145.0	195.6	222.0
21	CoN14073	284.5	235.4		221.2	247.1	213.8	204.5	269.7	228.0			174.8	249.7	218.2	231.5
22	CoN14074	235.2	191.2		221.4	240.6	245.3	227.6	270.1	238.0			137.9	223.2	248.7	225.4
23	CoSnk14101	226.5	201.4		214.8	204.6	195.3	194.2	256.3	147.5			131.8	206.7	228.7	200.7
24	CoSnk14102	260.4	195.5		243.9	229.9	220.0	284.4	288.1	215.5			179.2	209.0	216.9	231.2
25	CoSnk14103	247.4	154.6		219.7	165.3	232.2	235.5	233.7	230.5			127.1	196.7	227.5	206.4
26	CoT14366	245.1	196.1		222.7	197.5	234.9	227.3	258.4	193.5			131.9	205.5	210.7	211.2
27	CoT14367	202.7	156.5		199.0	225.5	205.6	217.9	269.0	185.5			134.2	189.5	214.8	200.0
28	CoT114111	232.7	180.7		202.5	249.6	220.4	206.4	252.5	228.0			160.5	239.2	210.9	216.7
29	CoT114112	184.2	165.1		179.4	203.8	203.7	172.6	215.7	171.0			120.9	231.7	237.9	189.6
30	CoVC14061	235.7	226.6		219.3	233.2	247.0	250.4	311.9	214.0			177.9	246.2	237.6	236.3
31	CoVC14062	252.6	188.3		212.2	205.4	238.8	241.4	245.6	196.5			154.6	211.3	198.6	213.2
32	MS14081	214.5	179.6		233.2	203.1	213.8	262.0	249.8	222.5			162.3	249.2	242.7	221.1
33	MS14082	232.7	175.2		239.9	248.6	210.3	210.1	243.4	227.5			119.4	198.7	260.7	215.1
34	PI14131	190.5	212.0		193.9	198.9	229.4	192.4	192.2	187.5			120.7	218.0	186.6	192.9
35	PI14132	196.5	164.0		186.8	193.6	160.3	186.7	218.0	208.5			94.8	198.7	176.7	180.4
36	VSI14121	227.9	182.1		215.4	214.9	201.1	229.4	234.7	220.5			133.7	172.0	209.9	203.8
37	VSI14122	209.9	173.9		202.7	113.3	194.3	250.5	208.7	223.5			125.6	148.7	205.0	186.9
	Standards															
1	Co 86032	230.2	208.3		188.5	193.6	201.0	248.9	270.9	198.0			137.0	227.7	210.4	210.4
2	CoC 671	221.7	185.3		201.9	207.8	192.7	255.1	279.1	181.5			145.9	237.7	193.4	209.3
3	CoSnk 05103	225.7	219.2		211.8	231.2	210.9	175.4	285.2	196.5			147.9	224.2	211.6	212.7
	GM	227.4	182.5		211.9	214.0	215.7	221.1	247.5	202.8			137.7	209.3	222.0	208.4
	CV	10.3	12.4		4.8	9.8	8.1	7.6	9.9	1.6			17.4	17.9	7.8	

Table 2.8.21 Cane diameter (cm) 10m

Sl.No	Entries	Coimbatore	Akola	Basmath Nagar	Kolhapur	Mandya	Navsari	Padegaon	Perumallapalle	Pravara nagar	Pune	Rudrur	Sameerwadi	Sanke shwar	Thiruvalla	Mean
1	Co13021	2.96	2.91		2.84	3.32	2.43	3.93	2.83	2.34			2.83	2.97	2.69	2.91
2	Co13022	3.08	2.89		2.85	3.34	2.58	2.99	2.97	2.44			2.94	3.06	2.60	2.89
3	Co14002	2.88	2.61		2.76	3.22	2.50	3.08	2.85	2.51			2.50	2.92	2.50	2.76
4	Co14003	3.12	2.78		3.29	3.26	2.50	3.14	2.43	2.33			3.12	2.91	2.83	2.88
5	Co14004	2.66	2.36		2.87	3.06	2.51	3.43	2.57	2.46			2.46	2.78	2.66	2.71
6	Co14006	3.01	2.88		3.10	3.55	2.75	3.30	3.10	2.54			3.22	2.94	2.50	2.99
7	Co14008	3.05	2.74		2.88	2.78	2.44	3.17	3.15	2.47			2.89	2.95	2.40	2.81
8	Co14009	2.92	2.55		3.06	3.43	2.59	3.31	2.60	2.52			2.75	2.77	2.60	2.83
9	Co14012	2.76	2.39		2.56	2.97	2.55	3.94	2.61	2.43			2.49	2.97	2.62	2.75
10	Co14016	2.98	2.65		2.67	3.59	2.42	3.58	2.60	2.48			2.86	2.77	2.44	2.82
11	Co14022	2.71	2.95		2.68	3.16	2.50	3.92	2.60	2.53			2.67	2.94	2.44	2.83
12	Co14023	3.41	2.61		3.03	3.27	2.53	2.86	3.28	2.54			2.58	3.13	3.08	2.94
13	Co14025	2.82	2.78		2.74	3.11	2.38	2.97	2.59	2.45			2.51	2.65	2.65	2.70
14	Co14026	3.03	2.68		2.56	3.26	2.49	2.98	2.85	2.52			2.64	2.73	2.65	2.76
15	Co14027	3.06	2.84		2.76	3.31	2.44	3.18	2.93	2.55			3.00	2.73	2.46	2.84
16	Co14030	2.67	2.42		2.76	3.10	2.64	3.12	2.72	2.44			2.79	3.06	2.61	2.76
17	Co14031	2.87	2.70		2.65	3.30	2.65	2.94	2.91	2.37			3.49	3.05	2.56	2.86
18	Co14032	2.93	2.64		2.73	3.42	2.66	3.03	2.75	2.44			3.06	2.70	2.78	2.83
19	CoN14071	2.98	2.65		2.90	3.04	2.70	3.07	2.79	2.53			2.66	2.58	2.66	2.78
20	CoN14072	2.91	2.78		3.00	2.97	2.49	3.18	3.00	2.42			2.44	2.80	2.67	2.79
21	CoN14073	2.97	3.17		2.79	3.07	2.60	3.07	2.80	2.42			2.67	2.67	2.35	2.78
22	CoN14074	2.83	2.92		2.28	3.14	2.62	2.91	2.93	2.47			2.38	2.76	2.45	2.70
23	CoSnk14101	3.04	2.77		3.00	3.11	2.44	3.33	2.98	2.49			2.80	2.75	2.38	2.83
24	CoSnk14102	2.61	2.55		2.61	2.87	2.57	3.12	2.32	2.38			2.69	2.90	2.08	2.61
25	CoSnk14103	3.00	2.98		2.79	3.29	2.60	3.08	3.08	2.46			2.78	2.71	2.33	2.83
26	CoT14366	3.17	2.84		2.95	2.78	2.51	3.29	3.01	2.33			3.04	3.10	2.67	2.88
27	CoT14367	3.03	2.88		3.31	3.21	2.52	3.58	3.10	2.41			3.26	2.71	2.51	2.96
28	CoT114111	2.97	2.88		2.47	3.56	2.60	3.39	2.92	2.46			2.99	2.89	2.51	2.88
29	CoT114112	2.85	2.51		2.97	3.16	2.57	3.17	2.85	2.52			2.99	3.08	2.87	2.87
30	CoVC14061	3.15	2.72		2.73	3.15	2.65	3.86	2.85	2.49			2.95	2.75	2.71	2.91
31	CoVC14062	2.96	2.90		2.85	3.23	2.49	3.82	3.04	2.37			2.86	3.12	2.71	2.94
32	MS14081	2.89	2.86		3.12	3.20	2.49	3.27	2.80	2.49			2.82	2.53	2.66	2.83
33	MS14082	2.78	2.72		2.82	3.02	2.55	3.96	2.51	2.52			2.48	2.76	2.56	2.79
34	PI14131	2.95	2.73		2.73	3.20	2.38	2.78	2.45	2.46			2.54	2.76	2.39	2.67
35	PI14132	2.92	3.23		2.67	2.74	2.60	2.98	2.96	2.51			2.85	2.76	2.64	2.81
36	VSI14121	2.88	2.70		2.58	3.15	2.53	3.02	2.82	2.52			2.89	3.05	2.42	2.78
37	VSI14122	3.16	2.85		2.85	3.05	2.52	3.58	3.18	2.46			3.13	2.54	2.64	2.91
	Standards															
1	Co 86032	2.94	2.44		2.63	3.16	2.52	3.29	2.32	2.48			2.54	2.72	2.66	2.70
2	CoC 671	3.06	2.99		3.08	3.22	2.60	3.72	2.90	2.46			2.49	2.89	2.57	2.91
3	CoSnk 05103	2.43	2.73		2.40	2.97	2.54	2.86	2.25	2.28			2.40	2.62	2.57	2.55
	GM	2.93	2.76		2.80	3.17	2.54	3.28	2.81	2.46			2.79	2.84	2.58	2.81
	CV	3.75	7.33		4.72	3.87	2.94	2.61	5.92	2.32			8.32	7.68	6.33	

Table 2.8.22 Single cane weight (kg) 10m

Sl.No	Entries	Coimbatore	Akola	Basmath Nagar	Kolhapur	Mandya	Navsari	Padegaon	Perumallapalle	Pravara nagar	Pune	Rudrur	Sameerwadi	Sanke shwar	Thiruvalla	Mean
1	Co13021	1.49	1.00		1.11	1.53	1.01	1.60	1.19	1.54			0.62	1.32	1.40	1.26
2	Co13022	1.36	0.83		1.28	1.48	1.10	1.59	1.42	1.40			0.51	1.83	1.08	1.26
3	Co14002	1.33	0.52		1.52	1.26	1.02	1.44	1.71	1.41			0.56	1.67	1.24	1.24
4	Co14003	1.65	1.14		2.06	1.49	1.10	1.79	0.98	1.62			0.83	1.77	1.56	1.45
5	Co14004	0.98	0.63		1.19	1.47	1.09	1.45	1.49	1.16			0.66	1.22	1.17	1.14
6	Co14006	1.69	1.01		1.53	1.48	1.11	1.87	1.66	1.76			0.74	1.59	1.19	1.42
7	Co14008	1.49	0.98		1.36	1.12	1.18	1.70	1.82	1.62			0.93	1.47	1.39	1.37
8	Co14009	1.62	0.90		1.99	1.39	1.11	1.66	1.54	1.89			0.51	1.45	1.27	1.39
9	Co14012	1.03	0.78		1.15	1.26	1.16	1.59	1.13	1.03			0.38	1.63	1.00	1.10
10	Co14016	1.27	0.99		1.21	1.55	1.15	1.32	1.42	1.18			0.58	1.48	1.06	1.20
11	Co14022	1.16	0.91		1.24	1.41	0.99	1.45	1.36	1.31			0.68	1.38	1.25	1.19
12	Co14023	1.58	0.79		1.26	1.39	1.03	1.83	1.55	1.81			0.56	1.43	1.36	1.33
13	Co14025	1.24	1.01		1.15	1.06	1.09	1.60	0.98	1.09			0.55	1.30	1.34	1.13
14	Co14026	1.43	0.90		1.07	1.57	1.01	1.74	1.72	1.99			0.60	1.43	1.28	1.34
15	Co14027	1.76	1.08		0.94	1.18	1.11	1.58	1.61	1.28			0.53	0.97	1.10	1.19
16	Co14030	0.84	0.82		1.68	0.98	1.03	1.38	1.43	1.35			0.37	1.86	1.09	1.17
17	Co14031	1.20	0.96		1.14	1.27	1.03	1.81	1.74	1.49			0.92	1.51	1.32	1.31
18	Co14032	1.46	1.03		1.21	1.63	0.98	1.56	1.73	1.58			0.98	1.19	1.50	1.35
19	CoN14071	1.63	0.84		1.65	1.45	1.23	2.04	1.32	1.67			0.80	1.21	1.38	1.38
20	CoN14072	1.52	0.87		1.70	1.45	1.25	1.88	1.70	1.58			0.75	1.22	1.06	1.36
21	CoN14073	1.60	1.77		1.33	1.33	1.10	1.54	1.62	1.63			0.88	1.44	1.09	1.39
22	CoN14074	1.46	1.40		1.03	1.13	1.16	1.86	1.72	1.64			0.80	1.43	1.37	1.36
23	CoSnk14101	1.35	0.92		1.44	1.38	1.12	1.66	1.75	1.42			0.70	1.33	1.17	1.29
24	CoSnk14102	1.01	0.88		1.39	1.46	1.09	1.60	1.48	1.47			0.70	1.63	1.34	1.28
25	CoSnk14103	1.47	1.06		1.24	0.97	1.00	1.87	1.36	1.29			0.75	1.45	0.96	1.22
26	CoT14366	1.31	1.21		1.38	1.40	1.16	2.01	1.86	1.29			0.72	1.67	1.22	1.38
27	CoT14367	1.08	0.91		1.80	1.62	1.06	1.77	1.79	1.09			0.79	1.29	1.15	1.30
28	CoT114111	1.15	1.05		0.95	1.34	1.07	1.97	1.53	1.53			0.71	1.73	1.01	1.28
29	CoT114112	1.19	0.89		1.14	1.44	1.24	1.76	1.25	1.17			0.65	1.59	1.90	1.29
30	CoVC14061	1.42	1.27		1.36	1.46	1.06	1.73	1.86	1.90			0.92	1.36	0.98	1.39
31	CoVC14062	1.50	1.09		1.30	1.41	0.99	1.99	1.36	1.00			0.73	1.69	1.39	1.31
32	MS14081	1.16	0.96		1.61	1.39	1.10	1.95	1.62	1.79			0.92	1.02	1.29	1.35
33	MS14082	1.46	1.08		1.46	1.52	1.08	1.63	1.45	1.20			0.71	1.19	1.51	1.30
34	PI14131	1.13	0.79		1.17	1.19	1.02	1.28	0.98	1.22			0.42	1.47	0.94	1.06
35	PI14132	1.26	0.69		0.96	1.06	0.95	1.50	1.58	1.38			0.46	1.22	1.04	1.10
36	VSI14121	1.29	0.95		1.01	1.26	0.92	1.81	1.47	1.60			0.73	1.41	1.17	1.24
37	VSI14122	1.53	1.11		1.38	1.08	1.02	1.71	1.64	1.41			0.78	0.86	1.19	1.25
	Standards															
1	Co 86032	1.28	0.90		1.34	1.10	0.94	1.74	1.14	1.33			0.49	1.53	1.17	1.18
2	CoC 671	1.65	0.86		1.54	0.96	1.03	1.38	1.47	1.10			0.73	1.53	1.18	1.22
3	CoSnk 05103	0.73	0.82		1.23	1.10	0.96	1.16	1.09	1.05			0.49	1.47	0.93	1.00
	GM	1.34	0.97		1.34	1.33	1.07	1.67	1.49	1.43			0.68	1.43	1.23	1.27
	CV	14.16	12.80		8.99	8.65	6.25	11.10	12.00	5.54			27.50	19.90	8.67	

Table 2.8.23 Cane length (cm) 8m

Sl.No	Entries	Coimbatore	Akola	Basmath Nagar	Kolhapur	Man dya	Nav sari	Padegaon	Perumallapalle	Pravara nagar	Pune	Rudrur	Sameer wadi	Sanke shwar	Thiruvalla	Mean
1	Co13021	173.1			169.0	158.3	168.6	187.7	187.7	153.5			104.5	93.0	201.2	159.66
2	Co13022	110.1			179.2	160.5	192.3	148.6	148.6	129.5			97.1	114.4	150.8	143.11
3	Co14002	203.8			198.5	186.5	194.0	193.3	193.3	244.5			127.6	123.7	219.0	188.42
4	Co14003	209.0			193.5	193.5	196.3	238.1	238.1	219.5			114.9	126.7	194.0	192.36
5	Co14004	165.8			174.4	200.7	202.5	153.5	153.5	144.0			138.8	98.5	202.6	163.43
6	Co14006	154.0			168.3	165.1	192.7	145.0	145.0	171.0			99.6	131.6	192.8	156.50
7	Co14008	168.5			176.5	187.5	167.1	218.4	218.4	222.0			130.2	122.6	238.0	184.92
8	Co14009	218.4			182.7	181.5	209.4	167.6	167.6	205.5			105.1	125.4	203.4	176.66
9	Co14012	156.7			164.6	185.4	181.1	183.2	183.2	136.5			86.8	96.7	173.5	154.76
10	Co14016	150.2			162.8	213.3	190.7	198.5	198.5	128.5			96.4	119.0	216.2	167.42
11	Co14022	192.9			186.8	176.9	185.0	181.0	181.0	176.0			130.7	98.5	221.6	173.04
12	Co14023	135.2			161.6	195.3	198.7	174.5	174.5	148.5			92.6	94.8	178.1	155.38
13	Co14025	161.8			162.7	166.1	164.5	168.2	168.2	203.5			102.5	119.8	208.3	162.56
14	Co14026	194.6			147.1	204.7	190.0	233.7	233.7	214.0			116.9	106.4	214.3	185.54
15	Co14027	177.2			144.3	162.6	177.1	160.5	160.5	184.5			94.7	95.3	194.8	155.15
16	Co14030	151.3			180.7	151.4	189.8	172.5	172.5	174.0			86.3	121.4	173.4	157.33
17	Co14031	181.7			171.6	184.4	155.6	175.7	175.7	188.0			101.7	113.7	227.0	167.51
18	Co14032	197.7			198.3	206.3	150.4	183.5	183.5	192.5			171.4	121.5	238.2	184.33
19	CoN14071	206.8			184.7	202.1	239.5	238.2	238.2	217.5			150.5	114.3	235.8	202.76
20	CoN14072	204.6			208.6	200.7	234.2	218.7	218.7	213.5			139.9	116.4	170.3	192.56
21	CoN14073	205.4			184.3	203.9	215.5	166.0	166.0	214.5			161.7	109.9	203.6	183.08
22	CoN14074	182.7			165.6	200.3	231.3	199.5	199.5	220.0			117.0	112.2	199.6	182.77
23	CoSnk14101	197.2			163.5	170.6	188.9	160.5	160.5	132.0			93.7	106.2	213.8	158.69
24	CoSnk14102	191.3			184.7	195.4	193.2	252.5	252.5	208.0			152.2	120.4	194.9	194.51
25	CoSnk14103	185.6			195.0	130.3	195.4	197.7	197.7	206.0			126.0	122.0	199.4	175.51
26	CoT14366	211.7			191.6	180.4	169.0	193.2	193.2	223.0			133.2	117.7	199.0	181.20
27	CoT14367	157.7			139.3	189.3	175.7	178.5	178.5	172.5			111.9	112.5	213.2	162.91
28	CoT114111	200.1			185.7	211.5	174.3	208.6	208.6	205.5			129.6	133.4	195.3	185.26
29	CoT114112	141.0			145.0	178.5	208.5	140.9	140.9	153.5			94.7	115.6	239.0	155.76
30	CoVC14061	218.4			202.7	193.5	211.7	220.1	220.1	199.0			142.6	114.9	195.9	191.89
31	CoVC14062	171.8			184.7	180.1	182.6	203.2	203.2	183.0			126.5	153.8	205.8	179.47
32	MS14081	195.4			165.8	165.9	191.1	226.0	226.0	214.0			126.7	99.0	238.1	184.80
33	MS14082	172.7			173.6	205.3	193.2	179.5	179.5	205.0			106.5	99.8	205.6	172.07
34	PII14131	174.6			177.1	166.7	160.4	151.2	151.2	172.5			106.9	127.9	161.3	154.98
35	PII14132	159.7			167.3	153.6	166.6	150.5	150.5	195.0			84.2	127.2	171.8	152.64
36	VSI14121	183.8			184.2	187.4	168.8	197.5	197.5	204.0			111.7	99.5	187.9	172.23
37	VSI14122	158.1			162.5	174.3	160.6	212.7	212.7	206.0			103.5	99.0	183.2	167.26
	Standards															
1	Co 86032	165.1			172.7	166.5	179.8	216.1	216.1	185.5			131.1	134.4	194.8	176.21
2	CoC 671	186.0			167.0	168.5	169.7	195.9	195.9	168.5			135.2	130.1	203.8	172.06
3	CoSnk 05103	210.9			174.2	194.5	181.9	185.1	185.1	185.0			120.6	120.9	195.1	175.33
	GM	179.6			175.1	182.5	187.5	189.4	189.4	188.0			117.6	115.2	201.4	172.56
	CV	11.2			3.9	6.0	6.7	8.0	8.0	2.8			17.4	15.9	9.2	

Table 2.8.24 Cane diameter (cm) 8m

Sl.No	Entries	Coimbatore	Akola	Basmath Nagar	Kolhapur	Mandya	Navsari	Padegaon	Perumallapalle	Pravara nagar	Pune	Rudrur	Sameer wadi	Sanke shwar	Thiruvalla	Mean
1	Co13021	2.95			2.68	3.00	2.52	3.58	3.58	2.25			2.83	3.25	2.38	2.90
2	Co13022	3.02			2.80	2.91	2.46	2.77	2.77	2.42			2.94	3.09	2.40	2.76
3	Co14002	2.76			2.69	2.91	2.55	2.70	2.70	2.42			2.50	3.26	2.20	2.67
4	Co14003	3.08			3.21	2.87	2.48	2.88	2.88	2.24			3.12	3.24	2.53	2.85
5	Co14004	2.54			2.73	2.69	2.50	3.10	3.10	2.37			2.46	2.82	2.20	2.65
6	Co14006	2.91			3.04	3.12	2.39	2.96	2.96	2.46			3.22	2.98	2.26	2.83
7	Co14008	2.89			2.76	2.45	2.75	2.85	2.85	2.47			2.89	3.24	2.07	2.72
8	Co14009	2.88			3.00	3.11	2.47	2.99	2.99	2.43			2.75	3.02	2.37	2.80
9	Co14012	2.75			2.53	2.71	2.40	3.67	3.67	2.28			2.49	2.99	2.34	2.78
10	Co14016	2.83			2.65	3.19	2.61	3.27	3.27	2.36			2.86	3.26	2.21	2.85
11	Co14022	2.47			2.54	2.80	2.58	3.54	3.54	2.36			2.67	3.03	2.16	2.77
12	Co14023	3.32			3.04	2.97	2.27	2.67	2.67	2.46			2.58	3.37	2.83	2.82
13	Co14025	2.65			2.58	2.78	2.44	2.77	2.77	2.33			2.51	2.86	2.39	2.61
14	Co14026	2.86			2.49	2.89	2.55	2.70	2.70	2.45			2.64	3.21	2.44	2.69
15	Co14027	2.97			2.69	2.94	2.43	2.87	2.87	2.46			3.00	3.13	2.18	2.75
16	Co14030	2.55			2.47	2.78	2.44	2.91	2.91	2.33			2.79	3.39	2.38	2.70
17	Co14031	2.83			2.53	2.93	2.49	2.77	2.77	2.28			3.49	2.95	2.27	2.73
18	Co14032	2.82			2.65	2.98	2.61	2.77	2.77	2.38			3.06	3.19	2.53	2.78
19	CoN14071	2.81			2.79	2.73	2.63	2.77	2.77	2.51			2.66	2.95	2.18	2.68
20	CoN14072	2.80			2.84	2.65	2.73	2.90	2.90	2.36			2.44	3.02	2.42	2.71
21	CoN14073	2.91			2.58	2.76	2.82	2.79	2.79	2.32			2.67	2.92	2.06	2.66
22	CoN14074	2.68			2.22	2.85	2.48	2.62	2.62	2.43			2.38	3.17	2.24	2.57
23	CoSnk14101	2.89			2.87	2.79	2.51	3.02	3.02	2.43			2.80	3.40	2.10	2.78
24	CoSnk14102	2.62			2.59	2.62	2.26	2.91	2.91	2.32			2.69	3.15	1.83	2.59
25	CoSnk14103	2.79			2.72	2.96	2.40	2.78	2.78	2.36			2.78	3.05	2.08	2.67
26	CoT14366	2.93			3.09	2.47	2.46	3.07	3.07	2.22			3.04	3.29	2.31	2.80
27	CoT14367	2.88			3.18	2.84	2.56	3.22	3.22	2.39			3.26	2.96	2.16	2.87
28	CoT114111	2.78			2.50	3.15	2.53	3.17	3.17	2.42			2.99	3.03	2.29	2.80
29	CoT114112	2.68			2.94	2.83	2.70	2.90	2.90	2.41			2.99	3.50	2.58	2.84
30	CoVC14061	3.04			2.69	2.83	2.50	3.54	3.54	2.42			2.95	2.95	2.41	2.89
31	CoVC14062	2.83			2.74	2.85	2.44	3.47	3.47	2.25			2.86	2.98	2.43	2.83
32	MS14081	2.76			3.03	2.84	2.66	2.94	2.94	2.49			2.82	2.89	2.32	2.77
33	MS14082	2.73			2.79	2.71	2.35	3.52	3.52	2.46			2.48	3.24	2.33	2.81
34	PI14131	2.84			2.77	2.78	2.62	2.50	2.50	2.36			2.54	3.30	2.17	2.64
35	PI14132	2.82			2.50	2.42	2.53	2.67	2.67	2.38			2.85	3.22	2.35	2.64
36	VSI14121	2.91			2.59	2.82	2.41	2.71	2.71	2.42			2.89	3.11	2.18	2.68
37	VSI14122	3.00			2.74	2.74	2.49	3.28	3.28	2.40			3.13	2.82	2.37	2.83
	Standards															
1	Co 86032	2.74			2.64	2.82	2.42	3.07	3.07	2.40			2.54	3.17	2.45	2.73
2	CoC 671	2.84			2.95	2.96	2.62	3.35	3.35	2.35			2.49	3.33	2.31	2.86
3	CoSnk 05103	2.40			2.32	2.59	1.33	2.59	2.59	2.15			2.40	3.05	2.42	2.38
	GM	2.82			2.73	2.83	2.48	2.99	2.99	2.37			2.79	3.12	2.30	2.74
	CV	4.31			5.24	3.66	11.50	3.16	3.16	2.18			8.32	8.11	6.15	

Table 2.8.25 Single cane weight (kg) 8m

Sl.No	Entries	Coimbatore	Akola	Basmath Nagar	Kolhapur	Mandya	Navsari	Padegaon	Perumallapalle	Pravara nagar	Pune	Rudrur	Sameerwadi	Sanke shwar	Thiruvalla	Mean
1	Co13021	1.03			0.98	1.37	0.95	1.11	1.11	1.19			0.47	0.98	1.09	1.03
2	Co13022	0.86			1.02	1.42	1.00	1.12	1.12	1.15			0.42	1.02	1.10	1.02
3	Co14002	1.19			1.18	1.03	0.96	1.00	1.00	1.05			0.56	1.07	1.00	1.00
4	Co14003	1.40			1.65	1.21	1.03	1.39	1.39	1.43			0.57	1.02	1.06	1.22
5	Co14004	0.75			1.06	1.36	1.02	0.91	0.91	1.03			0.58	0.71	0.86	0.92
6	Co14006	1.15			1.51	1.26	1.05	1.55	1.55	1.58			0.50	1.40	0.97	1.25
7	Co14008	1.08			1.28	1.03	1.07	0.88	0.88	1.45			0.64	1.12	0.89	1.03
8	Co14009	1.27			1.01	1.29	1.00	1.28	1.28	1.57			0.49	1.06	0.91	1.12
9	Co14012	0.86			0.83	1.24	1.07	1.11	1.11	0.82			0.30	0.73	1.04	0.91
10	Co14016	0.82			1.00	1.41	1.00	0.96	0.96	0.92			0.54	1.11	1.05	0.98
11	Co14022	1.08			0.94	1.33	0.92	1.14	1.14	1.00			0.66	0.72	1.05	1.00
12	Co14023	1.07			1.33	1.25	1.00	1.41	1.41	1.40			0.36	0.77	0.99	1.10
13	Co14025	0.83			0.91	1.03	0.99	1.03	1.03	0.90			0.43	1.04	1.04	0.92
14	Co14026	1.32			0.89	1.44	0.92	1.32	1.32	1.72			0.48	0.88	1.05	1.13
15	Co14027	1.16			0.92	1.12	1.04	1.06	1.06	1.07			0.46	1.00	0.99	0.99
16	Co14030	0.77			1.12	0.89	0.94	1.15	1.15	1.13			0.31	1.05	1.09	0.96
17	Co14031	1.10			1.02	1.13	0.95	1.26	1.26	1.16			0.61	1.01	1.02	1.05
18	Co14032	1.15			1.20	1.54	0.88	1.61	1.61	1.21			0.93	0.90	0.90	1.19
19	CoN14071	1.39			1.45	1.20	1.15	1.17	1.17	1.56			0.67	0.96	1.05	1.18
20	CoN14072	1.04			1.42	1.25	1.16	1.50	1.50	1.31			0.69	0.72	0.91	1.15
21	CoN14073	1.21			0.93	1.26	1.02	1.32	1.32	1.34			0.75	0.94	0.88	1.10
22	CoN14074	1.05			0.97	0.98	1.10	1.11	1.11	1.33			0.43	0.87	0.94	0.99
23	CoSnk14101	1.37			1.13	1.29	1.10	1.10	1.10	1.29			0.42	0.97	1.04	1.08
24	CoSnk14102	0.85			1.14	1.24	1.03	1.12	1.12	1.26			0.58	1.03	0.97	1.03
25	CoSnk14103	1.16			1.17	0.96	0.94	1.55	1.55	1.04			0.68	1.08	0.92	1.11
26	CoT14366	1.23			1.36	1.08	1.12	1.42	1.42	1.05			0.71	1.02	1.16	1.16
27	CoT14367	0.94			1.10	1.37	1.00	0.90	0.90	0.96			0.55	0.77	1.05	0.95
28	CoT114111	0.93			1.06	1.25	1.00	1.46	1.46	1.09			0.53	1.26	1.15	1.12
29	CoT114112	0.93			0.92	1.33	1.13	1.33	1.33	1.00			0.42	1.21	0.99	1.06
30	CoVC14061	1.53			1.39	1.35	0.99	1.47	1.47	1.52			0.78	0.91	1.04	1.25
31	CoVC14062	1.01			1.19	1.36	0.93	1.32	1.32	0.83			0.61	1.19	0.98	1.07
32	MS14081	1.16			1.20	1.27	1.04	1.20	1.20	1.56			0.68	0.84	1.08	1.12
33	MS14082	0.93			1.11	1.22	1.00	1.47	1.47	0.98			0.50	0.84	0.94	1.05
34	PI14131	0.92			1.00	1.29	0.92	1.09	1.09	0.97			0.37	1.03	0.90	0.96
35	PI14132	1.24			0.86	1.02	0.86	1.19	1.19	1.06			0.33	1.04	1.24	1.00
36	VSI14121	1.10			1.17	1.07	0.91	1.62	1.62	1.31			0.69	1.14	1.10	1.17
37	VSI14122	1.02			1.17	1.02	0.93	1.32	1.32	1.15			0.47	0.79	1.19	1.04
	Standards															
1	Co 86032	0.99			0.99	1.09	0.91	1.49	1.49	1.07			0.50	1.10	1.04	1.07
2	CoC 671	1.19			1.69	0.83	0.97	0.84	0.84	0.92			0.69	1.21	0.88	1.01
3	CoSnk 05103	0.73			1.21	0.83	0.90	1.21	1.21	0.85			0.33	0.87	0.85	0.90
	GM	1.07			1.14	1.20	1.00	1.24	1.24	1.18			0.54	0.98	1.01	1.06
	CV	16.21			7.89	6.00	7.00	2.47	2.47	5.50			26.40	21.40	8.16	

Table 2.8.26 CCS % (8 m)

Sl.No	Entries	Coimbatore	Akola	Basmath Nagar	Kolhapur	Mandya	Navsari	Padegaon	Perumallapalle	Pravara nagar	Pune	Rudrur	Sameerwadi	Sanke shwar	Thiruvalla	Mean
1	Co13021	7.97	12.41		6.06	12.56	9.73	6.05	6.05	11.13		6.27	8.23	2.26	9.33	8.17
2	Co13022	10.50	10.25		8.44	11.32	8.82	6.22	6.22	11.45		6.20	10	4.79	9.79	8.67
3	Co14002	9.52	12.44		8.97	12.28	10.80	8.28	8.28	11.20		8.00	11.7	4.26	10.7	9.70
4	Co14003	9.55	12.51		8.37	11.34	9.54	8.47	8.47	10.16		9.25	9.78	4.24	9.97	9.30
5	Co14004	10.18	13.31		8.94	11.99	8.54	8.17	8.17	12.01		7.99	11.5	2.73	11.4	9.58
6	Co14006	9.38	11.24		8.51	10.99	9.15	7.87	7.87	12.14		5.11	9.52	4.69	9.7	8.85
7	Co14008	8.69	11.40		8.71	12.54	10.00	6.77	6.77	11.97		6.98	7.48	5.80	9.9	8.92
8	Co14009	9.73	12.34		9.45	12.94	9.78	9.08	9.08	11.45		8.29	12	4.13	9.13	9.78
9	Co14012	10.46	13.13		8.79	12.29	9.87	8.76	8.76	12.00		7.29	11.9	4.64	10.8	9.89
10	Co14016	7.55	11.78		6.21	11.27	9.51	7.18	7.18	12.12		7.23	8.67	4.17	10.9	8.65
11	Co14022	8.63	11.43		7.93	12.23	10.10	9.54	9.54	10.76		8.49	10.8	6.02	9.53	9.58
12	Co14023	7.21	13.03		6.97	11.48	8.86	7.58	7.58	10.91		6.29	10.6	4.67	9.9	8.76
13	Co14025	8.42	13.86		8.12	11.94	9.31	6.68	6.68	11.83		10.00	11	5.25	9.57	9.39
14	Co14026	8.44	10.04		8.67	12.18	9.98	6.38	6.38	11.35		7.90	12.2	5.16	8.95	8.97
15	Co14027	10.27	10.48		8.39	12.88	9.36	9.71	9.71	11.41		10.10	11.4	3.61	11.6	9.91
16	Co14030	10.50	12.17		7.96	12.14	9.98	9.50	9.50	12.12		10.80	11.3	3.89	11.1	10.08
17	Co14031	9.54	12.80		9.43	11.50	11.40	8.55	8.55	12.04		7.42	8.53	6.75	9.15	9.64
18	Co14032	9.20	11.93		6.06	11.93	9.80	8.86	8.86	12.51		5.26	10.8	5.15	9.05	9.12
19	CoN14071	8.46	12.41		5.95	11.62	9.53	6.93	6.93	10.25		6.55	13	4.51	9.52	8.81
20	CoN14072	7.92	10.43		6.40	9.69	8.71	6.93	6.93	10.83		7.04	9.79	5.74	8.51	8.11
21	CoN14073	9.63	11.78		6.99	10.91	9.72	7.45	7.45	10.55		8.00	7.09	7.65	9.4	8.89
22	CoN14074	8.53	12.81		6.82	12.12	9.52	6.24	6.24	10.75		5.70	11.2	3.84	8.57	8.53
23	CoSnk14101	9.68	13.54		9.61	11.50	8.73	9.19	9.19	10.49		8.47	9.7	4.68	9.94	9.56
24	CoSnk14102	10.09	11.98		7.36	12.01	9.81	9.19	9.19	11.13		7.96	8.89	3.24	9.25	9.18
25	CoSnk14103	10.82	13.04		9.51	12.28	10.00	8.59	8.59	10.41		8.21	12.5	5.31	10.3	9.96
26	CoT14366	9.95	11.62		7.66	11.22	9.00	7.06	7.06	10.37		7.42	11.1	2.73	9.7	8.74
27	CoT14367	7.65	10.91		8.27	11.33	9.06	6.51	6.51	10.69		5.34	9.39	5.74	9.6	8.42
28	CoT114111	8.20	10.40		7.66	11.53	10.10	8.12	8.12	12.74		6.43	9.2	5.73	9.24	8.96
29	CoT114112	9.10	10.73		6.69	11.59	9.44	5.69	5.69	11.76		9.81	9.12	3.91	9.48	8.58
30	CoVC14061	8.71	12.36		10.20	12.98	9.55	9.66	9.66	11.76		8.76	11.2	5.50	10.1	10.04
31	CoVC14062	8.05	13.04		9.99	11.76	11.10	7.65	7.65	11.71		6.26	9.47	3.07	8.29	9.00
32	MS14081	8.98	11.24		7.45	12.94	9.37	8.28	8.28	11.43		10.50	9.62	5.82	9.31	9.44
33	MS14082	9.13	12.24		7.48	12.76	10.10	9.41	9.41	12.06		9.00	8.04	4.91	10.9	9.62
34	PI14131	11.19	9.88G		8.46	11.54	10.40	9.37	9.37	13.01		7.86	10.2	4.75	9.86	9.64
35	PI14132	11.42	12.13		8.64	11.86	10.80	8.01	8.01	12.65		7.26	11.2	4.75	9.69	9.70
36	VSI14121	10.90	10.63		7.29	11.53	9.91	8.99	8.99	12.42		9.07	9.85	3.54	9.85	9.41
37	VSI14122	9.52	12.60		6.50	11.56	10.80	6.60	6.60	12.22		8.42	11.1	5.10	9.82	9.24
	Standards															
1	Co 86032	9.73	9.64		8.20	11.72	8.62	8.41	8.41	11.51		9.62	11.6	4.25	9.06	9.23
2	CoC 671	10.94	12.93		9.96	12.29	10.00	8.76	8.76	12.48		7.07	10.4	5.55	9.88	9.92
3	CoSnk 05103	9.18	12.37		8.90	12.03	9.67	8.51	8.51	11.46		7.54	10.4	4.57	8.68	9.32
	GM	9.34	11.88		8.05	11.86	9.72	7.98	7.98	11.53		7.79	10.32	4.68	9.75	9.24
	CV	9.21	10.08		11.90	5.39	8.33	8.09	8.09	4.62		8.93	14.42	26.30	7.20	

Table 2.8.27 Sucrose % (8 m)

Sl.No	Entries	Coimbatore	Akola	Basmath Nagar	Kolhapur	Mandya	Navsari	Padegaon	Perumallapalle	Pravara nagar	Pune	Rudrur	Sameerwadi	Sankeshwar	Thiruvalla	Mean
1	Co13021	11.85	16.89		9.14	17.64	14.54	9.65	9.65	16.45		9.73	12.24	5.59	13.35	12.23
2	Co13022	15.23	15.48		13.10	15.98	13.46	9.93	9.93	16.43		9.86	14.73	8.57	14.04	13.06
3	Co14002	13.93	17.51		10.40	17.18	16.27	12.36	12.36	16.09		12.10	16.80	7.92	15.38	14.03
4	Co14003	13.94	17.25		12.50	16.08	14.33	12.53	12.53	14.65		13.50	14.41	7.90	14.30	13.66
5	Co14004	14.87	18.51		13.30	16.87	13.00	12.30	12.30	17.24		11.80	16.91	6.12	16.30	14.13
6	Co14006	13.76	16.36		8.71	15.63	13.80	11.52	11.52	17.50		8.57	14.28	8.66	13.89	12.85
7	Co14008	12.94	16.39		12.60	17.61	14.96	10.75	10.75	17.15		10.60	11.90	9.76	14.16	13.30
8	Co14009	14.34	17.20		14.20	18.10	14.77	13.32	13.32	16.33		12.20	17.56	7.79	13.09	14.35
9	Co14012	15.12	18.40		10.10	17.29	14.81	12.89	12.89	17.16		10.80	16.87	8.34	15.53	14.18
10	Co14016	11.47	16.72		9.83	15.92	14.34	10.99	10.99	17.43		10.90	13.42	7.67	15.70	12.95
11	Co14022	12.71	16.55		12.20	17.29	15.18	13.86	13.86	15.51		12.60	15.98	9.93	13.69	14.11
12	Co14023	11.02	17.87		10.70	16.27	13.38	11.46	11.46	15.82		9.74	15.57	8.37	14.19	12.99
13	Co14025	12.61	18.19		11.30	16.79	14.03	10.19	10.19	16.74		14.20	15.99	9.21	13.74	13.60
14	Co14026	12.57	14.88		12.80	17.02	15.04	9.82	9.82	16.28		11.90	17.78	8.89	12.86	13.31
15	Co14027	14.94	15.67		12.40	18.10	14.05	14.22	14.22	16.49		14.40	16.84	7.13	16.63	14.59
16	Co14030	15.26	17.07		12.40	16.98	14.91	14.15	14.15	17.22		15.00	16.38	7.60	15.91	14.75
17	Co14031	13.89	17.76		13.50	16.16	16.91	12.55	12.55	16.92		11.00	12.29	11.10	13.09	13.98
18	Co14032	13.73	16.84		9.83	16.91	14.54	13.27	13.27	17.86		8.84	16.19	8.92	12.95	13.60
19	CoN14071	12.76	17.35		8.86	16.33	14.28	10.79	10.79	14.74		10.30	14.81	8.56	13.62	12.77
20	CoN14072	12.04	14.94		10.60	13.86	13.09	10.71	10.71	15.72		11.00	14.52	9.46	12.15	12.40
21	CoN14073	14.27	16.53		11.10	15.37	14.61	11.10	11.10	15.15		12.10	11.58	11.60	13.47	13.17
22	CoN14074	12.95	17.76		10.70	16.97	14.26	10.08	10.08	15.61		9.34	16.46	7.49	12.33	12.84
23	CoSnk14101	14.08	18.78		14.20	16.19	13.17	13.62	13.62	15.13		12.60	14.68	8.40	14.23	14.06
24	CoSnk14102	14.60	16.92		11.40	16.86	14.81	13.42	13.42	15.88		11.80	13.13	6.54	13.25	13.50
25	CoSnk14103	15.66	17.99		13.40	17.29	14.96	12.78	12.78	14.91		12.30	17.69	9.21	14.86	14.49
26	CoT14366	14.54	15.96		11.20	15.82	13.55	10.87	10.87	14.93		11.20	15.68	6.40	13.92	12.91
27	CoT14367	11.74	16.06		10.10	15.83	13.52	10.26	10.26	15.36		8.74	14.24	9.71	13.76	12.47
28	CoT114111	12.24	15.13		12.20	16.12	15.13	12.15	12.15	18.08		10.00	13.68	9.64	13.24	13.31
29	CoT114112	13.21	15.60		10.10	16.25	14.11	9.27	9.27	16.85		13.90	15.30	8.13	13.57	12.96
30	CoVC14061	12.92	17.22		15.30	18.21	14.35	13.89	13.89	16.42		12.90	16.52	9.63	14.48	14.64
31	CoVC14062	12.23	18.05		13.60	16.55	16.48	11.56	11.56	16.77		9.90	13.85	6.63	11.87	13.25
32	MS14081	13.11	16.22		11.50	18.21	14.13	12.20	12.20	16.45		15.20	14.44	9.74	13.34	13.90
33	MS14082	13.47	17.45		11.40	17.88	15.13	13.74	13.74	17.28		13.20	12.22	8.68	15.71	14.16
34	PI14131	16.25	15.05		13.50	16.11	15.54	13.81	13.81	18.48		11.80	15.06	8.49	14.11	14.33
35	PI14132	16.49	17.82		12.90	16.75	16.12	12.12	12.12	18.35		11.30	17.58	8.40	13.87	14.49
36	VSI14121	15.75	15.80		11.50	16.17	14.81	13.23	13.23	17.98		13.10	14.43	7.26	14.17	13.95
37	VSI14122	14.12	17.33		9.71	16.37	16.14	10.41	10.41	17.35		12.40	15.54	9.15	14.04	13.58
	Standards															
1	Co 86032	14.29	15.09		13.00	16.45	13.18	12.44	12.44	16.36		13.70	16.77	7.98	13.01	13.73
2	CoC 671	15.88	18.54		14.30	17.36	14.89	13.05	13.05	17.76		10.80	16.11	9.51	14.15	14.62
3	CoSnk 05103	13.55	17.11		13.40	16.85	14.57	12.47	12.47	16.57		11.60	15.76	8.36	12.40	13.76
	GM	13.76	16.86		11.80	16.69	14.58	11.99	11.99	16.53		11.70	15.15	8.46	13.96	13.62
	CV	8.27	6.96		5.36	5.27	7.39	6.53	6.53	4.02		6.09	12.31	17.60	7.08	

Table 2.8.28 Brix % 8m

Sl.No	Entries	Coimbatore	Akola	Basmath Nagar	Kolhapur	Mandya	Navsari	Padegaon	Perumallapalle	Pravara nagar	Pune	Rudrur	Sameer wadi	Sankeshwar	Thiruvalla	Mean
1	Co13021	14.20	16.60		12.96	18.70	17.24	13.05	13.05	17.99		12.88		11.81	14.79	14.84
2	Co13022	17.35	19.06		15.62	17.22	16.58	13.48	13.48	18.29		13.69		13.60	15.60	15.82
3	Co14002	16.16	18.69		13.53	18.15	19.40	14.92	14.92	17.94		15.42		13.12	16.97	16.29
4	Co14003	16.11	17.53		14.55	17.44	17.16	14.88	14.88	16.49		16.05		13.13	15.90	15.83
5	Co14004	17.19	19.22		15.48	18.04	15.94	15.08	15.08	19.19		14.58		12.08	18.01	16.35
6	Co14006	16.05	18.75		12.21	17.12	16.65	13.38	13.38	19.74		12.91		14.25	15.42	15.44
7	Co14008	15.56	18.32		15.23	18.71	17.75	14.45	14.45	19.04		13.64		14.29	15.64	16.10
8	Co14009	16.86	17.91		16.37	19.12	17.86	15.52	15.52	17.79		14.64		13.12	14.57	16.30
9	Co14012	17.09	19.43		13.20	18.48	17.71	15.16	15.16	18.94		13.38		13.29	17.24	16.28
10	Co14016	14.29	18.16		12.94	17.14	17.32	13.84	13.84	19.24		13.86		12.56	17.33	15.50
11	Co14022	14.94	18.78		14.97	18.70	18.11	15.84	15.84	17.44		15.37		14.16	15.29	16.31
12	Co14023	13.87	17.92		13.87	17.67	16.19	14.16	14.16	18.04		12.85		13.31	15.74	15.25
13	Co14025	15.28	16.23		14.17	17.90	16.87	12.77	12.77	18.19		15.74		14.25	15.32	15.41
14	Co14026	15.12	17.67		15.33	17.89	18.14	12.49	12.49	18.09		15.08		13.44	14.38	15.47
15	Co14027	17.11	18.94		15.07	19.26	16.79	16.48	16.48	18.64		16.13		12.60	18.16	16.88
16	Co14030	17.45	18.05		15.32	17.96	17.67	17.01	17.01	18.79		16.04		13.29	17.59	16.93
17	Co14031	15.96	18.33		15.95	17.23	19.77	14.66	14.66	17.99		13.73		15.79	14.49	16.23
18	Co14032	16.53	18.11		13.49	18.39	17.02	16.09	16.09	19.69		13.31		13.56	14.33	16.06
19	CoN14071	15.67	18.23		12.89	17.40	17.02	14.02	14.02	16.49		14.24		14.50	15.07	15.41
20	CoN14072	15.05	16.57		13.60	15.39	15.69	13.74	13.74	17.49		14.63		13.44	13.38	14.79
21	CoN14073	16.97	17.53		14.37	16.45	17.53	13.34	13.34	16.89		15.37		14.41	14.94	15.56
22	CoN14074	16.10	18.32		14.37	17.42	16.97	13.91	13.91	17.74		13.50		13.06	13.79	15.37
23	CoSnk14101	16.13	19.34		17.40	17.26	15.92	16.23	16.23	16.99		15.63		13.35	15.76	16.39
24	CoSnk14102	16.53	18.20		13.89	17.96	17.92	15.51	15.51	17.49		14.79		11.79	14.69	15.84
25	CoSnk14103	17.79	18.30		16.11	18.45	17.66	15.30	15.30	16.54		15.38		14.06	16.49	16.49
26	CoT14366	16.82	16.08		14.12	16.98	16.29	13.91	13.91	16.74		14.48		13.04	15.49	15.26
27	CoT14367	14.91	18.86		14.01	16.64	15.99	13.59	13.59	17.14		12.66		14.31	15.28	15.18
28	CoT114111	14.77	17.31		14.82	16.97	17.75	14.73	14.73	18.24		13.39		14.10	14.70	15.59
29	CoT114112	15.07	17.87		13.63	17.21	16.75	12.95	12.95	18.69		15.69		15.04	15.04	15.54
30	CoVC14061	15.39	17.91		17.42	19.37	17.18	15.52	15.52	18.64		15.84		14.87	16.02	16.70
31	CoVC14062	15.24	18.53		15.77	17.65	19.17	14.27	14.27	18.59		13.59		12.71	13.17	15.72
32	MS14081	15.14	18.28		14.14	19.45	17.06	14.34	14.34	18.44		17.27		14.16	14.84	16.13
33	MS14082	15.89	19.17		14.39	18.92	17.94	15.91	15.91	18.84		16.00		13.56	17.39	16.72
34	PI14131	18.58	18.82		16.78	16.89	18.24	16.24	16.24	20.14		14.78		13.44	15.63	16.89
35	PI14132	18.63	20.84		15.97	18.01	18.87	14.98	14.98	20.89		15.13		13.14	15.36	16.98
36	VSI14121	17.82	18.90		14.47	17.21	17.57	15.51	15.51	20.39		15.59		13.29	15.84	16.55
37	VSI14122	16.81	17.50		13.46	17.70	18.84	13.80	13.80	18.89		15.13		14.56	15.49	16.00
	Standards															
1	Co 86032	16.67	19.81		15.92	17.47	16.30	14.73	14.73	17.84		15.49		13.35	14.50	16.07
2	CoC 671	18.13	20.62		17.03	18.71	17.43	15.70	15.70	19.44		14.14		14.29	15.69	16.99
3	CoSnk 05103	15.99	17.51		15.62	17.87	17.56	14.52	14.52	17.89		15.14		13.62	13.67	15.81
	GM	16.18	18.31		14.76	17.81	17.40	14.65	14.65	18.31		14.68		13.60	15.48	15.98
	CV	6.52	5.52		2.52	4.86	5.77	4.38	4.38	3.16		2.15		8.00	6.84	

Table 2.8.29 Purity % 8m

Sl.No	Entries	Coimbatore	Akola	Basmath Nagar	Kolhapur	Mandya	Navsari	Padegaon	Perumallapalle	Pravara nagar	Pune	Rudrur	Sameerwadi	Sankeshwar	Thiruvalla	Mean
1	Co13021	83.40	102.00		70.71	94.24	84.35	73.63	73.63	91.25		77.24	85.28	46.79	89.17	80.97
2	Co13022	88.06	81.40		84.43	93.08	81.17	73.73	73.73	89.75		74.24	86.10	62.57	89.03	81.44
3	Co14002	86.08	94.37		77.38	94.93	83.84	82.99	82.99	88.21		80.01	86.92	60.17	89.64	83.96
4	Co14003	86.72	98.32		86.06	92.19	83.39	84.00	84.00	88.87		85.93	84.75	59.36	88.96	85.21
5	Co14004	86.34	96.27		86.17	93.74	81.75	81.59	81.59	89.82		83.77	86.85	49.47	89.60	83.91
6	Co14006	85.66	86.53		71.31	91.66	82.80	86.03	86.03	88.89		68.65	85.56	60.72	89.04	81.91
7	Co14008	83.07	88.53		83.16	94.20	84.00	74.36	74.36	90.14		80.09	78.97	68.19	89.45	82.38
8	Co14009	85.01	96.26		86.77	95.18	82.63	86.02	86.02	91.46		84.94	87.18	59.33	88.75	85.80
9	Co14012	88.52	95.53		77.10	93.80	83.63	85.05	85.05	90.59		83.46	86.37	62.18	89.19	85.04
10	Co14016	80.09	91.32		76.15	93.13	82.78	79.27	79.27	88.50		81.15	85.89	60.74	89.67	82.33
11	Co14022	84.93	88.06		81.75	92.64	83.53	87.65	87.65	88.94		83.55	84.50	70.14	88.51	85.15
12	Co14023	79.52	99.91		77.55	92.18	82.57	80.65	80.65	87.77		77.38	86.19	62.02	89.13	82.96
13	Co14025	82.20	116.20		80.23	93.92	83.12	79.68	79.68	90.26		93.07	86.60	65.03	88.64	86.55
14	Co14026	83.16	84.35		84.00	95.45	82.79	78.77	78.77	89.96		80.65	88.88	65.97	88.33	83.42
15	Co14027	87.17	82.59		82.45	93.92	83.75	86.17	86.17	88.40		91.82	87.17	56.96	90.74	84.78
16	Co14030	87.51	94.93		81.04	95.06	84.38	83.37	83.37	91.75		96.19	88.34	56.90	89.54	86.03
17	Co14031	87.06	97.59		84.85	93.99	85.48	85.59	85.59	94.04		82.97	81.57	70.46	89.29	86.54
18	Co14032	82.61	92.20		72.90	92.12	85.43	82.28	82.28	90.70		68.35	86.13	65.61	89.27	82.49
19	CoN14071	81.22	95.24		68.79	93.97	83.82	76.90	76.90	89.39		74.86	82.84	59.05	89.29	81.02
20	CoN14072	79.93	90.22		78.17	90.32	83.40	78.11	78.11	87.65		76.48	84.46	70.06	89.53	82.20
21	CoN14073	83.98	94.27		77.43	93.64	83.35	83.76	83.76	89.72		80.53	73.52	80.77	89.01	84.48
22	CoN14074	80.54	97.20		74.84	94.92	84.00	71.82	71.82	87.95		70.99	87.07	57.15	88.23	80.54
23	CoSnk14101	87.13	97.13		81.98	93.74	82.78	83.83	83.83	89.02		82.79	82.48	62.15	89.24	84.68
24	CoSnk14102	88.38	93.17		82.02	94.36	82.66	86.66	86.66	90.80		82.84	84.90	55.65	89.14	84.77
25	CoSnk14103	87.92	98.97		82.98	93.59	84.70	83.34	83.34	90.15		81.83	89.29	64.35	89.12	85.80
26	CoT14366	86.33	99.78		79.41	93.37	83.22	78.13	78.13	89.19		80.00	87.33	48.70	88.79	82.70
27	CoT14367	78.49	84.15		72.88	95.31	84.46	75.53	75.53	89.61		71.15	83.64	67.62	88.97	80.61
28	CoT114111	82.70	87.64		82.33	95.26	85.21	82.48	82.48	94.20		77.02	82.29	67.83	88.98	84.04
29	CoT114112	87.53	86.77		74.80	94.57	84.21	71.79	71.79	90.13		91.68	85.19	54.24	89.10	81.82
30	CoVC14061	83.96	96.32		87.78	94.49	83.52	89.65	89.65	89.10		83.43	86.88	64.61	89.35	86.56
31	CoVC14062	80.07	97.42		86.52	93.83	85.98	80.97	80.97	90.20		74.94	84.64	51.17	88.89	82.97
32	MS14081	86.51	88.78		81.50	93.80	82.91	85.22	85.22	90.95		89.41	84.10	68.65	88.81	85.49
33	MS14082	84.82	91.24		79.17	94.70	84.37	86.49	86.49	89.44		84.62	80.23	63.42	89.38	84.53
34	PII4131	87.63	80.64		80.92	95.69	85.11	85.25	85.25	91.59		81.33	84.93	62.83	89.23	84.20
35	PII4132	88.27	85.52		80.81	92.93	85.54	80.84	80.84	87.82		76.63	84.18	64.05	89.24	83.06
36	VSI14121	88.55	83.91		79.54	94.47	84.23	85.35	85.35	88.17		86.99	84.94	54.57	88.44	83.71
37	VSI14122	83.91	99.50		72.27	92.37	85.70	75.22	75.22	91.87		84.17	86.46	62.68	89.62	83.25
	Standards															
1	Co 86032	85.80	76.49		81.90	94.42	80.88	84.53	84.53	91.67		90.95	88.10	59.52	88.63	83.95
2	CoC 671	87.28	88.84		84.52	92.92	85.43	82.91	82.91	91.37		78.93	80.87	66.98	89.05	84.33
3	CoSnk 05103	84.72	97.90		86.26	94.82	82.93	86.02	86.02	88.50		77.39	82.19	61.16	89.55	84.79
	GM	84.82	92.44		80.02	93.82	83.75	81.64	81.64	89.94		81.31	84.85	61.75	89.14	83.76
	CV	2.21	8.65		3.99	0.96	2.04	3.71	3.71	1.60		5.38	3.91	10.61	0.57	

Table 2.8.30 No. of shoots ('000/ha) 240 days

Sl.No	Entries	Coimbatore	Akola	Basmath Nagar	Kolhapur	Mandya	Navsari	Padegaon	Perumallapalle	Pravara nagar	Pune	Rudrur	Sameerwadi	Sanke shwar	Thiruvalla	Mean
1	Co13021	115.3	63.8		110.8	125.2	143.7	89.7		117.4		173.3	52.3	55.0	94.0	103.68
2	Co13022	85.1	53.5		96.9	124.8	150.8	79.9		121.0		151.7	61.0	34.9	69.2	93.52
3	Co14002	106.8	45.7		97.7	115.0	140.2	99.4		110.5		179.4	55.1	54.4	112.8	101.54
4	Co14003	61.4	57.9		93.4	112.3	132.9	85.4		113.8		127.3	57.7	52.0	66.7	87.34
5	Co14004	109.1	63.7		108.9	109.8	145.2	89.7		110.5		158.8	64.0	61.1	84.9	100.51
6	Co14006	72.0	40.0		92.5	117.3	143.2	61.0		112.4		103.1	38.8	58.4	71.4	82.74
7	Co14008	88.8	56.7		107.5	103.0	135.9	73.6		115.8		95.6	61.7	65.0	94.4	90.71
8	Co14009	79.5	45.8		99.5	114.8	142.6	75.3		106.3		113.1	35.9	88.6	82.9	89.48
9	Co14012	121.9	65.8		107.2	109.4	142.1	91.5		118.8		141.7	33.2	77.1	91.4	100.01
10	Co14016	109.5	64.9		118.0	106.4	140.9	96.1		120.7		142.5	59.2	67.0	111.3	103.32
11	Co14022	88.8	43.5		119.0	118.9	142.8	67.2		126.1		103.3	45.3	73.4	53.4	89.25
12	Co14023	92.7	46.8		101.6	103.3	135.0	75.8		126.9		110.0	52.2	69.0	78.1	90.13
13	Co14025	113.6	45.1		104.5	109.0	151.2	83.0		114.4		160.6	48.7	80.9	107.1	101.64
14	Co14026	89.3	46.4		89.9	113.5	154.5	69.6		115.5		135.0	51.6	63.6	77.0	91.45
15	Co14027	95.9	51.7		102.5	126.9	136.1	71.4		124.0		125.4	42.0	76.1	87.6	94.50
16	Co14030	105.3	53.3		108.0	124.0	140.1	81.5		122.9		162.2	41.0	56.0	72.1	96.95
17	Co14031	90.8	57.2		97.0	111.0	134.8	74.9		107.7		133.2	43.4	60.2	107.9	92.55
18	Co14032	88.7	42.5		118.7	115.7	138.9	72.8		104.6		121.5	61.8	73.6	68.9	91.60
19	CoN14071	99.2	41.4		95.0	129.9	154.8	73.4		122.8		139.8	74.4	73.0	84.2	98.88
20	CoN14072	95.8	50.1		105.9	117.6	152.9	73.3		121.9		152.5	55.5	66.8	69.0	96.48
21	CoN14073	96.8	45.4		102.6	115.9	150.3	61.9		100.4		125.9	82.8	87.7	95.1	96.79
22	CoN14074	92.5	61.4		91.6	125.1	153.3	85.3		102.9		181.4	57.5	52.5	66.8	97.30
23	CoSnk14101	67.5	44.6		97.4	110.0	144.6	76.2		118.9		138.9	24.1	57.5	93.5	88.47
24	CoSnk14102	82.9	60.5		89.8	130.7	138.6	90.3		101.6		165.2	42.0	65.2	80.2	95.19
25	CoSnk14103	80.2	27.1		88.7	123.9	130.4	62.7		112.1		118.8	70.2	72.7	77.2	87.64
26	CoT14366	85.8	42.5		87.4	109.6	142.1	79.3		108.5		140.1	38.0	62.2	74.1	88.13
27	CoT14367	78.6	21.8		104.5	122.6	137.9	72.8		117.4		141.3	55.9	66.7	78.6	90.73
28	CoT114111	97.8	39.7		109.7	112.7	135.2	76.5		107.1		157.6	54.5	64.3	88.1	94.83
29	CoT114112	104.1	49.6		107.2	134.7	147.4	87.0		106.6		153.2	51.9	64.7	113.0	101.77
30	CoVC14061	90.3	42.6		97.8	112.1	138.1	83.8		115.5		122.6	55.0	58.2	67.8	89.43
31	CoVC14062	81.1	61.3		94.3	111.3	138.7	74.2		113.1		145.8	63.3	62.6	98.6	94.93
32	MS14081	98.9	50.7		78.8	119.2	142.8	65.7		122.0		169.3	59.5	82.3	53.1	94.75
33	MS14082	106.6	71.4		95.4	130.1	145.4	99.3		118.5		184.7	71.2	77.8	88.7	108.10
34	PI14131	102.7	57.6		105.0	121.5	142.5	95.7		99.7		114.2	52.2	66.9	115.7	97.61
35	PI14132	88.7	45.0		114.0	114.9	128.5	73.4		106.8		103.4	32.9	57.8	71.2	85.14
36	VSI14121	66.8	58.1		102.5	123.0	128.1	74.7		111.3		146.6	25.6	70.9	76.5	89.45
37	VSI14122	91.0	34.9		85.9	115.4	135.4	82.3		112.9		146.3	33.2	61.5	80.9	89.07
	Standards															
1	Co 86032	97.1	71.1		104.2	119.7	150.9	87.5		136.4		172.4	34.1	82.6	82.2	103.46
2	CoC 671	90.6	58.9		85.2	118.3	137.8	84.1		112.4		109.2	37.1	58.6	90.5	89.32
3	CoSnk 05103	121.5	75.1		115.1	108.5	136.1	103.5		122.8		125.2	41.6	59.9	85.0	99.48
	GM	93.3	51.4		100.8	117.2	141.6	80.0		114.8		139.8	50.4	66.0	84.0	94.47
	CV	8.9	15.4		7.2	6.2	4.4	4.3		1.2		11.5	24.7	17.8	7.5	

Table 2.8.31 No. of tillers ('000/ha) 120 day

Sl.No	Entries	Coimbatore	Akola	Basmath Nagar	Kolhapur	Mandya	Navsari	Padegaon	Perumallapalle	Pravara nagar	Pune	Rudrur	Sameerwadi	Sanke shwar	Thiruvalla	Mean
1	Co13021	193.2	61.7		129.4	141.5	174.8	134.3		126.6		118.0	86.5	51.0	87.6	118.6
2	Co13022	176.4	54.9		98.8	141.4	172.0	108.0		129.3		117.2	80.8	37.8	66.6	107.6
3	Co14002	203.9	43.9		117.5	131.7	157.9	121.5		119.1		118.5	85.6	46.8	109.9	114.2
4	Co14003	107.7	59.4		99.0	128.8	157.9	78.5		123.6		113.8	80.9	37.8	60.6	95.3
5	Co14004	192.4	51.9		180.5	125.9	181.9	129.8		118.1		114.4	93.4	77.3	78.3	122.2
6	Co14006	124.0	39.6		128.9	133.8	171.4	64.9		122.8		90.4	64.1	64.5	66.2	97.3
7	Co14008	149.1	50.0		153.6	119.5	154.1	74.9		126.3		99.3	85.2	96.4	88.3	108.8
8	Co14009	141.3	43.6		109.6	131.1	165.9	73.7		115.2		107.5	66.9	119.2	75.0	104.4
9	Co14012	205.1	56.6		128.8	125.8	159.3	123.9		125.5		122.5	77.5	79.8	84.1	117.2
10	Co14016	174.3	57.2		142.4	123.3	167.3	124.0		129.2		125.0	82.1	72.7	108.0	118.7
11	Co14022	168.6	38.3		128.6	135.4	165.0	74.0		132.1		101.7	80.8	85.0	47.7	105.2
12	Co14023	141.7	38.1		116.4	119.3	174.0	71.1		135.7		101.5	74.0	87.7	75.5	103.2
13	Co14025	202.1	39.2		125.2	125.8	177.3	118.0		123.2		130.4	78.7	89.6	103.7	119.4
14	Co14026	157.9	43.1		108.1	130.3	162.1	93.9		123.4		119.1	88.8	81.0	71.2	107.2
15	Co14027	161.9	52.2		116.0	143.0	175.1	89.5		133.3		103.5	87.1	75.6	83.8	111.0
16	Co14030	173.6	48.1		134.2	140.0	171.5	100.3		130.1		102.0	85.0	62.5	66.1	110.3
17	Co14031	171.6	48.6		123.5	127.5	166.3	73.6		115.5		101.8	69.0	52.8	104.8	105.0
18	Co14032	147.6	44.0		122.1	132.7	166.2	87.2		113.4		107.0	66.6	95.6	66.2	104.4
19	CoN14071	180.2	40.0		171.1	142.8	180.5	84.7		131.1		119.1	95.4	86.9	76.8	119.0
20	CoN14072	191.4	44.0		152.2	130.5	176.5	94.6		135.6		120.7	76.7	91.5	62.7	116.0
21	CoN14073	193.9	43.5		143.3	132.4	170.8	71.9		105.8		104.0	83.1	116.7	91.0	114.2
22	CoN14074	197.8	53.0		172.7	141.0	175.8	117.3		110.8		106.9	101.2	67.4	61.2	118.6
23	CoSnk14101	101.7	41.8		100.3	122.1	177.7	100.6		128.6		107.0	42.3	51.6	86.7	96.4
24	CoSnk14102	166.7	60.8		136.5	142.8	165.0	151.7		109.3		111.8	69.7	93.0	75.7	116.6
25	CoSnk14103	144.1	20.0		105.3	140.2	169.0	75.6		119.2		94.5	83.9	78.9	72.9	100.3
26	CoT14366	157.1	40.0		104.8	122.1	172.8	84.3		116.6		108.8	67.8	60.8	72.1	100.7
27	CoT14367	184.2	12.5		119.0	135.6	161.2	125.7		124.8		127.4	78.6	89.5	76.2	112.2
28	CoT114111	181.9	28.3		126.4	129.2	168.8	101.1		114.3		116.5	97.3	88.6	81.3	112.1
29	CoT114112	184.7	48.1		166.3	151.2	167.1	112.4		111.3		128.6	61.4	83.8	108.4	120.3
30	CoVC14061	128.4	40.1		117.5	128.5	164.5	103.5		122.5		102.5	85.3	90.2	62.9	104.2
31	CoVC14062	171.3	59.0		121.2	128.1	175.5	117.6		119.1		127.1	86.7	76.0	92.5	115.8
32	MS14081	160.1	51.1		80.2	131.7	166.4	121.5		130.5		113.3	95.3	104.3	48.8	109.4
33	MS14082	197.3	68.6		159.4	142.1	169.0	115.5		128.6		101.2	97.3	90.7	83.8	123.0
34	PI14131	174.9	49.5		142.7	138.3	166.3	73.8		105.8		122.2	81.0	83.3	112.9	113.7
35	PI14132	140.4	44.1		129.5	130.9	169.2	74.9		113.8		105.6	69.7	80.5	65.0	102.2
36	VSI14121	133.5	57.8		109.4	139.0	167.0	118.7		117.9		106.2	52.7	91.1	68.6	105.6
37	VSI14122	136.1	32.0		112.5	131.8	167.4	71.5		121.0		109.1	63.8	45.8	73.6	96.8
	Standards															
1	Co 86032	178.8	70.9		102.2	136.3	181.0	119.1		144.0		128.3	99.9	107.6	76.5	122.2
2	CoC 671	161.2	54.1		120.5	130.9	171.4	98.9		128.2		109.1	69.7	62.6	86.8	108.5
3	CoSnk 05103	220.8	75.4		159.2	120.9	163.4	128.8		130.7		133.4	90.3	71.5	78.9	124.8
	GM	167.0	47.6		127.9	132.6	169.2	100.1		122.8		112.4	79.5	78.1	79.0	110.6
	CV	10.8	16.6		14.6	5.7	4.9	11.6		1.3		10.5	17.9	26.9	8.4	

Table 2.8.32 Germination % (30 days)

Sl.No	Entries	Coimbatore	Akola	Basmath Nagar	Kolhapur	Mandya	Navsari	Padegaon	Perumallapalle	Pravara nagar	Pune	Rudrur	Sameerwadi	Sanke shwar	Thiruvalla	Mean
1	Co13021	62.3	55.2	44.1	39.4	60.0	42.8	57.1		57.0		59.7	69.2	26.4	72.3	53.78
2	Co13022	64.3	50.0	46.9	36.1	59.8	47.3	55.9		47.5		52.1	64.3	37.7	57.4	51.60
3	Co14002	69.7	42.2	46.5	21.6	50.2	50.7	51.0		43.4		44.8	45.8	34.0	63.1	46.92
4	Co14003	54.2	56.4	44.5	26.5	47.2	52.5	30.0		51.9		50.9	62.9	22.4	49.4	45.73
5	Co14004	66.7	51.7	46.0	30.8	44.4	49.8	54.9		43.8		36.1	49.5	32.3	54.9	46.74
6	Co14006	59.8	42.8	45.0	42.4	52.2	50.2	35.9		46.8		47.7	41.6	34.0	47.6	45.50
7	Co14008	52.7	51.4	44.4	32.9	38.0	52.6	29.5		48.2		47.8	55.3	18.9	64.5	44.69
8	Co14009	56.2	38.7	48.0	33.8	49.6	41.4	43.5		46.0		45.0	54.5	50.7	45.6	46.06
9	Co14012	62.3	55.4	43.6	29.6	44.3	43.7	62.6		47.2		38.4	57.1	33.2	49.1	47.19
10	Co14016	44.9	53.4	42.9	22.7	41.7	51.3	44.0		49.3		36.6	54.1	21.0	74.9	44.74
11	Co14022	69.4	32.3	47.9	37.9	53.8	46.5	31.9		44.3		47.7	44.7	30.2	48.4	44.58
12	Co14023	65.2	36.3	43.6	29.2	37.7	48.3	23.5		47.0		43.0	54.9	39.2	47.6	42.95
13	Co14025	59.1	41.7	44.0	38.0	44.3	62.8	42.4		50.3		46.0	51.4	34.3	68.4	48.56
14	Co14026	62.0	37.4	44.4	34.2	48.8	49.0	43.3		49.3		41.5	48.6	40.8	55.4	46.20
15	Co14027	68.7	53.5	49.0	52.5	61.4	54.1	50.4		51.0		36.6	73.1	32.1	70.8	54.42
16	Co14030	60.1	49.3	44.1	44.1	58.5	40.3	39.5		45.0		23.5	71.0	41.7	47.6	47.04
17	Co14031	61.4	43.3	45.6	23.2	45.9	39.8	30.4		43.9		35.1	60.0	35.9	58.7	43.58
18	Co14032	45.8	44.7	44.9	31.6	51.1	49.5	36.7		42.9		44.7	49.3	29.0	50.4	43.37
19	CoN14071	82.0	43.3	46.5	37.3	61.3	62.9	58.0		42.9		44.9	59.4	45.3	55.4	53.27
20	CoN14072	59.9	33.8	48.9	41.4	48.9	54.8	53.7		48.5		44.1	48.6	26.6	45.3	46.21
21	CoN14073	74.1	38.5	44.4	36.2	50.8	48.2	24.6		44.7		64.6	65.0	43.8	62.3	49.77
22	CoN14074	68.4	60.1	47.6	47.2	59.5	43.8	51.1		43.4		50.3	79.2	38.8	51.9	53.44
23	CoSnk14101	62.8	38.4	46.5	44.9	40.6	47.7	69.1		46.8		50.2	51.1	26.4	63.1	48.98
24	CoSnk14102	74.0	65.1	44.6	40.4	61.3	47.3	70.7		47.9		57.5	68.5	41.7	62.9	56.82
25	CoSnk14103	70.9	16.0	48.1	24.1	58.7	45.3	36.8		43.7		49.5	71.5	29.1	59.3	46.09
26	CoT14366	59.7	29.9	44.1	32.1	40.6	52.8	42.9		49.1		48.5	57.3	25.9	53.3	44.67
27	CoT14367	61.3	13.2	44.4	48.0	54.0	47.8	64.3		42.6		48.5	50.2	36.1	74.7	48.75
28	CoT114111	64.3	25.4	42.4	35.1	47.7	42.2	41.3		39.1		60.3	68.0	38.9	66.2	47.58
29	CoT114112	70.7	46.6	42.4	52.6	69.7	51.7	37.8		42.9		59.2	59.3	31.3	78.1	53.52
30	CoVC14061	61.9	34.9	43.0	26.7	46.9	45.8	30.5		48.6		65.3	51.6	47.8	50.6	46.13
31	CoVC14062	59.4	64.5	42.0	48.8	46.6	48.3	64.8		39.9		62.7	64.5	36.6	72.6	54.23
32	MS14081	75.1	54.0	46.4	19.4	50.1	52.8	62.1		50.3		53.4	53.7	36.4	52.7	50.53
33	MS14082	59.9	66.4	45.1	34.6	60.5	44.7	45.4		48.6		41.8	68.9	44.0	69.6	52.46
34	PII4131	58.8	50.2	46.4	40.6	56.8	39.0	27.1		47.5		26.2	48.5	28.6	70.1	44.98
35	PII4132	54.8	33.5	47.0	27.1	49.4	41.7	47.3		43.4		53.2	56.1	25.9	47.7	43.92
36	VSI14121	49.3	53.3	45.6	38.0	57.5	42.1	56.7		45.3		53.0	45.7	48.7	42.1	48.10
37	VSI14122	57.6	28.6	47.1	23.8	50.2	46.2	30.5		47.9		43.7	57.4	30.1	66.8	44.15
	Standards															
1	Co 86032	61.5	65.3	49.9	38.6	54.7	50.5	46.5		56.1		47.6	53.7	33.3	55.0	51.06
2	CoC 671	60.0	57.1	47.4	39.6	49.3	46.5	41.4		43.9		42.0	48.0	29.3	47.1	45.97
3	CoSnk 05103	60.3	67.2	49.0	44.1	39.4	43.4	28.9		49.0		48.7	65.9	30.1	62.1	49.03
	GM	62.3	45.5	45.6	35.7	51.1	48.0	44.8		46.7		47.3	57.5	34.2	58.4	48.08
	CV	11.6	16.0	4.2	22.6	14.8	10.8	17.0		7.2		11.0	18.1	32.9	8.0	

Table 33: Assessment of performance of entries by monitoring team

S.N.	Genotype	Perumallapalle	Pugulur	Coimbatore	Thiruvalla	Mandya	Sankeshwar	Sameerwadi	Kolhapur
1	Co 14002	Poor	On Par	On Par	On Par	On Par	Better	Poor	On Par
2	Co 14003	Poor	On Par	On Par	Poor	On Par	On Par	On Par	On Par
3	Co 14004	On Par	On Par	On Par	Poor	Poor	On Par	On Par	On Par
4	Co 14006	Poor	Poor	On Par	On Par	On Par	Poor	On Par	Poor
5	CoN 14071	Better	Better	Better	On Par	Better	On Par	Better	Better
6	CoN14072	On Par	Better	On Par	Poor	Poor	Better	On Par	Better
7	CoSnk 14101	Poor	Poor	On Par	On Par	Poor	On Par	Poor	On Par
8	CoSnk 14102	On Par	Poor	On Par	On Par	Poor	On Par	Better	Better
9	CoT 14366	Poor	On Par	Better	Poor	Poor	On Par	Better	On Par
10	CoT 14367	Better	Better	Poor	Poor	On Par	Poor	On Par	On Par
11	MS 14081	On Par	Better	On Par	On Par	On Par	Better	On Par	On Par
12	MS 14082	On Par	On Par	On Par	Better	On Par	On Par	Better	Better
13	Co 13021	On Par	On Par	On Par	On Par	On Par	Poor	Poor	On Par
14	Co 13022	On Par	Poor	Poor	Poor	Poor	Poor	On Par	Poor
15	Co 14008	On Par	Better	On Par	Better	Poor	Poor	Better	On Par
16	Co 14009	Better	Better	On Par	On Par	On Par	On Par	On Par	On Par
17	Co 14012	On Par	Poor	Poor	Better	On Par	On Par	Poor	Poor
18	Co 14016	Better	On Par	Better	Better	On Par	Poor	Poor	On Par
19	Co 14022	Poor	Poor	Better	On Par	Better	On Par	Better	On Par
20	Co 14023	Better	Poor	On Par	On Par	On Par	Poor	On Par	Poor
21	Co 14025	On Par	Poor	On Par	On Par	On Par	On Par	Better	On Par

Varietal Improvement Programme- AICRP (Sugarcane)
Principal Investigator's Report (2017-18), Peninsular zone -Initial varietal Trial

22	Co 14026	Poor	On Par	On Par	Poor	On Par	On Par	On Par	Poor
23	Co 14027	On Par	On Par	Better	On Par	On Par	On Par	Poor	Poor
24	Co 14030	Poor	Better	On Par	On Par	On Par	Poor	On Par	On Par
25	Co 14031	Poor	Poor	On Par	Better	On Par	On Par	On Par	On Par
26	Co 14032	On Par	On Par	Poor	On Par	Better	On Par	Better	On Par
27	CoN 14073	Better	On Par	Better	Better	On Par	Better	Better	Better
28	CoN 14074	Better	On Par	Better	Poor	On Par	Better	Better	On Par
29	CoSnk 14103	On Par	Poor	Better	Poor	On Par	Poor	Better	On Par
30	CoTI14111	Better	Better	Poor	Poor	Better	Better	Better	Poor
31	CoTI 14112	On Par	Poor	On Par	Better	On Par	Better	On Par	On Par
32	CoVC14061	On Par	Better	On Par	Poor	On Par	On Par	Better	On Par
33	CoVC 14062	Better	On Par	Better	Better	On Par	On Par	Better	On Par
34	PI 14131	On Par	Better	Poor	On Par	Poor	Poor	On Par	On Par
35	PI 14132	On Par	Better	Poor	Poor	Poor	Poor	On Par	Poor
36	VSI 14121	On Par	Poor	On Par	Poor	Poor	Poor	On Par	Poor
37	VSI 14122	On Par	On Par	Poor	Poor	Better	On Par	On Par	On Par
38	Co 86032 (c)	-	-	Best	Best	-	-	-	Best
39	CoC 671 (c)	-	Best	-	-	-	-	-	-
40	CoSnk 05103 (c)	Best	-	-	-	Best	Best	Best	-

Entry	Akola	Navsari	Powarkheda	Pune	Padegaon	Pravaranagar	Rudrur
Co 14002	Poor	Better	Poor	On Par	Better	On Par	On Par
Co 14003	Poor	Poor	Poor	Better	Poor	On Par	On Par
Co 14004	Poor	Poor	Poor (PG)	Poor	Poor	Poor	On Par
Co 14006	Poor	Poor	Poor (PG)	Poor	Poor	Poor	Boar Damage
CoN 14071	Poor	On Par	Poor	On Par	On Par	Poor	Better
CoN 14072	Poor	Poor	Better	Poor	Poor	On Par	Better
CoSnk 14101	Poor	Poor	Poor (PG)	Poor	Poor	Poor	
CoSnk 14102	Better	On Par	Poor	Better	On Par	On Par	Better
CoT 14366	Poor (PG)	Poor	Poor (PG)	Better	Poor	On Par	Poor
CoT 14367	Poor	Poor	Poor (PG)	On Par	Poor	Poor	Poor
MS 14081	Not Sown	On Par	Poor	Better	Poor	Poor	Better
MS 14082	On Par	Poor	Poor (PG)	Poor (GSD)	On Par	Poor	Better
Co 13021	Poor (PG)	Poor	Poor	Poor	Poor	Poor	Better
Co 13022	On Par	Poor	Poor (PG)	Poor	Poor	Poor	On Par (less cane formation)
Co 14008	Poor	Poor	Poor (PG)	Poor	Poor	On Par	Poor
Co 14009	Poor	On Par	Poor	Poor	On Par	On Par	On Par (Lodging)
Co 14012	Poor	On Par	Poor (PG)	Poor	Poor	Poor	Poor
Co 14016	On Par	Poor	Poor (PG)	On Par	On Par	Poor	Poor
Co 14022	Poor (PG)	On Par	Poor (PG)	Poor	On Par	On Par	Boar Damage
Co 14023	Poor	On Par	Poor (PG)	On Par	Poor	Poor	On Par

Entry	Akola	Navsari	Powarkheda	Pune	Padegaon	Pravaranagar	Rudrur
Co 14025	On Par	Poor	On Par	Poor	Poor	On Par	On Par
Co 14026	Poor	Poor	Poor (PG)	Poor	Poor	On Par	On Par
Co 14027	Poor	On Par	Poor (PG)	On Par	Poor	Poor	Poor
Co 14030	On Par	Poor	Poor (PG)	Poor	Poor	Poor	Poor
Co 14031	On Par	On Par	Poor (PG)	Poor	Poor	On Par	On Par
Co 14032	Better	On Par	Poor	Poor	On Par	Poor	On Par
CoN 14073	Poor (PG)	Poor	On Par	On Par	Poor	Poor	Better
CoN 14074	On Par	On Par	On Par	Poor	On Par	Poor	Better
CoSnk 14103	Poor (PG)	Poor	Poor (PG)	Poor	Poor	Poor (Pokkah Boeng)	Poor
CoTI 14111	Poor	Poor	On Par	Better	Poor	Poor	Better
CoTI 14112	Poor	On Par	On Par	Poor	Poor	Poor	On Par
CoVC 14061	On Par	On Par	Poor (PG)	Poor	Poor	Poor	Better
CoVC 14062	Poor	Poor	Poor (PG)	On Par	Poor	Poor	On Par
PI 14131	On Par	Poor	Poor	Poor	Poor	Poor	Poor
PI 14132	On Par	Poor	Poor (PG)	Poor	Poor	Poor	On Par
VSI 14121	Poor	Poor	Poor	On Par	Poor	Poor	On Par
VSI 14122	Poor (PG)	On Par	Poor (PG)	On Par	Better	Poor	On Par
Co 86032	I	II	I	I	I	II	I
CoC 671	III	III	II	III	III	III	II
CoSnk 05103	II	I	III	II	II	I	III

PG : Poor germination

3. EAST COAST ZONE

East Coast Zone of India comprises the states of Andhra Pradesh, Odisha and Tamil Nadu. There are five AICRP (Sugarcane) centres in the zone and the details are given below.

State	AICRP(S) centres
Andhra Pradesh	Anakapalle, Vuyyuru
Odisha	Nayagarh
Tamil Nadu	Cuddalore, Nellikuppam

List of trials conducted

Eight AICRP(S) trials were planned in the zone during 2016-17. The number of trials conducted at each center during 2017-18 is given below.

Sl No.	Location	IVT Early	AVT Early I Plant	AVT Early II Plant	AVT Early Ratoon	IVT Midlate	AVT Midlate I Plant	AVT Midlate II Plant	AVT Midlate Ratoon
1	Anakapalle	C	C	C	C	C	C	C	C
2	Cuddalore	C	C	C	C	C	C	C	C
3	Nayagarh	C	C	C	C	C	C	C	C
4	Nellikuppam	C	C	C	C	C	C	C	C
5	Vuyyuru	C	C	C	C	C	C	C	C

C=Conducted

3.1 ADVANCED VARIETAL TRIAL (EARLY – II PLANT)

Centres (5)	Anakapalle, Cuddalore, Nayagarh, Nellikuppam and Vuyyuru
Entries (5)	CoA 13322, CoA 13323, CoC 13336, CoC 13337 and CoV 13356
Standards (2)	CoA 92081 and CoC 01061
Design	Randomized Block Design
Replications	Three
Plot size	Gross : 8 Rows x 6m x 0.9 m Net : 6 Rows x 5m x 0.9 m
Seed rate	12 buds/ metre
Planting time	February / March, 2017
Crop duration	10 months

Results of the previous year

The entry CoC 13336 was the best performer across locations for both cane yield (122.40 t/ha) and CCS yield (15.07 t/ha). The next best entry for cane yield was CoC 13337 (120.37 t/ha) and for CCS yield CoV 13356 (14.27 t/ha) was the best entry. For juice quality (CCS% and sucrose %) the entry CoV 13356 was top ranking in the zone. At 10th month it recorded a mean sucrose content of 17.93% and CCS% of 14.25. CoC 13336 was identified as the qualifying entry as it recorded 10.92% improvement for cane yield and numerically superior performance for juice sucrose compared to the best standard CoC 01061. Further details are presented in Tables 3.4.1 to 3.4.20.

Results of the current year

The entry CoC 13336 was the best performer across locations for CCS yield (13.62 t/ha) and recorded the second highest cane yield (108.54 t/ha), while CoC 13337 was the best for cane yield (111.76 t/ha). For juice quality (CCS% and sucrose %) the entry CoV 13356 was top ranking in the zone. At 10th month it recorded a mean sucrose content of 18.74% and CCS% of 13.25. The entry CoC 13336 was identified as the qualifying entry as it recorded 13.32 % yield improvement over the best standard CoA 92081 and recorded numerically superior performance for juice sucrose compared to the best standard CoC 01061. Further details are presented in Tables 3.1.1 to 3.1.20.

Table 3.1.1 CCS (t/ha) at harvest

S. No.	Entry	Anaka palle	Cuddalore	Nayagarh	Nelli kuppam	Vuyyuru	Mean	Rank
1	CoA 13322	11.53*	15.99*	10.40	14.77*	12.07	12.95	
2	CoA 13323	9.36	15.89*	11.63*	14.84*	10.09	12.36	
3	CoC 13336	11.98*	18.31*	11.75*	13.68	12.38	13.62	1
4	CoC 13337	9.06	18.84*	10.54	14.94*	11.71	13.02	3
5	CoV 13356	9.93	15.86*	9.93	16.30*	14.45	13.29	2
	Standards							
1	CoA 92081	10.07	14.32	10.07	12.19	11.64	11.66	
2	CoC 01061	8.32	14.25	10.29	12.40	12.99	11.65	
	GM	10.04	16.21	10.66	14.16	12.19		
	SE	0.85	0.60	0.32	0.82	0.63		
	CD	NS	1.30	0.97	1.80	1.94		
	CV	14.23	4.50	5.11	7.16	8.90		
	Qualifying entries at each location							
	1	CoC 13336	CoC 13337	CoC 13336	CoV 13356	CoV 13356	CoC 13336	
	2	CoA 13322	CoC 13336	CoA 13323	CoC 13337	-	CoV 13356	
	3	-	CoA 13322	-	CoA 13323	-	CoC 13337	

*Significant over the best standard

No. of locations where an entry recorded > 10% improvement over the best standard: CoA 13322 (2), CoA 13323 (2), CoC 13336 (3), CoC 13337 (2) and CoV 13356 (2)

Performance of the entries across locations: The entry CoC 13336 (13.62 t/ha) was the best in the trial followed by CoV 13356 (13.29 t/ha) and CoC 13337 (13.02 t/ha) while the best standard CoA 92081 recorded 11.66 t/ha. The qualifying entries CoC 13336, CoV 13356 and CoC 13337 recorded more than 10 % improvement across the locations over the best standard CoA 92081.

Table 3.1.2 Cane yield (t/ha) at harvest

S. No.	Entry	Anaka pale	Cuddalore	Nayagarh	Nelli kuppam	Vuyyuru	Mean	Rank
1	CoA 13322	99.79	125.77*	89.93	118.13*	103.09	107.34	3
2	CoA 13323	75.76	124.04*	98.22	110.72*	89.20	99.59	
3	CoC 13336	89.54	141.61*	101.59*	107.72	102.26	108.54	2
4	CoC 13337	88.35	145.53*	92.89	126.70*	105.35	111.76	1
5	CoV 13356	74.90	124.62*	85.90	109.95*	104.01	99.88	
	Standards							
1	CoA 92081	84.09	114.08	85.89	94.83	100.00	95.78	
2	CoC 01061	68.25	111.29	89.62	95.06	101.13	93.07	
	GM	82.95	126.71	91.86	109.00	100.72		
	SE	5.99	4.55	3.39	6.42	4.86		
	CD	18.65	9.90	10.45	13.98	NS		
	CV	12.51	4.97	6.40	7.21	8.40		
Qualifying entries at each location								
	1	CoA 13322	CoC 13337	CoC 13336	CoC 13337	-	CoC 13337	
	2	-	CoC 13336	-	CoA 13322	-	CoC 13336	
	3	-	CoA 13322	-	CoA 13323	-	CoA 13322	

*Significant over the best standard

No. of locations where an entry recorded >10% improvement over the best standard: CoA 13322 (3), CoA 13323 (1), CoC 13336 (2) and CoC 13337 (2)

Performance of the entries across locations: The entry CoC 13337 was the best in the trial which recorded the highest cane yield of (111.76 t/ha) followed by CoC 13336 (108.54 t/ha) and CoA 13322 (107.34 t/ha) while the best standard CoA 92081 recorded 95.78 t/ha. The entries CoC 13337, CoC 13336 and CoA 13322 recorded 16.68 %, 13.32 % and 12.06 % improvement respectively over the best standard CoA 92081 across the locations.

Table 3.1.3 CCS % at 10th month

S. No.	Entry	Anaka palle	Cuddalore	Nayagarh	Nelli kuppam	Vuyyuru	Mean	Rank
1	CoA 13322	11.55	12.71	11.71	12.51	11.70	12.04	
2	CoA 13323	12.35	12.81	11.86	13.40	11.31	12.35	
3	CoC 13336	13.38*	12.93	11.57	12.70	12.10	12.54	2
4	CoC 13337	10.25	12.95*	11.34	11.80	11.11	11.49	
5	CoV 13356	13.26	12.73	11.56	14.83*	13.89*	13.25	1
	Standards							
1	CoA 92081	11.97	12.57	11.73	12.85	11.63	12.15	
2	CoC 01061	12.19	12.81	11.47	13.05	12.86	12.48	3
	GM	12.14	12.79	11.61	13.01	12.09		
	SE	0.36	0.06	0.16	0.17	0.15		
	CD	1.11	0.13	NS	0.38	0.47		
	CV	4.91	0.55	2.32	1.68	2.20		
Qualifying entries at each location								
	1	-	-	-	CoV 13356	-	CoV 13356	
	2	-	-	-	-	-		
	3	-	-	-	-	-		

*Significant over the best standard

No. of locations where an entry recorded >5 % improvement over the best standard: CoV 13356 (1)

Performance of the entries across locations: The entry CoV 13356 was the best in the trial which recorded the highest CCS % of (13.25) followed by CoC 13336 (12.54). The entry CoV 13356 recorded 6.16 % improvement over the best standard CoC 01061.

Table 3.1.4 Sucrose % at 10th month

S. No.	Entry	Anaka palle	Cuddalore	Nayagarh	Nelli kuppam	Vuyyuru	Mean	Rank
1	CoA 13322	17.07	17.66*	17.23	17.83	16.19	17.20	
2	CoA 13323	18.01	17.73*	17.53*	19.13	15.99	17.68	
3	CoC 13336	19.37*	17.96*	17.27	18.25	17.11	17.99	2
4	CoC 13337	15.11	18.02*	17.00	17.00	15.80	16.59	
5	CoV 13356	19.06*	17.71*	17.10	20.84*	18.97*	18.74	1
	Standards							
1	CoA 92081	17.65	17.44	17.33	18.49	16.03	17.39	
2	CoC 01061	17.67	17.72	17.00	18.74	17.87	17.80	3
	GM	17.71	17.75	17.21	18.61	16.85		
	SE	0.40	0.06	0.16	0.23	0.18		
	CD	1.25	0.13	NS	0.51	0.56		
	CV	3.92	0.41	1.58	1.54	1.90		
	Qualifying entries at each location							
	1	-	-	-	CoV 13356	-	CoV 13356	
	2	-	-	-	-	-	-	
	3	-	-	-	-	-	-	

*Significant over the best standard

No. of locations where an entry recorded >5 % improvement over the best standard: CoV 13356 (1)

Performance of the entries across locations: The entry CoV 13356 was the best in the trial which recorded the highest sucrose % of (18.74) followed by CoC 13336 (17.99). The entry CoV 13356 recorded 5.28 % improvement over the best standard CoC 01061 (17.80).

Table 3.1.5 Brix % at 10th month

S. No.	Entry	Anaka pale	Cuddalore	Nayagarh	Nelliku ppam	Vuyyuru	Mean
1	CoA 13322	20.18	20.76	20.20	19.55	17.66	19.67
2	CoA 13323	20.76	21.34	20.73	21.09	18.26	20.44
3	CoC 13336	21.95	21.54	20.80	20.37	19.31	20.79
4	CoC 13337	17.78	21.52	20.67	19.10	18.30	19.47
5	CoV 13356	21.29	21.18	20.23	22.17	20.09	20.99
	Standards						
1	CoA 92081	20.77	20.64	20.47	20.72	17.31	19.98
2	CoC 01061	20.09	21.02	20.20	20.91	19.70	20.38
	GM	20.40	21.14	20.47	20.55	18.66	
	SE	0.41	0.18	0.18	0.21	0.21	
	CD	1.27	0.39	NS	0.47	0.65	
	CV	3.47	1.04	1.58	1.31	2.00	

Table 3.1.6 Purity % at 10th month

S. No.	Entry	Anaka pale	Cuddalore	Nayagarh	Nelliku ppam	Vuyyuru	Mean
1	CoA 13322	87.06	89.37	85.37	91.20	91.67	88.93
2	CoA 13323	86.78	90.11	84.62	90.72	87.55	87.96
3	CoC 13336	88.21	90.17	83.11	89.56	88.58	87.93
4	CoC 13337	84.98	91.02	82.26	88.99	86.36	86.72
5	CoV 13356	89.50	90.07	84.54	94.03	94.41	90.51
	Standards						
1	CoA 92081	85.13	88.47	84.74	89.24	92.58	88.03
2	CoC 01061	87.95	90.14	84.21	89.60	90.75	88.53
	GM	87.09	89.91	84.12	90.47	90.27	
	SE	1.53	0.48	0.92	0.29	0.61	
	CD	NS	1.05	NS	0.64	1.88	
	CV	3.04	0.66	1.89	0.40	1.20	

Table 3.1.7 Pol % cane at harvest

S. No.	Entry	Anaka pale	Cuddalore	Nayagarh	Nelliku ppam	Vuyyuru	Mean
1	CoA 13322	12.68	13.78	-	14.70	-	13.72
2	CoA 13323	13.34	13.97	-	15.78	-	14.36
3	CoC 13336	14.35	14.05	-	15.04	-	14.48
4	CoC 13337	11.15	14.10	-	14.03	-	13.09
5	CoV 13356	14.12	13.90	-	17.16	-	15.06
	Standards						
1	CoA 92081	13.04	13.46	-	15.25	-	13.92
2	CoC 01061	12.93	13.88	-	15.43	-	14.08
	GM	13.09	13.88	-	15.34	-	
	SE	0.32	0.13	-	0.21	-	
	CD	1.00	0.28	-	0.46	-	
	CV	4.24	1.15	-	1.70	-	

Table 3.1.8 Extraction % at harvest

S. No.	Entry	Anaka palle	Cuddalore	Nayagarh	Nelliku ppam	Vuyyuru	Mean
1	CoA 13322	55.12	53.14	49.57	50.42	-	52.06
2	CoA 13323	58.17	54.00	50.75	50.78	-	53.43
3	CoC 13336	56.13	55.26	49.83	53.67	-	53.72
4	CoC 13337	54.35	54.87	49.71	49.74	-	52.17
5	CoV 13356	56.73	52.54	51.50	48.37	-	52.29
	Standards						
1	CoA 92081	57.33	52.64	52.26	50.94	-	53.29
2	CoC 01061	50.25	52.25	50.85	55.08	-	52.11
	GM	55.44	53.53	50.64	51.29	-	
	SE	1.31	0.56	0.72	2.27	-	
	CD	4.09	1.22	NS	4.95	-	
	CV	4.10	1.26	2.45	5.43	-	

Table 3.1.9 Fibre % at harvest

S. No.	Entry	Anaka palle	Cuddalore	Nayagarh	Nelliku ppam	Vuyyuru	Mean
1	CoA 13322	15.73	13.02	14.06	12.56	-	13.84
2	CoA 13323	15.94	12.62	13.93	12.54	-	13.76
3	CoC 13336	15.91	12.68	14.03	12.56	-	13.80
4	CoC 13337	16.20	12.67	14.83	12.46	-	14.04
5	CoV 13356	15.88	12.83	14.39	12.66	-	13.94
	Standards						
1	CoA 92081	16.14	13.12	13.59	12.53	-	13.85
2	CoC 01061	16.84	12.75	13.79	12.68	-	14.02
	GM	16.09	12.81	14.09	12.57	-	
	SE	0.38	0.16	0.17	0.27	-	
	CD	NS	0.34	NS	0.60	-	
	CV	4.07	1.49	2.08	2.71	-	

Table 3.1.10 NMC ('000/ha) at harvest

S. No.	Entry	Anaka palle	Cuddalore	Nayagarh	Nelliku ppam	Vuyyuru	Mean
1	CoA 13322	81.60	107.40	100.92	93.33	77.88	92.23
2	CoA 13323	66.91	98.47	116.61	104.14	56.17	88.46
3	CoC 13336	72.47	112.84	111.01	96.05	71.91	92.86
4	CoC 13337	66.30	110.43	110.66	103.58	69.65	92.12
5	CoV 13356	60.49	97.76	101.14	105.06	79.63	88.82
	Standards						
1	CoA 92081	67.04	100.28	107.54	91.54	83.75	90.03
2	CoC 01061	71.11	111.22	104.95	132.65	75.10	99.01
	GM	69.42	105.49	107.55	103.76	73.44	
	SE	5.33	5.34	2.73	7.59	4.31	
	CD	NS	11.64	8.44	16.54	13.29	
	CV	13.30	6.20	4.41	8.96	10.20	

Table 3.1.11 Stalk length (cm)

S. No.	Entry	Anaka palle	Cuddalore	Nayagarh	Nelliku ppam	Vuyyuru	Mean
1	CoA 13322	214.47	276.67	278.70	219.67	194.17	236.74
2	CoA 13323	230.10	282.00	276.00	211.67	189.42	237.84
3	CoC 13336	215.20	296.33	204.70	220.00	260.97	239.44
4	CoC 13337	205.97	294.00	241.30	215.33	237.92	238.90
5	CoV 13356	214.50	274.33	296.70	219.67	226.67	246.37
	Standards						
1	CoA 92081	220.47	272.33	230.70	222.33	238.92	236.95
2	CoC 01061	256.83	274.67	230.00	228.33	231.42	244.25
	GM	222.50	281.48	251.10	219.00	225.64	
	SE	13.49	7.64	5.94	4.66	5.36	
	CD	NS	16.65	18.29	10.17	16.70	
	CV	10.47	3.32	4.09	2.60	4.10	

Table 3.1.12 Stalk diameter (cm)

S. No.	Entry	Anaka palle	Cuddalore	Nayagarh	Nelliku ppam	Vuyyuru	Mean
1	CoA 13322	2.77	2.92	2.77	2.60	2.97	2.81
2	CoA 13323	2.75	2.86	2.96	2.72	2.74	2.81
3	CoC 13336	2.68	2.95	2.43	2.64	2.93	2.73
4	CoC 13337	2.43	3.04	3.06	2.65	2.52	2.74
5	CoV 13356	2.31	2.74	2.79	2.52	2.49	2.57
	Standards						
1	CoA 92081	2.95	2.64	2.53	2.53	2.51	2.63
2	CoC 01061	2.20	2.51	3.11	2.17	2.23	2.44
	GM	2.58	2.81	2.81	2.54	2.63	
	SE	0.06	0.06	0.06	0.05	0.06	
	CD	0.19	0.14	0.19	0.11	0.20	
	CV	4.01	2.82	3.75	2.52	4.20	

Table 3.1.13 Single cane weight (kg)

S. No.	Entry	Anaka palle	Cuddalore	Nayagarh	Nelliku ppam	Vuyyuru	Mean
1	CoA 13322	1.22	1.26	1.42	1.37	1.21	1.30
2	CoA 13323	1.14	1.18	1.14	1.26	1.15	1.17
3	CoC 13336	1.24	1.23	1.54	1.23	1.12	1.27
4	CoC 13337	1.33	1.28	1.27	1.27	0.93	1.22
5	CoV 13356	1.24	1.17	1.52	1.25	1.19	1.27
	Standards						
1	CoA 92081	1.25	1.22	1.47	1.39	1.19	1.30
2	CoC 01061	0.96	0.97	1.35	0.95	1.02	1.05
	GM	1.20	1.19	1.39	1.24	1.12	
	SE	0.03	0.05	0.06	0.06	0.04	
	CD	0.11	0.11	0.18	0.13	0.11	
	CV	4.96	5.41	7.65	5.86	5.50	

Table 3.1.14 CCS % at 8 months

S. No.	Entry	Anaka palle	Cuddalore	Nayagarh	Nelliku ppam	Vuyyuru	Mean
1	CoA 13322	8.38	10.61	10.46	8.29	-	9.44
2	CoA 13323	8.04	10.70	10.65	10.09	-	9.87
3	CoC 13336	8.76	10.74	10.83	11.10	-	10.36
4	CoC 13337	6.42	10.82	10.79	7.99	-	9.01
5	CoV 13356	9.33	10.45	10.43	10.67	-	10.22
	Standards						
1	CoA 92081	10.58	10.38	10.95	9.56	-	10.37
2	CoC 01061	8.38	10.70	10.46	10.70	-	10.06
	GM	8.56	10.63	10.65	9.77	-	
	SE	0.54	0.10	0.14	0.32	-	
	CD	1.68	0.21	NS	0.70	-	
	CV	10.94	1.10	2.20	4.02	-	

Table 3.1.15 Sucrose % at 8 months

S. No.	Entry	Anaka palle	Cuddalore	Nayagarh	Nelliku ppam	Vuyyuru	Mean
1	CoA 13322	12.33	15.41	15.53	12.61	-	13.97
2	CoA 13323	11.98	15.58	15.83	15.02	-	14.60
3	CoC 13336	12.84	15.74	15.87	16.25	-	15.18
4	CoC 13337	9.78	15.72	15.8	12.31	-	13.40
5	CoV 13356	13.64	15.24	15.73	15.69	-	15.08
	Standards						
1	CoA 92081	15.21	15.03	16.20	14.44	-	15.22
2	CoC 01061	12.24	15.53	15.73	15.81	-	14.83
	GM	12.57	15.46	15.81	14.58	-	
	SE	0.713	0.15	0.19	0.4	-	
	CD	2.22	0.34	NS	0.87	-	
	CV	9.814	1.22	2.1	3.37	-	

Table 3.1.16 Brix % at 8 months

S. No.	Entry	Anaka palle	Cuddalore	Nayagarh	Nelliku ppam	Vuyyuru	Mean
1	CoA 13322	14.47	18.82	18.53	15.72	-	16.89
2	CoA 13323	14.40	19.44	18.93	18.00	-	17.69
3	CoC 13336	14.93	19.37	18.43	18.87	-	17.90
4	CoC 13337	12.27	19.52	19.13	15.70	-	16.66
5	CoV 13356	15.80	19.08	19.30	18.38	-	18.14
	Standards						
1	CoA 92081	17.00	18.74	19.20	17.80	-	18.19
2	CoC 01061	14.13	19.22	18.90	18.68	-	17.73
	GM	14.71	19.17	18.92	17.59	-	
	SE	0.67	0.18	0.32	0.37	-	
	CD	2.10	0.38	NS	0.80	-	
	CV	7.92	1.12	2.97	2.58	-	

Table 3.1.17 Purity % at 8 months

S. No.	Entry	Anaka palle	Cuddalore	Nayagarh	Nelliku ppam	Vuyyuru	Mean
1	CoA 13322	85.26	85.16	84.03	80.18	-	83.66
2	CoA 13323	83.17	85.29	86.65	83.42	-	84.63
3	CoC 13336	85.96	85.71	86.12	86.10	-	85.97
4	CoC 13337	79.75	85.58	82.57	78.36	-	81.57
5	CoV 13356	86.33	85.25	81.55	85.39	-	84.63
	Standards						
1	CoA 92081	89.50	84.52	84.40	81.16	-	84.90
2	CoC 01061	86.57	85.28	83.40	84.62	-	84.97
	GM	85.22	85.26	83.65	82.74	-	
	SE	1.58	0.31	1.18	1.13	-	
	CD	4.91	0.68	NS	2.46	-	
	CV	3.20	0.45	2.45	1.68	-	

Table 3.1.18 Number of shoots ('000/ha) at 240 days

S. No.	Entry	Anaka palle	Cuddalore	Nayagarh	Nelliku ppam	Vuyyuru	Mean
1	CoA 13322	85.06	115.92	114.12	138.77	84.05	107.58
2	CoA 13323	69.38	109.53	129.86	123.77	72.63	101.03
3	CoC 13336	75.31	117.39	123.75	138.89	78.09	106.69
4	CoC 13337	68.02	119.62	116.98	145.86	75.82	105.26
5	CoV 13356	62.72	108.80	110.08	133.52	85.91	100.21
	Standards						
1	CoA 92081	68.89	110.44	113.96	137.53	89.92	104.15
2	CoC 01061	74.07	117.68	122.15	159.14	80.86	110.78
	GM	71.92	114.20	118.70	139.15	81.04	
	SE	5.45	3.68	3.89	9.81	5.41	
	CD	NS	8.01	12.00	21.39	NS	
	CV	13.13	3.95	5.69	8.64	11.60	

Table 3.1.19 Number of tillers ('000/ha) at 120 days

S. No.	Entry	Anaka palle	Cuddalore	Nayagarh	Nelliku ppam	Vuyyuru	Mean
1	CoA 13322	92.18	122.10	121.64	171.94	115.95	124.76
2	CoA 13323	75.72	127.52	140.68	173.21	93.21	122.07
3	CoC 13336	82.51	116.67	135.17	168.12	92.70	119.03
4	CoC 13337	75.62	127.15	128.51	184.44	112.86	125.72
5	CoV 13356	69.45	120.18	120.51	166.64	111.01	117.56
	Standards						
1	CoA 92081	73.76	113.67	124.21	174.66	111.21	119.50
2	CoC 01061	79.63	127.32	135.29	178.58	99.69	124.10
	GM	78.41	122.09	129.43	173.94	105.23	
	SE	7.27	4.61	3.29	11.61	4.19	
	CD	NS	10.04	10.13	25.29	12.90	
	CV	16.05	4.62	4.40	8.19	6.90	

Table 3.1.20 Germination % at 30 days

S. No.	Entry	Anakapalle	Cuddalore	Nayagarh	Nellikuppam	Vuyyuru	Mean
1	CoA 13322	66.67	55.12	55.67	88.89	59.72	65.21
2	CoA 13323	55.71	56.73	58.57	86.57	47.07	60.93
3	CoC 13336	59.95	61.01	54.97	77.71	51.85	61.10
4	CoC 13337	62.65	55.19	60.80	86.00	50.08	62.94
5	CoV 13356	59.79	64.16	45.40	84.31	52.47	61.23
	Standards						
1	CoA 92081	49.85	50.47	53.23	82.18	50.62	57.27
2	CoC 01061	73.84	64.11	60.23	81.18	46.14	65.10
	GM	61.21	58.11	55.55	83.86	51.14	
	SE	5.15	1.99	1.89	6.51	3.53	
	CD	NS	4.35	5.84	14.20	NS	
	CV	14.57	4.20	5.91	9.52	11.90	

Table 3.1.21 Assessment of performance of entries by monitoring team

	Nellikuppam	Cuddalore	Vuyyuru	Anakapalle	Nayagarh
CoA 13322	On par	Poor	Poor	Poor	Better
CoA 13323	Poor	Poor	Poor	Poor	Better
CoC 13336	Poor	Poor	On par	Poor	On par
CoC 13337	On par	Poor	On par	On par	Poor
CoV 13356	On par	Poor	On par	Poor	NA
Standards					
CoC 01061		Best	Best	Best	Best
CoA 92081	Best				

3.2 ADVANCED VARIETAL TRIAL (EARLY – RATOON)

Centres (5)	Anakapalle, Cuddalore, Nayagarh, Nellikuppam and Vuyyuru
Entries (5)	CoA 13322, CoA 13323, CoC 13336, CoC 13337 and CoV 13356
Standards (2)	CoA 92081 and CoC 01061
Design	Randomized Block Design
Replications	Three
Plot size	Gross : 8 Rows x 6m x 0.9 m Net : 6 Rows x 5m x 0.9 m
Planting time	February / March, 2017
Crop duration	9 months

Results of the previous year

Refer AVT (Early) II plant

Results of the current year

The entry CoV 13356 was the best performer across locations for CCS yield (12.28 t/ha) and CoA 13322 for cane yield (101.20 t/ha). The next best entries for yield were CoC 13337 (98.15 t/ha) and CoV 13356 (97.25 t/ha). For juice quality, CoV 13356 was the top ranking entry across locations with sucrose % of 17.89 the best standard was CoC 01061 (17.82 %). No qualifying entry was identified from the trial. Further details are presented in Tables 3.2.1 to 3.2.15.

Table 3.2.1 CCS (t/ha) at harvest

S. No.	Entry	Anaka palle	Cuddalore	Naya garh	Nelliku ppam	Vuyyuru	Mean	Rank
1	CoA 13322	12.09	15.03	9.35	10.52	-	11.75	
2	CoA 13323	6.42	14.92	10.42	10.65	-	10.60	
3	CoC 13336	8.75	17.54*	9.49	12.65	-	12.11	2
4	CoC 13337	10.02	18.17*	9.51	10.52	-	12.06	3
5	CoV 13356	12.14	14.85	10.25	11.86	-	12.28	1
Standards								
1	CoA 92081	11.58	13.60	9.47	12.02	-	11.67	
2	CoC 01061	11.63	13.58	8.49	11.39	-	11.27	
	GM	10.38	15.38	9.57	11.37	-		
	SE	0.78	0.69	0.36	0.66	-		
	CD	2.44	1.48	1.10	1.44	-		
	CV	12.74	5.46	6.47	7.14	-		
Qualifying entries at each location								
	1	-	CoC 13337	-	-	-	-	
	2	-	CoC 13336	-	-	-	-	
	3	-	CoA 13322	-	-	-	-	

* Significant over the best standard

No. of locations where an entry recorded >10 % improvement over the best standard: CoA 13322 (1), CoC 13336 (1) and CoC 13337 (1)

Performance of the entries across locations: The entry CoV 13356 (12.28 t/ha) was the best in the trial followed by CoC 13336 (12.11 t/ha) and CoC 13337 (12.06 t/ha) while the best standard CoA 92081 recorded 11.67 t/ha. The entries CoC 13337, CoC 13336 and CoA 13322 recorded more than 10 % improvement at Cuddalore centre over the best standard CoA 92081.

Table 3.2.2 Cane yield (t/ha) at harvest

S. No.	Entry	Anaka palle	Cuddalore	Naya garh	Nelliku ppam	Vuyyuru	Mean	Rank
1	CoA 13322	104.96	117.94	79.98	101.93	-	101.20	1
2	CoA 13323	48.95	116.55	88.03	89.89	-	85.86	
3	CoC 13336	76.09	135.17*	81.78	90.28	-	95.83	
4	CoC 13337	83.02	138.73*	79.33	91.51	-	98.15	2
5	CoV 13356	92.83	116.85	84.03	95.29	-	97.25	3
Standards								
1	CoA 92081	92.75	108.11	79.38	93.21	-	93.36	
2	CoC 01061	91.13	106.10	70.59	87.81	-	88.91	
	GM	84.25	119.92	80.45	92.84	-		
	SE	4.87	5.22	2.98	5.43	-		
	CD	15.18	11.38	9.17	11.83	-		
	CV	10.02	5.33	6.41	7.17	-		
Qualifying entries at each location								
1	CoA 13322	CoC 13337	CoA 13323	-	-			
2	-	CoC 13336	-	-	-			
3	-	-	-	-	-			

* Significant over the best standard

No. of locations where an entry recorded >10 % improvement over the best standard: CoA 13322 (1), CoA 13323 (1), CoC 13336 (1) and CoC 13337 (1)

Performance of the entries across locations: The entry CoA 13322 was the best in the trial which recorded the highest cane yield of (101.20 t/ha) followed by CoC 13337 (98.15 t/ha) and CoV 13356 (97.25 t/ha). The best standard CoA 92081 recorded 93.36 t/ha. The entry CoA 13322 recorded 8.39 % improvement over the best standard CoC 01061 across the locations.

Table 3.2.3 CCS % at 9th month

S. No.	Entry	Anakapalle	Cuddalore	Nayagarh	Nellikuppam	Vuyyuru	Mean	Rank
1	CoA 13322	11.52	12.75	11.69	10.34	11.29	11.58	
2	CoA 13323	13.11*	12.82	11.85	11.85	11.21	12.41	
3	CoC 13336	11.50	12.95*	11.61	14.02*	12.11	12.52	3
4	CoC 13337	12.07	13.02*	11.98	11.50	10.71	12.14	
5	CoV 13356	13.08*	12.71	12.20*	12.44	12.28*	12.61	2
Standards								
1	CoA 92081	12.48	12.60	11.92	12.90	11.35	12.48	
2	CoC 01061	12.76	12.80	12.03	12.95	11.55	12.64	1
	GM	12.36	12.81	11.90	12.28	11.50		
	SE	0.95	0.05	0.12	0.24	0.20		
	CD	NS	0.11	NS	0.54	0.62		
	CV	12.89	0.47	1.86	2.41	3.00		
Qualifying entries at each location								
	1	-	-	-	CoC 13336	CoV 13356		
	2	-	-	-	-	-		
	3	-	-	-	-	-		

* Significant over the best standard

No. of locations where an entry recorded >5 % improvement over the best standard: CoC 13336 (1) and CoV 13356 (1)

Performance of the entries across locations: CoV 13356 was the top ranking entry across locations with CCS % of 12.61 followed by CoC 13336 (12.52), while the best standard CoC 01061 recorded 12.64 %.

Table 3.2.4 Sucrose % at 9th month

S. No.	Entry	Anaka palle	Cuddalore	Naya garh	Nelliku ppam	Vuyyuru	Mean	Rank
1	CoA 13322	16.39	17.66	17.01	15.15	15.90	16.55	
2	CoA 13323	18.55*	17.75	17.20	17.12	16.17	17.66	
3	CoC 13336	16.61	17.98	16.74	19.69*	17.26	17.76	3
4	CoC 13337	17.21	18.04	17.25	16.56	15.11	17.27	
5	CoV 13356	18.54*	17.70	17.61	17.72	17.20	17.89	1
Standards								
1	CoA 92081	17.69	17.45	17.24	18.35	15.74	17.68	
2	CoC 01061	18.08	17.72	17.26	18.22	16.44	17.82	2
	GM	17.58	17.76	17.19	17.54	16.26		
	SE	1.10	0.07	0.16	0.30	0.23		
	CD	NS	0.14	NS	0.67	0.69		
	CV	10.88	0.45	1.59	2.16	2.40		
Qualifying entries at each location								
	1	-	-	-	CoC 13336	CoC 13336		
	2	-	-	-	-	-		
	3	-	-	-	-	-		

* Significant over the best standard

No. of locations where an entry recorded >5 % improvement over the best standard: CoC 13336 (2)

Performance of the entries across locations: CoV 13356 was the top ranking entry across locations with sucrose % of 17.89 and the best standard was CoC 01061 (17.82).

Table 3.2.5 Brix % at 9th month

S. No.	Entry	Anaka palle	Cuddalore	Naya garh	Nelliku ppam	Vuyyuru	Mean
1	CoA 13322	17.93	20.44	19.49	17.60	18.02	18.87
2	CoA 13323	20.02	20.77	19.60	19.34	19.23	19.93
3	CoC 13336	18.73	20.97	18.80	20.91	20.05	19.85
4	CoC 13337	18.90	21.04	19.34	18.59	17.17	19.47
5	CoV 13356	20.09	20.77	19.83	19.39	19.25	20.02
Standards							
1	CoA 92081	19.17	20.34	19.41	20.05	17.25	19.74
2	CoC 01061	19.59	20.80	19.32	19.41	19.06	19.78
	GM	19.20	20.73	19.40	19.32	18.58	
	SE	0.75	0.14	0.18	0.28	0.18	
	CD	NS	0.30	0.55	0.62	0.55	
	CV	6.72	0.82	1.60	1.82	1.70	

Table 3.2.6 Purity % at 9th month

S. No.	Entry	Anaka palle	Cuddalore	Naya garh	Nelliku ppam	Vuyyuru	Mean
1	CoA 13322	91.37	89.05	87.27	86.04	88.23	88.43
2	CoA 13323	92.63	90.17	87.75	88.51	84.09	89.77
3	CoC 13336	88.31	90.27	89.04	94.16	86.08	90.45
4	CoC 13337	90.92	90.22	89.19	89.08	87.98	89.85
5	CoV 13356	92.26	90.11	88.79	91.37	89.33	90.63
Standards							
1	CoA 92081	92.32	88.48	88.82	91.52	91.27	90.29
2	CoC 01061	91.89	90.21	89.89	93.86	86.25	91.46
	GM	91.39	89.79	88.68	90.64	87.60	
	SE	2.60	0.52	0.71	0.68	0.84	
	CD	NS	1.13	NS	1.50	2.57	
	CV	4.92	0.71	1.40	0.93	1.70	

Table 3.2.7 Pol % cane at harvest

S. No.	Entry	Anaka palle	Cuddalore	Naya garh	Nelliku ppam	Vuyyuru	Mean
1	CoA 13322	12.20	13.72	-	12.45	-	12.79
2	CoA 13323	13.76	14.02	-	14.12	-	13.97
3	CoC 13336	12.33	14.01	-	16.23	-	14.19
4	CoC 13337	12.73	14.16	-	13.68	-	13.52
5	CoV 13356	13.76	13.85	-	14.58	-	14.06
Standards							
1	CoA 92081	13.13	13.58	-	15.15	-	13.95
2	CoC 01061	13.25	13.93	-	15.02	-	14.07
	GM	13.02	13.90	-	14.64	-	
	SE	0.79	0.14	-	0.25	-	
	CD	NS	0.31	-	0.56	-	
	CV	10.54	1.25	-	2.19	-	

Table 3.2.8 Extraction % at harvest

S. No.	Entry	Anaka palle	Cuddalore	Naya garh	Nelliku ppam	Vuyyuru	Mean
1	CoA 13322	50.53	52.85	50.76	55.10	-	52.31
2	CoA 13323	52.31	53.96	51.02	49.95	-	51.81
3	CoC 13336	50.45	54.58	53.09	50.34	-	52.12
4	CoC 13337	52.49	54.50	51.83	56.28	-	53.78
5	CoV 13356	52.67	52.34	52.89	51.02	-	52.23
Standards							
1	CoA 92081	52.94	52.07	51.66	52.83	-	52.38
2	CoC 01061	50.86	51.97	52.46	51.10	-	51.60
	GM	51.75	53.18	51.94	52.37	-	
	SE	2.36	0.50	0.42	1.70	-	
	CD	NS	1.09	1.29	3.68	-	
	CV	7.90	1.15	1.40	3.95	-	

Table 3.2.9 Fibre % at harvest

S. No.	Entry	Anaka palle	Cuddalore	Naya garh	Nelliku ppam	Vuyyuru	Mean
1	CoA 13322	15.56	13.04	14.32	12.76	-	13.92
2	CoA 13323	15.83	12.75	14.47	12.55	-	13.90
3	CoC 13336	15.72	12.69	13.85	12.57	-	13.71
4	CoC 13337	16.03	12.66	13.67	12.36	-	13.68
5	CoV 13356	15.79	12.81	13.83	12.71	-	13.79
Standards							
1	CoA 92081	15.78	12.70	14.19	12.48	-	13.79
2	CoC 01061	16.75	12.90	14.22	12.55	-	14.11
	GM	15.92	12.79	14.08	12.56	-	
	SE	0.33	0.11	0.16	0.27	-	
	CD	NS	0.24	0.49	0.58	-	
	CV	3.61	1.07	1.96	2.63	-	

Table 3.2.10 NMC ('000/ha) at harvest

S. No.	Entry	Anaka palle	Cuddalore	Naya garh	Nelliku ppam	Vuyyuru	Mean
1	CoA 13322	83.33	104.54	86.81	100.69	-	93.84
2	CoA 13323	39.51	99.38	100.62	88.27	-	81.95
3	CoC 13336	59.51	109.85	88.91	88.40	-	86.67
4	CoC 13337	65.93	106.79	83.99	96.91	-	88.41
5	CoV 13356	82.84	98.37	91.48	105.25	-	94.49
Standards							
1	CoA 92081	78.64	109.15	94.95	99.38	-	95.53
2	CoC 01061	98.02	102.74	81.04	111.23	-	98.26
	GM	72.54	104.40	88.26	98.59	-	
	SE	4.35	3.72	2.88	7.60	-	
	CD	13.54	8.10	8.88	16.56	-	
	CV	10.38	4.36	5.66	9.44	-	

Table 3.2.11 Stalk length (cm)

S. No.	Entry	Anaka palle	Cuddalore	Naya garh	Nelliku ppam	Vuyyuru	Mean
1	CoA 13322	241.33	281.67	226.30	205.00	153.67	238.58
2	CoA 13323	246.67	277.00	234.00	222.33	171.43	245.00
3	CoC 13336	265.33	294.17	258.30	216.33	204.87	258.53
4	CoC 13337	271.00	296.67	246.00	217.33	145.37	257.75
5	CoV 13356	228.33	270.33	273.70	217.33	169.30	247.42
Standards							
1	CoA 92081	255.67	267.00	241.30	220.00	203.23	245.99
2	CoC 01061	290.67	273.17	264.70	206.67	181.77	258.80
	GM	257.00	280.00	249.20	215.00	175.66	
	SE	14.22	7.04	8.61	3.34	12.87	
	CD	NS	15.34	26.54	7.28	40.10	
	CV	9.58	3.08	8.98	1.90	12.70	

Table 3.2.12 Stalk diameter (cm)

S. No.	Entry	Anaka palle	Cuddalore	Naya garh	Nelliku ppam	Vuyyuru	Mean
1	CoA 13322	2.89	2.86	2.23	2.52	2.89	2.68
2	CoA 13323	2.79	2.91	2.43	2.59	2.84	2.71
3	CoC 13336	2.44	2.96	2.59	2.56	2.73	2.66
4	CoC 13337	2.56	3.05	2.47	2.61	2.48	2.63
5	CoV 13356	2.72	2.7	2.39	2.6	2.63	2.61
Standards							
1	CoA 92081	2.48	2.7	2.52	2.64	2.48	2.56
2	CoC 01061	2.16	2.43	2.43	2.04	2.24	2.26
	GM	2.58	2.8	2.44	2.5	2.61	
	SE	0.13	0.05	0.04	0.03	0.085	
	CD	0.39	0.1	0.14	0.08	0.264	
	CV	8.47	2.05	3.13	1.82	5.6	

Table 3.2.13 Single cane weight (kg)

S. No.	Entry	Anaka palle	Cuddalore	Naya garh	Nelliku ppam	Vuyyuru	Mean
1	CoA 13322	1.26	1.23	1.21	0.88	1.00	1.15
2	CoA 13323	1.24	1.26	1.19	0.83	1.18	1.13
3	CoC 13336	1.28	1.25	1.60	0.80	1.09	1.23
4	CoC 13337	1.26	1.28	1.51	0.82	1.05	1.22
5	CoV 13356	1.12	1.19	1.69	0.84	1.03	1.21
Standards							
1	CoA 92081	1.18	1.22	1.41	0.83	1.08	1.16
2	CoC 01061	0.93	0.98	1.39	0.70	0.90	1.00
	GM	1.18	1.20	1.43	0.81	1.05	
	SE	0.09	0.04	0.07	0.03	0.03	
	CD	NS	0.09	0.24	0.07	0.09	
	CV	12.81	4.18	9.63	4.90	4.70	

Table 3.2.14 Number of shoots ('000/ha) at 180 days

S. No.	Entry	Anaka palle	Cuddalore	Naya garh	Nelliku ppam	Vuyyuru	Mean
1	CoA 13322	93.95	110.79	96.15	157.90	-	114.70
2	CoA 13323	44.07	107.92	112.57	138.03	-	100.65
3	CoC 13336	66.67	114.76	103.41	128.64	-	103.37
4	CoC 13337	80.37	118.95	100.36	143.70	-	110.85
5	CoV 13356	89.51	108.16	103.67	140.31	-	110.41
Standards							
1	CoA 92081	88.15	115.26	100.48	135.68	-	109.89
2	CoC 01061	105.93	109.27	94.39	150.00	-	114.90
	GM	81.24	112.16	101.57	142.03	-	
	SE	3.61	3.46	3.07	11.55	-	
	CD	11.24	7.53	9.44	25.17	-	
	CV	7.69	3.77	5.23	9.96	-	

Table 3.2.15 Number of tillers ('000/ha) at 90 days

S. No.	Entry	Anaka palle	Cuddalore	Naya garh	Nelliku ppam	Vuyyuru	Mean
1	CoA 13322	115.84	118.04	109.96	179.88	-	130.93
2	CoA 13323	46.50	126.21	120.43	174.81	-	116.99
3	CoC 13336	80.14	116.64	111.21	170.80	-	119.70
4	CoC 13337	94.65	126.76	107.79	182.65	-	127.96
5	CoV 13356	104.84	121.18	112.94	178.95	-	129.48
Standards							
1	CoA 92081	106.79	125.99	107.72	171.54	-	128.01
2	CoC 01061	131.17	114.12	107.87	190.68	-	135.96
	GM	97.13	121.28	111.13	178.47	-	
	SE	6.32	4.25	2.61	10.80	-	
	CD	19.70	9.25	8.07	23.53	-	
	CV	11.27	4.29	4.08	7.41	-	

Table 3.2.16 Assessment of performance of entries by monitoring team

	Nellikuppam	Cuddalore	Vuyyuru	Anakapalle	Nayagarh
CoA 13322	Poor	Poor	Poor	On par	Better
CoA 13323	Poor	Poor	Poor	Poor	Better
CoC 13336	Poor	On par	On par	On par	Poor
CoC 13337	Poor	Poor	Poor	On par	Poor
CoV 13356	On par	On par	Poor	On par	NA
Standards					
CoC 01061	Best	Best		Best	
CoA 92081			Best		Best

3.3 ADVANCED VARIETAL TRIAL (EARLY) Pooled data of 2 Plant + 1Ratoon

Centres (5)	Anakapalle, Cuddalore, Nayagarh, Nellikuppam and Vuyyuru*
Entries (5)	CoA 13322, CoA 13323, CoC 13336, CoC 13337 and CoV 13356
Standards (2)	CoA 92081 and CoC 01061
Design	Randomized Block Design
Replications	Three
Plot size	Gross : 6.0 m x 0.9 m x 8 R Net : 5.0 m x 0.9 m x 6 R

*Vuyyuru centre data was incomplete and not considered for calculating the mean

Five early maturing clones and two standards were evaluated under AVT I Plant during 2016-17, AVT II Plant and AVT Ratoon during 2017-18 at five locations. The pooled mean of CCS yield, cane yield, CCS % and sucrose % at harvest of two plant crops and one ratoon crop are given in Table 3.3.1 to 3.3.4 and Figures 3.3.1 to 3.3.4. The salient results pertaining to CCS (t/ha), cane yield (t/ha), CCS % and sucrose % are given below.

Commercial Cane Sugar (t/ha):

The entry CoC 13336 (13.71 t/ha) ranked first in the zone for CCS yield and it recorded 13.75% improvement over the best standard CoC 01061 (12.05 t/ha). All other entries CoA 13322 (12.92), CoA 13323 (12.09), CoC 13337 (13.10) and CoV 13356 (13.35) recorded numerically superior CCS yield than the best standard.

Cane Yield (t/ha):

For cane yield, the entry CoC 13337 ranked first in the zone with an overall mean of 111.67t/ha followed by the entries CoA 13322 (109.98 t/ha) and CoC 13336 (109.14 t/ha) respectively. The entries CoC 13337 and CoA 13322 recorded 12.08% and 10.37% improvement over the best standard CoA 92081 (99.64 t/ha).

Commercial Cane Sugar (%):

The entry CoV 13356 ranked first with a mean CCS % of 12.85 followed by CoC 13336 (12.53) and were better than the standard CoC 01061 (12.37).

Sucrose (%):

The entry CoV 13356 ranked first with a mean sucrose % of 18.50 followed by CoC 13336 (17.93) and were numerically superior to the the standard CoC 01061 (17.53).

Overall performance:

Based on the pooled mean of two plant and one ratoon crops at five centres, the entries CoC 13337 and CoA 13322 recorded 12.08% and 10.37% improvement in cane yield over the best standard CoA 92081 (99.64 t/ha). The entry CoC 13336 recorded 1.29% and 2.28% improvement over the best standard CoC 01061 for both CCS% and sucrose %, respectively. Since none of these entries combine improvement in cane yield and quality than the respective best standard, there is no entry qualified.

Table 3.3.1 CCS at harvest (t/ha) -Pooled data of two plant and one ratoon crops

S. No.	Clone	Anakapalle				Cuddalore				Nayagarh			
		IP	IIP	R	Mean	IP	IIP	R	Mean	IP	IIP	R	Mean
1	CoA 13322	10.72	11.53	12.09	11.45	16.06	15.99	15.03	15.69	12.89	10.40	9.35	10.88
2	CoA 13323	6.95	9.36	6.42	7.58	15.66	15.89	14.92	15.49	12.19	11.63	10.42	11.41
3	CoC 13336	12.23	11.98	8.75	10.99	18.23	18.31	17.54	18.03	12.41	11.75	9.49	11.22
4	CoC 13337	13.92	9.06	10.02	11.00	17.93	18.84	18.17	18.31	12.87	10.54	9.51	10.97
5	CoV 13356	14.29	9.93	12.14	12.12	15.66	15.86	14.85	15.46	12.83	9.93	10.25	11.00
	Standards												
1	CoA 92081	12.50	10.07	11.58	11.38	14.56	14.32	13.60	14.16	11.68	10.07	9.47	10.41
2	CoC 01061	10.57	8.32	11.63	10.17	14.49	14.25	13.58	14.11	11.67	10.29	8.49	10.15
	GM	11.60	10.04	10.38		16.08	16.21	15.38		12.36	10.66	9.57	
S. No.	Clone	Nellikuppam				Vuyyuru				GM	Rank		
		IP	IIP	R	Mean	IP	IIP	R	Mean	(Wt. Avg.)			
1	CoA 13322	16.88	14.77	10.52	14.06	12.57	12.07	-	-	12.92			
2	CoA 13323	20.04	14.84	10.65	15.18	10.19	10.09	-	-	12.09			
3	CoC 13336	18.76	13.68	12.65	15.03	13.74	12.38	-	-	13.71	1		
4	CoC 13337	14.69	14.94	10.52	13.38	10.68	11.71	-	-	13.10	3		
5	CoV 13356	13.92	16.30	11.86	14.03	14.67	14.45	-	-	13.35	2		
	Standards												
1	CoA 92081	15.20	12.19	12.02	13.14	9.61	11.64	-	-	12.04			
2	CoC 01061	15.16	12.40	11.39	12.98	13.51	12.99	-	-	12.05			
	GM	16.38	14.16	11.37		12.14	12.19						

Table 3.3.2 Cane yield at harvest (t/ha) -Pooled data of two plant and one ratoon crops

S. No.	Clone	Anakapalle				Cuddalore				Nayagarh			
		IP	II P	R	Mean	IP	II P	R	Mean	IP	II P	R	Mean
1	CoA 13322	96.43	99.79	104.96	100.39	127.15	125.77	117.94	123.62	108.85	89.93	79.98	92.92
2	CoA 13323	67.65	75.76	48.95	64.12	122.63	124.04	116.55	121.07	100.69	98.22	88.03	95.65
3	CoC 13336	94.06	89.54	76.09	86.56	140.71	141.61	135.17	139.16	105.97	101.59	81.78	96.45
4	CoC 13337	136.72	88.35	83.02	102.70	139.92	145.53	138.73	141.39	103.89	92.89	79.33	92.04
5	CoV 13356	112.66	74.90	92.83	93.46	122.83	124.62	116.85	121.43	111.42	85.90	84.03	93.78
	Standards												
1	CoA 92081	106.75	84.09	92.75	94.53	116.78	114.08	108.11	112.99	99.61	85.89	79.38	88.29
2	CoC 01061	92.04	68.25	91.13	83.81	113.22	111.29	106.10	110.20	100.45	89.62	70.59	86.89
	GM	100.90	82.95	84.25		126.18	126.71	119.92		104.41	91.86	80.45	
S. No.	Clone	Nellikuppam				Vuyyuru				GM	Rank		
		IP	II P	R	Mean	IP	II P	R	Mean	(Wt. Aver.)			
1	CoA 13322	159.23	118.13	101.93	126.43	106.48	103.09	-	-	109.98	2		
2	CoA 13323	165.89	110.72	89.89	122.17	100.41	89.20	-	-	99.90			
3	CoC 13336	153.39	107.72	90.28	117.13	107.72	102.26	-	-	109.14	3		
4	CoC 13337	143.52	126.70	91.51	120.58	87.96	105.35	-	-	111.67	1		
5	CoV 13356	119.21	109.95	95.29	108.15	100.31	104.01	-	-	103.92			
	Standards												
1	CoA 92081	128.19	94.83	93.21	105.41	91.26	100.00	-	-	99.64			
2	CoC 01061	126.55	95.06	87.81	103.14	110.19	101.13	-	-	97.39			
	GM	142.28	109.00	92.84		100.62	100.72						

Table 3.3.3 CCS (%) at harvest -Pooled data of two plant and one ratoon crops

S. No.	Clone	Anakapalle				Cuddalore				Nayagarh			
		IP	II P	R	Mean	IP	II P	R	Mean	IP	II P	R	Mean
1	CoA 13322	11.11	11.55	11.52	11.39	12.63	12.71	12.75	12.70	11.87	11.71	11.69	11.76
2	CoA 13323	10.30	12.35	13.11	11.92	12.77	12.81	12.82	12.80	12.11	11.86	11.85	11.94
3	CoC 13336	12.93	13.38	11.50	12.60	12.96	12.93	12.95	12.95	11.71	11.57	11.61	11.63
4	CoC 13337	10.18	10.25	12.07	10.83	12.82	12.95	13.02	12.93	12.06	11.34	11.98	11.79
5	CoV 13356	12.71	13.26	13.08	13.02	12.75	12.73	12.71	12.73	11.52	11.56	12.20	11.76
	Standards												
1	CoA 92081	11.72	11.97	12.48	12.06	12.47	12.57	12.60	12.55	11.72	11.73	11.92	11.79
2	CoC 01061	11.50	12.19	12.76	12.15	12.80	12.81	12.80	12.80	11.63	11.47	12.03	11.71
	GM	11.49	12.14	12.36		12.74	12.79	12.81		11.80	11.61	11.90	
S. No.	Clone	Nellikuppam				Vuyyuru				GM	Rank		
		IP	II P	R	Mean	IP	II P	R	Mean				
1	CoA 13322	10.61	12.51	10.34	11.15	11.82	11.70	-	-	11.75			
2	CoA 13323	12.08	13.40	11.85	12.44	10.16	11.31	-	-	12.06			
3	CoC 13336	12.23	12.70	14.02	12.98	12.77	12.10	-	-	12.53	2		
4	CoC 13337	10.22	11.80	11.50	11.17	12.16	11.11	-	-	11.68			
5	CoV 13356	11.68	14.83	12.44	12.98	14.60	13.89	-	-	12.85	1		
	Standards												
1	CoA 92081	11.85	12.85	12.90	12.53	10.53	11.63	-	-	12.07			
2	CoC 01061	11.98	13.05	12.95	12.66	12.29	12.86	-	-	12.37	3		
	GM	11.52	13.01	12.28		12.05	12.09						

Table 3.3.4 Sucrose (%) at harvest -Pooled data of two plant and one ratoon crops

S. No.	Clone	Anakapalle				Cuddalore				Nayagarh			
		I P	II P	R	Mean	I P	II P	R	Mean	I P	II P	R	Mean
1	CoA 13322	16.00	17.07	16.39	16.49	17.60	17.66	17.66	17.64	17.11	17.23	17.01	17.12
2	CoA 13323	15.05	18.01	18.55	17.20	17.66	17.73	17.75	17.71	17.46	17.53	17.20	17.40
3	CoC 13336	18.65	19.37	16.61	18.21	17.97	17.96	17.98	17.97	16.87	17.27	16.74	16.96
4	CoC 13337	15.06	15.11	17.21	15.79	17.75	18.02	18.04	17.94	17.34	17.00	17.25	17.20
5	CoV 13356	18.18	19.06	18.54	18.59	17.72	17.71	17.70	17.71	16.92	17.10	17.61	17.21
	Standards												
1	CoA 92081	17.07	17.65	17.69	17.47	17.35	17.44	17.45	17.41	16.87	17.33	17.24	17.15
2	CoC 01061	16.65	17.67	18.08	17.47	17.71	17.72	17.72	17.72	17.03	17.00	17.26	17.10
	GM	16.67	17.71	17.58		17.68	17.75	17.76		17.09	17.21	17.19	
S. No.	Clone	Nellikuppam				Vuyyuru				GM (Wt. Aver.)	Rank		
		I P	II P	R	Mean	I P	II P	R	Mean				
1	CoA 13322	15.32	17.83	15.15	16.10	16.55	16.19	-	-	16.96			
2	CoA 13323	17.46	19.13	17.12	17.90	14.76	15.99	-	-	17.37			
3	CoC 13336	17.62	18.25	19.69	18.52	17.90	17.11	-	-	17.93	2		
4	CoC 13337	14.89	17.00	16.56	16.15	17.11	15.80	-	-	16.85			
5	CoV 13356	16.93	20.84	17.72	18.50	19.88	18.97	-	-	18.50	1		
	Standards												
1	CoA 92081	17.25	18.49	18.35	18.03	17.26	16.03	-	-	17.51			
2	CoC 01061	17.08	18.74	18.22	18.01	15.04	17.87	-	-	17.53	3		
	GM	16.65	18.61	17.54		16.93	16.85						

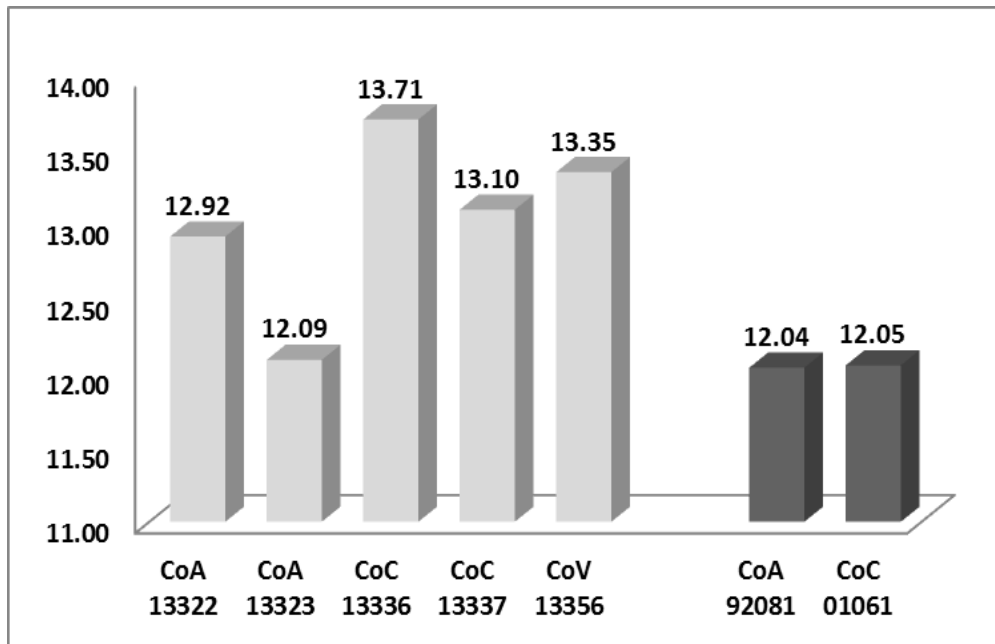


Fig.3.3.1. Mean performance of (2P+1R) of AVT early clones for CCS (t/ha)

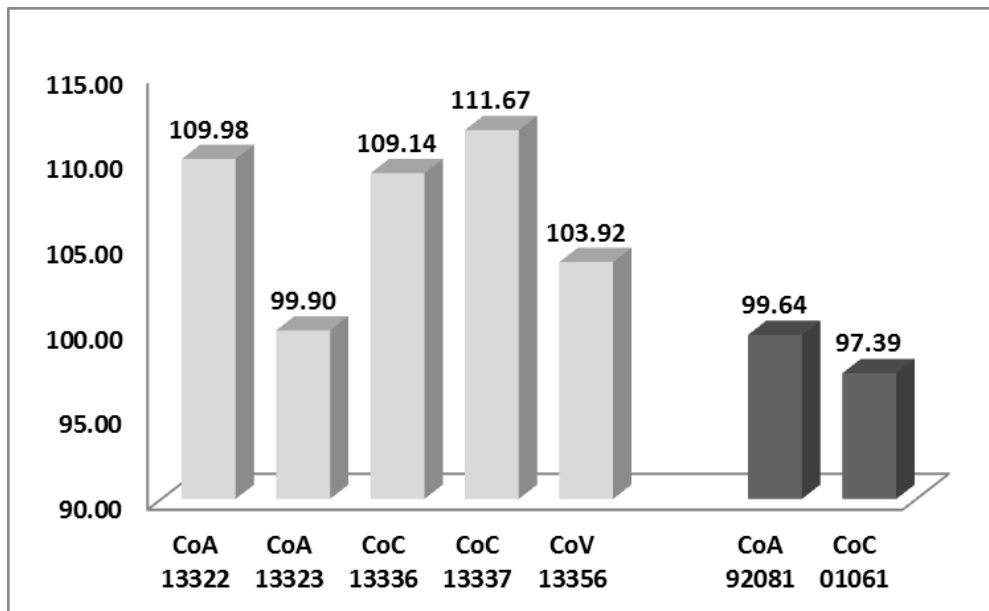


Fig.3.3.2 Mean performance of (2P+1R) of AVT early clones for Cane Yield (t/ha)

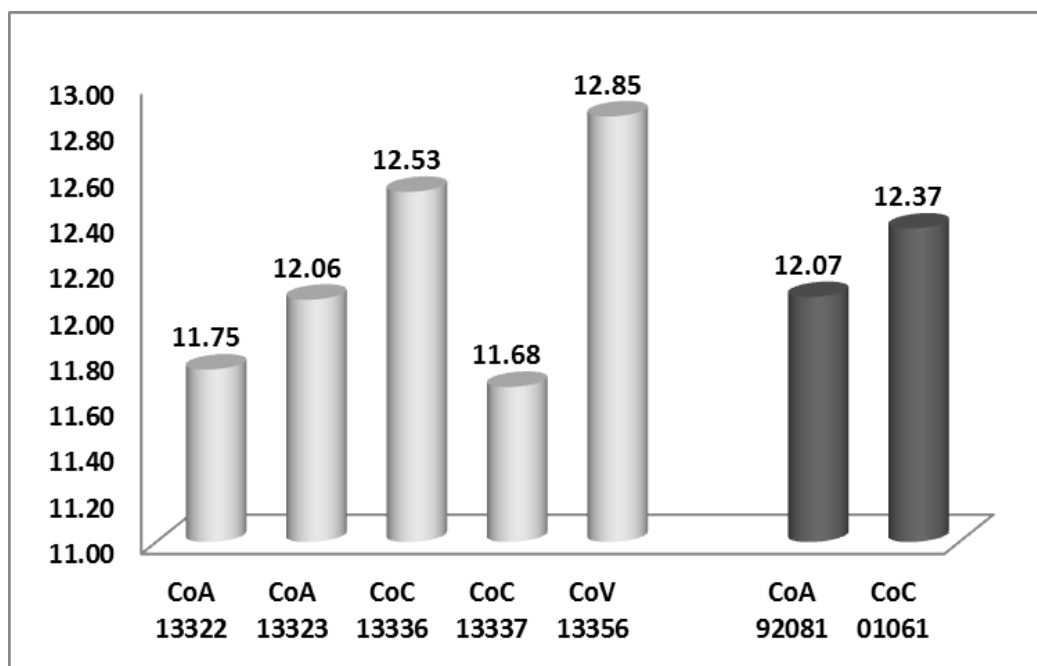


Fig.3.3.3. Mean performance of (2P+1R) of AVT early clones for CCS (%)

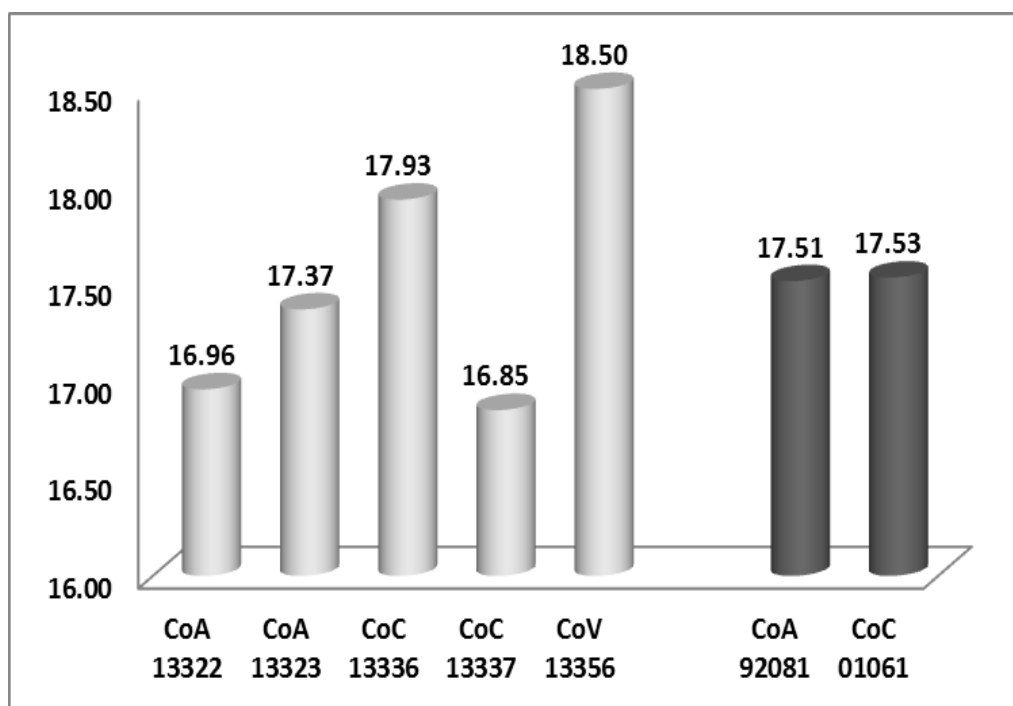


Fig.3.3.4 Mean performance of (2P+1R) of AVT early clones for Sucrose (%)

Simultaneous selection of high yielding and stable genotypes in Advance Varietal Trial (Early) – Plant I, II and Ratoon

Five entries, CoA 13322, CoA 13323, CoC 13336, CoC 13337 and CoV 13356 and two standards viz., CoA 92081 and CoC 01061 were evaluated during three crop cycles (I, II Plant and ratoon) at 5 locations in East Coast Zone. The data on CCS (t/ha), cane yield (t/ha) and sucrose (%) were subjected to stability analysis using AMMI model. Simultaneous selection of high yielding and stable genotypes was done by estimated index value based ranking. Estimated index values, CCS (t/ha), cane yield (t/ha) and sucrose (%) values and stability values of different genotypes along with their ranks are presented in Tables 6.1 to 6.3.

Results based on index of simultaneous selection of high CCS (t/ha) and stable genotypes revealed that two entries, CoA 13322 and CoC 13336 were at first and second rank, respectively. Such ranking differs with the ranking based only on mean data of CCS (t/ha) presented in Table 6.1. Considering top two entries for high CCS (t/ha) and stable genotype, CoA 13322 and CoC 13336 were superior among the entries. These entries were better than the best standard CoC 01061.

Results based an index of simultaneous selection for high cane yield (t/ha) and stable genotypes revealed that three entries, CoA 13322, CoV 13356 and CoC 13336 were at first, second and third rank, respectively. Such a ranking differs with the ranking based only on mean data of cane yield (Table 6.2). Considering top three entries with high cane yielding and stable genotypes, CoA 13322, CoV 13356 and CoC 13336 were superior among entries. These entries were better than the best standard, CoC 01061.

Results based on index of simultaneous selection for high sucrose (%) and stable genotypes revealed that None of the entries were found superior than both the standards. Such a ranking differs with the ranking based only on mean data of sucrose content (Table 6.3). However the numerical value of sucrose (%) of CoV 13356 and CoC 13336 is better than both the standards, CoA 92081 and CoC 01061.

From the above analysis, it may be concluded that entry, CoA 13322, was the most stable genotype with superiority for CCS (t/ha) and cane yield (t/ha) in early maturing group of East Coast Zone. The values of sucrose (%) of CoA 13322 was nearly equal to the best standard, CoA 92018.

Table 6.1 - Ranking of genotypes of AVT (E) of East Coast Zone according to their (i) mean performance, (ii) stability and (iii) simultaneous index value in respect of CCS (t/ha)

Variety	Estimated value			Rank based on estimated value		
	Index Value	CCS (t/ha) value	Stability value	Index value based rank	CCS (t/ha) based rank	Stability based rank
CoA 13322	1.41	13.23	3.63	1	4	1
CoA 13323	1.09	12.97	14.85	7	5	7
CoC 13336	1.35	14.06	5.26	2	1	3
CoC 13337	1.20	13.41	8.15	5	2	6
CoV 13356	1.26	13.33	6.02	4	3	4
Standards						
CoA 92081	1.16	12.45	7.11	6	6	5
CoC 01061	1.29	12.08	3.99	3	7	2

Table 6.2- Ranking of genotypes of AVT (E) of East Coast Zone according to their (i) mean performance, (ii) stability and (iii) simultaneous index value in respect of cane yield (t/ha)

Variety	Estimated value			Rank based on estimated value		
	Index Value	Cane Yield (t/ha) value	Stability value	Index value based rank	Cane Yield (t/ha) based rank	Stability based rank
CoA 13322	1.43	109.63	204.71	1	2	1
CoA 13323	1.06	99.56	753.24	7	5	7
CoC 13336	1.31	108.86	298.82	3	3	3
CoC 13337	1.25	110.67	418.32	4	1	6
CoV 13356	1.36	103.80	215.69	2	4	2
Standards						
CoA 92081	1.17	99.37	360.50	6	6	5
CoC 01061	1.17	97.94	337.60	5	7	4

Table 6.3 - Ranking of genotypes of AVT (E) of East Coast Zone according to their (i) mean performance, (ii) stability and (iii) simultaneous index value in respect of sucrose (%)

Variety	Estimated value			Rank based on estimated value		
	Index Value	Sucrose (%) value	Stability value	Index value based rank	Sucrose (%) based rank	Stability based rank
CoA 13322	1.21	16.74	3.55	4	6	4
CoA 13323	1.19	17.12	4.24	6	5	5
CoC 13336	1.30	17.83	3.19	3	2	3
CoC 13337	1.16	16.71	4.48	7	7	6
CoV 13356	1.20	18.29	5.96	5	1	7
Standards						
CoA 92081	1.34	17.34	2.57	1	4	1
CoC 01061	1.34	17.35	2.61	2	3	2

3.4 ADVANCED VARIETAL TRIAL (EARLY – I PLANT)

Centres (5)	Anakapalle, Cuddalore, Nayagarh, Nellikuppam and Vuyyuru
Entries (3)	Co 13023, CoA 14321 and CoC 14336
Standards (3)	CoC 01061, CoA 92081 and CoOr 03151*
Design	Randomized Block Design
Replications	Four
Plot size	Gross : 6.0 m x 8r x 0.90 m Net : 5.0 m x 6r x 0.90 m
Seed rate	12 buds/ metre
Planting time	February / March, 2017
Crop duration	10 months

*Values of the CoOr 03151 is not considered for comparison as two centres did not include this standard in the trial

Results of the previous year

The IVT trial was conducted by five centres with seven entries. CoC 14336 was the top ranking entry across the locations for CCS yield with (15.15 t/ha) and CoA 14321 for cane yield with (119.95 t/ha). Among the standards, CoA 92081 performed well with a CCS yield of 12.70 t/ha and a cane yield of 104.26 t/ha. However, for juice quality (CCS % and sucrose %) CoC 14336 was the top ranking entry in the zone. Its mean sucrose % at 10th month was 17.95 and CCS % at 10th month was 12.76. The next best entry for juice quality was CoV 14356 (17.39 % sucrose and CCS % of 12.17).

Results of the current year

The entry CoA 14321 was the best performer across locations for both cane yield (120.41 t/ha) and CCS yield (15.64 t/ha). CoC 14336 was the next best entry for cane yield (110.29 t/ha) and CCS yield (14.53 t/ha). For juice quality (CCS% and sucrose %) the entry CoC 14336 was the top ranking in the zone. At 10th month it recorded a mean sucrose content of 18.51% and CCS % of 13.15. CoA 14321 was identified as the qualifying entry as it recorded 14.29% improvement for cane yield and numerically superior performance for juice sucrose compared to the best standards CoA 92081 and CoC 01061, respectively. Further details are presented in Tables 3.4.1 to 3.4.20.

Table 3.4.1 CCS (t/ha) at harvest

S. No	Entry	Anakapalle	Cuddalore	Nayagarh	Nellikuppam	Vuyyuru	Mean	Rank
1	Co 13023	12.57	15.64	9.04	13.42	14.02	12.94	
2	CoA 14321	14.24*	16.21*	11.27	21.34*	15.12	15.64	1
3	CoC 14336	11.13	17.67*	10.30	18.24*	15.30	14.53	2
Standards								
1	CoA 92081	12.80	13.52	10.03	15.90	13.62	13.17	3
2	CoC 01061	9.54	13.49	11.97	12.80	17.74	13.11	
3	CoOr 03151	-	14.36	10.70	15.72	-	13.59	
	GM	12.06	15.15	10.55	16.23	15.16		
	SE	0.65	0.69	0.52	0.81	0.68		
	CD (0.05)	2.03	1.48	1.57	1.73	2.10		
	CV	10.77	6.46	9.90	7.09	9.00		
Qualifying entries at each location								
	1	CoA 14321	CoC 14336	-	CoA 14321	-		
	2	-	CoA 14321	-	CoC 14336	-		
	3	-	-	-	-	-		

*Significant over the best standard

No. of locations where an entry recorded 10 % improvement over the best standard: CoA 14321 (3) and CoC 14336 (2)

Performance of the entries across locations: The entry CoA 14321 (15.64 t/ha) was the best in the trial followed by CoC 14336 (14.53 t/ha) while the best standard CoA 92081 recorded 13.17 t/ha. CoA 14321 and CoC 14336 were qualified as these entries recorded 18.75 % and 10.33 % improvement over the best standard CoA 92081 across the locations.

Table 3.4 .2 Cane yield (t/ha) at harvest

S. No.	Entry	Anaka palle	Cuddalore	Nayagarh	Nelli kuppam	Vuyyuru	Mean	Rank
1	Co 13023	95.93	125.04	80.44	111.40	101.23	102.81	
2	CoA 14321	109.54	128.32*	96.97	162.44*	104.78	120.41	1
3	CoC 14336	87.59	135.41*	87.64	140.10	100.69	110.29	2
Standards								
1	CoA 92081	98.06	107.54	87.25	124.42	107.02	104.86	3
2	CoC 01061	76.11	106.54	100.39	100.12	125.15	101.66	
3	CoOr 03151	-	117.00	94.15	137.04	-	116.06	
	GM	93.45	119.98	91.14	129.25	107.77		
	SE	4.02	5.23	4.24	6.60	4.62		
	CD (0.05)	12.53	11.11	12.78	14.07	14.23		
	CV	8.61	6.13	9.30	7.22	8.60		
Qualifying entries at each location								
	1	CoA 14321	CoC 14336	-	CoA 14321	-	CoA 14321	
	2	-	CoA 14321	-	-	-		
	3	-	-	-	-	-		

*Significant over the best standard

No. of locations where an entry recorded 10 % improvement over the best standard: CoA 14321 (3) and CoC 14336 (1)

Performance of the entries across locations: The entry CoA 14321 was the best in the trial which recorded the highest cane yield of (120.41 t/ha) followed by CoC 14336 (110.29 t/ha). The best standard CoA 92081 recorded cane yield of 104.86 t/ha. CoA 14321 is identified as the qualifying entry with 14.82 % improvement over the best standard CoA 92081 across the locations.

Table 3.4.3 CCS % at 10th month

S. No.	Entry	Anaka pale	Cuddalore	Nayagarh	Nelli kuppam	Vuyyuru	Mean	Rank
1	Co 13023	13.06	12.71	11.24	12.05	13.85	12.58	
2	CoA 14321	13.01	12.86	11.62	13.15	14.42	13.01	2
3	CoC 14336	12.71	13.11*	11.75	13.01	15.17*	13.15	1
Standards								
1	CoA 92081	13.04	12.51	11.49	12.79	12.74	12.51	
2	CoC 01061	12.49	12.70	11.92	12.79	14.20	12.82	3
3	CoOr 03151	-	12.47	11.35	11.47	-	11.76	
	GM	12.86	12.73	11.56	12.54	14.08		
	SE	0.34	0.09	0.10	0.26	0.17		
	CD (0.05)	NS	0.20	0.29	0.56	0.52		
	CV	5.33	1.02	1.65	2.97	2.40		
Qualifying entries at each location								
	1	-	-	-	-	CoC 14336		
	2	-	-	-	-	-		
	3	-	-	-	-	-		

*Significant over the best standard

No. of locations where an entry recorded 5 % improvement over the best standard: CoC 14336 (1)

Performance of the entries across locations: CoC 14336 was the top ranking entry across locations with CCS % of 13.15 followed by CoA 14321 (13.01 %) while the best standard CoC 01061 recorded 12.82 %.

Table 3.4 .4 Sucrose % at 10th month

S. No.	Entry	Anaka palle	Cuddalore	Nayagarh	Nelli kuppam	Vuyyuru	Mean	Rank
1	Co 13023	18.80*	17.60	16.41	17.36	19.13	17.86	
2	CoA 14321	18.88*	17.93	16.84	18.60	19.61	18.37	2
3	CoC 14336	18.41	18.10*	16.89	18.46	20.71*	18.51	1
Standards								
1	CoA 92081	18.68	17.45	16.60	18.29	17.65	17.73	
2	CoC 01061	18.05	17.71	17.14	18.24	19.34	18.10	3
3	CoOr 03151	-	17.68	16.50	16.58	-	16.92	
	GM	18.56	17.75	16.74	17.91	19.29		
	SE	0.48	0.15	0.08	0.32	0.22		
	CD (0.05)	NS	0.32	0.24	0.69	0.67		
	CV	5.19	1.19	0.94	2.56	2.20		
Qualifying entries at each location								
	1	-	-	-	-	-		
	2	-	-	-	-	-		
	3	-	-	-	-	-		

*Significant over the best standard

No. of locations where an entry recorded 5 % improvement over the best standard: None of the entries recorded more than 5% improvement over the best quality standard at the respective locations.

Performance of the entries across locations: CoC 14336 was the top ranking entry across locations with sucrose % of 18.51 followed by CoA 14321 (18.37 %) and were numerically superior to the best standard CoC 01061 (18.10 %).

Table 3.4.5 Brix % at 10th month

S. No.	Entry	Anaka palle	Cuddalore	Nayagarh	Nelliku ppam	Vuyyuru	Mean
1	Co 13023	21.08	21.03	18.93	19.49	20.81	20.27
2	CoA 14321	21.55	21.27	19.15	20.04	20.56	20.51
3	CoC 14336	20.91	21.53	18.87	20.05	21.75	20.62
Standards							
1	CoA 92081	20.72	20.96	18.93	20.19	19.32	20.02
2	CoC 01061	20.41	21.22	19.15	20.04	20.49	20.26
3	CoOr 03151	-	20.47	18.88	18.73	-	19.36
	GM	20.93	21.08	18.99	19.75	20.59	
	SE	0.54	0.35	0.19	0.27	0.26	
	CD (0.05)	NS	0.74	NS	0.57	0.80	
	CV	5.20	2.32	2.09	1.94	2.50	

Table 3.4 .6 Purity % at 10th month

S. No.	Entry	Anaka palle	Cuddalore	Nayagarh	Nelliku ppam	Vuyyuru	Mean
1	Co 13023	89.19	88.96	86.73	89.03	91.95	89.17
2	CoA 14321	87.62	90.46	87.96	92.79	95.36	90.84
3	CoC 14336	88.04	90.70	89.48	92.08	95.02	91.06
Standards							
1	CoA 92081	90.17	89.87	87.96	90.56	91.36	89.98
2	CoC 01061	88.44	90.17	89.59	91.01	95.00	90.84
3	CoOr 03151	-	89.02	87.41	88.52	-	88.32
	GM	88.69	89.86	88.19	90.67	93.74	
	SE	0.64	0.47	0.98	0.78	0.63	
	CD (0.05)	NS	1.00	NS	1.68	1.94	
	CV	1.43	0.74	2.21	1.23	1.30	

Table 3.4.7 Pol % cane at harvest

S. No.	Entry	Anaka palle	Cuddalore	Nayagarh	Nelliku ppam	Vuyyuru	Mean
1	Co 13023	14.00	13.85	-	14.28	-	14.04
2	CoA 14321	13.99	14.09	-	15.28	-	14.45
3	CoC 14336	13.71	14.22	-	15.25	-	14.39
Standards							
1	CoA 92081	14.11	14.03	-	15.15	-	14.43
2	CoC 01061	13.31	14.06	-	15.03	-	14.13
3	CoOr 03151	-	13.56	-	13.68	-	13.62
	GM	13.82	13.97	-	14.77	-	
	SE	0.34	0.19	-	0.29	-	
	CD (0.05)	NS	0.40	-	0.62	-	
	CV	4.88	1.89	-	2.79	-	

Table 3.4.8 Extraction % at harvest

S. No.	Entry	Anaka palle	Cuddalore	Nayagarh	Nelliku ppam	Vuyyuru	Mean
1	Co 13023	52.95	50.08	51.30	53.33	-	51.92
2	CoA 14321	53.26	50.43	50.56	51.39	-	51.41
3	CoC 14336	51.60	50.95	50.63	50.07	-	50.81
Standards							
1	CoA 92081	50.73	49.97	51.26	53.66	-	51.41
2	CoC 01061	52.57	50.30	53.04	49.72	-	51.41
3	CoOr 03151	-	50.07	52.56	53.21	-	51.95
	GM	52.22	50.30	51.56	51.89	-	
	SE	2.96	0.26	0.78	0.81	-	
	CD (0.05)	NS	0.54	NS	1.76	-	
	CV	11.32	0.72	3.02	2.20	-	

Table 3.4.9 Fiber % at harvest

S. No.	Entry	Anaka palle	Cuddalore	Nayagarh	Nelliku ppam	Vuyyuru	Mean
1	Co 13023	15.57	13.33	14.88	12.72	-	14.13
2	CoA 14321	15.91	13.62	13.57	12.81	-	13.98
3	CoC 14336	15.53	13.56	14.27	12.70	-	14.02
Standards							
1	CoA 92081	14.49	13.84	13.57	12.16	-	13.52
2	CoC 01061	16.22	13.40	14.51	12.63	-	14.19
3	CoOr 03151	-	12.67	13.36	12.50	-	12.84
	GM	15.54	13.40	13.95	12.58	-	
	SE	0.32	0.18	0.20	0.24	-	
	CD (0.05)	0.99	0.39	0.61	0.51	-	
	CV	4.10	1.09	2.90	2.70	-	

Table 3.4.10 NMC ('000/ha) at harvest

S. No.	Entry	Anaka palle	Cuddalore	Nayagarh	Nelliku ppam	Vuyyuru	Mean
1	Co 13023	95.46	103.87	88.14	107.69	75.77	94.19
2	CoA 14321	89.81	110.03	106.78	105.37	78.47	98.09
3	CoC 14336	87.69	109.00	100.62	101.20	76.39	94.98
Standards							
1	CoA 92081	97.31	100.40	93.63	109.07	82.10	96.50
2	CoC 01061	101.02	106.87	107.49	136.85	99.15	110.28
3	CoOr 03151	-	93.29	99.75	98.89	-	97.31
	GM	94.26	103.91	99.40	109.84	84.03	
	SE	4.02	5.18	4.06	7.53	3.40	
	CD (0.05)	NS	11.04	12.24	16.05	10.49	
	CV	8.53	7.05	8.17	9.70	8.30	

Table 3.4.11 Stalk length (cm)

S. No.	Entry	Anaka palle	Cuddalore	Nayagarh	Nelliku ppam	Vuyyuru	Mean
1	Co 13023	255.75	274.75	203.75	220.25	251.79	241.26
2	CoA 14321	224.25	281.75	229.50	234.75	287.44	251.54
3	CoC 14336	233.50	292.25	217.50	222.50	269.06	246.96
Standards							
1	CoA 92081	230.50	271.75	221.00	216.50	251.50	238.25
2	CoC 01061	250.45	278.25	207.00	220.00	265.25	244.19
3	CoOr 03151	-	266.50	235.50	235.00	-	245.67
	GM	238.90	277.54	219.04	224.00	265.01	
	SE	10.76	5.14	3.46	5.02	6.26	
	CD (0.05)	NS	10.97	10.41	10.70	19.50	
	CV	9.01	2.62	3.16	3.16	4.70	

Table 3.4.12 Stalk diameter (cm)

S. No.	Entry	Anaka palle	Cuddalore	Nayagarh	Nelliku ppam	Vuyyuru	Mean
1	Co 13023	2.37	2.85	3.19	2.59	2.56	2.71
2	CoA 14321	2.70	2.92	2.39	2.99	2.88	2.78
3	CoC 14336	2.32	2.95	3.09	2.67	2.45	2.70
Standards							
1	CoA 92081	2.55	2.62	2.46	2.49	2.86	2.60
2	CoC 01061	2.05	2.35	2.90	2.02	2.07	2.28
3	CoOr 03151	-	2.80	2.51	2.69	-	2.67
	GM	2.40	2.75	2.76	2.57	2.56	
	SE	0.07	0.12	0.05	0.04	0.05	
	CD (0.05)	0.21	0.26	0.16	0.10	0.15	
	CV	5.63	6.33	3.89	2.66	3.80	

Table 3.4.13 Single cane weight (kg)

S. No.	Entry	Anaka palle	Cuddalore	Nayagarh	Nelliku ppam	Vuyyuru	Mean
1	Co 13023	1.04	1.18	1.24	1.02	1.25	1.15
2	CoA 14321	1.26	1.29	1.05	1.37	1.72	1.34
3	CoC 14336	1.04	1.34	1.28	1.05	1.07	1.16
Standards							
1	CoA 92081	1.05	1.09	1.37	0.98	1.31	1.16
2	CoC 01061	0.78	0.97	1.27	0.80	1.04	0.97
3	CoOr 03151	-	1.21	1.28	1.24	-	1.24
	GM	1.03	1.18	1.25	1.07	1.28	
	SE	0.09	0.07	0.03	0.04	0.03	
	CD (0.05)	0.28	0.15	0.09	0.10	0.10	
	CV	17.26	8.43	4.77	6.25	5.20	

Table 3.4.14 CCS % at 8 months

S. No.	Entry	Anaka palle	Cuddalore	Nayagarh	Nelliku ppam	Vuyyuru	Mean
1	Co 13023	11.16	10.67	9.80	8.95	-	10.15
2	CoA 14321	11.42	10.88	11.04	10.94	-	11.07
3	CoC 14336	11.78	11.10	10.45	11.25	-	11.15
Standards							
1	CoA 92081	11.39	12.67	10.40	11.06	-	11.38
2	CoC 01061	11.23	10.77	10.70	10.94	-	10.91
3	CoOr 03151	-	10.46	10.13	9.59	-	10.06
	GM	11.40	11.09	10.42	10.45	-	
	SE	0.23	0.10	0.09	0.45	-	
	CD (0.05)	NS	0.22	0.28	0.97	-	
	CV	4.03	1.30	1.80	6.20	-	

Table 3.4.15 Sucrose % at 8 months

S. No.	Entry	Anaka palle	Cuddalore	Nayagarh	Nelliku ppam	Vuyyuru	Mean
1	Co 13023	16.09	15.24	14.24	13.44	-	14.75
2	CoA 14321	16.35	15.33	15.57	15.92	-	15.79
3	CoC 14336	17.10	15.84	14.80	16.29	-	16.01
Standards							
1	CoA 92081	16.36	15.21	14.78	16.15	-	15.63
2	CoC 01061	16.21	15.47	15.20	15.85	-	15.68
3	CoOr 03151	-	15.02	14.45	14.30	-	14.59
	GM	16.42	15.35	14.83	15.32	-	
	SE	0.30	0.26	0.13	0.58	-	
	CD (0.05)	NS	0.54	0.39	1.24	-	
	CV	3.66	2.35	1.75	5.38	-	

Table 3.4.16 Brix % at 8 months

S. No.	Entry	Anaka palle	Cuddalore	Nayagarh	Nelliku ppam	Vuyyuru	Mean
1	Co 13023	18.10	18.03	16.26	16.37	-	17.19
2	CoA 14321	18.10	18.16	16.69	18.27	-	17.81
3	CoC 14336	19.50	18.00	16.02	18.49	-	18.00
Standards							
1	CoA 92081	18.25	19.03	16.12	18.64	-	18.01
2	CoC 01061	18.25	18.29	16.56	18.00	-	17.78
3	CoOr 03151	-	17.12	15.87	17.21	-	16.73
	GM	18.44	18.11	16.25	17.82	-	
	SE	0.32	0.39	0.18	0.48	-	
	CD (0.05)	0.98	0.83	0.54	1.03	-	
	CV	3.42	2.96	2.19	3.86	-	

Table 3.4.17 Purity % at 8 months

S. No.	Entry	Anaka palle	Cuddalore	Nayagarh	Nelliku ppam	Vuyyuru	Mean
1	Co 13023	88.90	85.13	87.51	82.02	-	85.89
2	CoA 14321	90.32	85.41	92.77	87.08	-	88.90
3	CoC 14336	87.69	85.48	92.37	88.05	-	88.40
Standards							
1	CoA 92081	89.63	84.88	91.68	86.57	-	88.19
2	CoC 01061	88.79	85.17	91.82	87.99	-	88.44
3	CoOr 03151	-	84.45	91.04	83.10	-	86.20
	GM	89.07	85.09	91.19	85.79	-	
	SE	0.72	0.34	0.66	1.10	-	
	CD (0.05)	NS	0.73	1.99	2.34	-	
	CV	1.61	0.57	1.45	1.81	-	

Table 3.4.18 Number of shoots ('000/ha) at 240 days

S. No.	Entry	Anaka palle	Cuddalore	Nayagarh	Nelliku ppam	Vuyyuru	Mean
1	Co 13023	98.15	110.87	99.60	123.43	81.79	102.77
2	CoA 14321	92.69	122.86	117.05	138.70	83.87	111.03
3	CoC 14336	90.46	115.72	112.40	141.94	87.50	109.60
Standards							
1	CoA 92081	102.22	115.17	104.18	143.80	88.50	110.77
2	CoC 01061	106.57	113.15	115.80	148.89	107.87	118.46
3	CoOr 03151	-	99.84	108.95	152.13	-	120.31
	GM	98.02	112.94	109.66	141.48	89.91	
	SE	4.88	4.75	3.65	7.14	3.86	
	CD (0.05)	NS	10.12	11.00	15.23	11.90	
	CV	9.95	5.95	6.60	7.15	8.60	

Table 3.4.19 Number of tillers ('000/ha) at 120 days

S. No.	Entry	Anaka palle	Cuddalore	Nayagarh	Nelliku ppam	Vuyyuru	Mean
1	Co 13023	107.56	115.72	98.51	144.03	110.26	115.22
2	CoA 14321	98.99	128.32	123.09	163.24	108.33	124.39
3	CoC 14336	97.23	122.58	118.97	165.79	105.09	121.93
Standards							
1	CoA 92081	111.88	134.96	117.19	168.33	113.19	129.11
2	CoC 01061	116.28	123.91	126.39	178.29	130.79	135.13
3	CoOr 03151	-	112.56	116.78	176.20	-	135.18
	GM	106.39	123.01	116.82	165.90	113.53	
	SE	7.79	5.65	3.15	9.32	4.61	
	CD (0.05)	NS	12.04	9.50	19.87	14.20	
	CV	14.65	6.50	5.39	7.95	8.10	

Table 3.4.20 Germination % at 30 days

S. No.	Entry	Anaka palle	Cuddalore	Nayagarh	Nellikuppam	Vuyyuru	Mean
1	Co 13023	57.17	47.60	47.05	73.96	55.03	56.16
2	CoA 14321	53.87	53.97	48.80	84.08	51.74	58.49
3	CoC 14336	51.51	56.65	47.58	89.84	50.41	59.20
Standards							
1	CoA 92081	60.82	54.49	50.63	82.50	53.07	60.30
2	CoC 01061	59.20	63.39	52.10	88.19	61.63	64.90
3	CoOr 03151	-	51.03	52.35	90.89	-	64.76
	GM	56.51	54.52	49.75	84.91	54.38	
	SE	4.79	1.25	1.32	5.07	1.99	
	CD (0.05)	NS	2.67	3.97	10.82	6.14	
	CV	16.96	3.25	5.29	8.46	7.30	

Table 3.4.21 Assessment of performance of entries by monitoring team

	Nellikuppam	Cuddalore	Vuyyuru	Anakapalle	Nayagarh
Co 13023	Poor	Poor	On par	On par	On par
CoA 14321	Poor	On par	On par	On par	On par
CoC 14336	Poor	On par	On par	On par	Poor
Standards					
CoA 92081					
CoC 01061		Best	Best	Best	Best
CoOr 03151	Best				

3.5 INITIAL VARIETAL TRIAL (EARLY)

Centres (5)	Anakapalle, Cuddalore, Nayagarh, Nellikuppam and Vuyyuru
Entries (4)	1. CoC 15336 (Co 85002 GC) 2. CoC 15337 (C 81615 x CoT 8201) 3. CoC 15338 (Co 86032 x BO 99) 4. Co V15356 (CoA 92081 GC)
Standards (2)	CoA 92081 and CoC 01061
Design	Randomized Block Design
Replications	Three
Plot size	Gross : 6.0 m x 6r x 0.90 m Net : 5.0 m x 4r x 0.90 m
Bud rate	12 buds/ metre
Planting time	February / March 2017
Crop duration	10 months

Results of the previous year

The entries were under multiplication in the respective centres.

Results of the current year

CoV 15356 was the top ranking entry across the locations for CCS yield (15.78 t/ha) and cane yield (117.32 t/ha). Among the standards, CoA 92081 performed well with a CCS yield of 13.57 t/ha and CoOr 03151 for cane yield with 119.72 t/ha. For juice quality (CCS % and sucrose %) also CoV 15356 was the top ranking entry in the zone. Its mean CCS % at 10th month was 13.40 and sucrose % was 18.94. No qualifying entries were identified from the trial as none of them recorded either 10% improvement for yield or 5% improvement for quality over the respective best standards. Further details are presented in Tables 3.5.1 to 3.5.20.

Table 3.5.1 CCS (t/ha) at harvest

S. No.	Entry	Anakappalle	Cuddalore	Naya garh	Nellikuppam	Vuyyuru	Mean	Rank
1	CoC 15336	8.74	16.75	10.25	18.91	4.48	11.83	
2	CoC 15337	9.33	15.91	12.79	7.28	11.86	11.43	
3	CoC 15338	9.79	17.95*	12.68	6.17	5.39	10.40	
4	CoV 15356	13.94*	16.65	12.36	21.29	14.68	15.78	1
	Standards							
1	CoA 92081	9.66	15.64	11.17	18.94	12.46	13.57	2
2	CoC 01061	8.17	14.48	10.66	16.42	13.91	12.73	3
3	CoOr 03151	10.23	14.76	12.39	19.42	5.43	12.45	
	GM	9.98	16.02	11.76	15.49	9.74		
	SE	0.87	0.63	0.48	1.13	0.725		
	CD(0.05)	NS	1.37	1.49	2.46	2.235		
	CV	15.105	4.82	7.13	8.96	12.9		
Qualifying entries at each location								
	1	CoV 15356	CoC 15338	-	-	-	CoV 15356	
	2	-	-	-	-	-	-	
	3	-	-	-	-	-	-	

*Significant over the best standard

No. of locations where an entry recorded 10 % improvement over the best standard: CoV 15356 (1) and CoC 15338 (1)

Performance of the entries across locations: The entry CoV 15356 (15.78 t/ha) was the best in the trial while the best standard CoA 92081 recorded 13.57 t/ha. Entries CoV 15356 and CoC 15338 recorded more than 10 % improvement over the best standard at Anakappalle and Cuddalore respectively. The entry CoV 15356 recorded 16.28 % improvement over the best standard CoA 92081 across the locations.

Table 3.5.2 Cane yield (t/ha) at harvest

S. No.	Entry	Anakapalle	Cuddalore	Naya garh	Nellikuppam	Vuyyuru	Mean	Rank
1	CoC 15336	73.89	128.79	93.15	144.86	34.11	94.96	
2	CoC 15337	83.90	124.27	109.77	72.32	98.15	97.68	
3	CoC 15338	82.78	138.64*	109.12	45.27	45.06	84.17	
4	CoV 15356	97.79*	129.66	105.57	145.27	108.33	117.32	2
	Standards							
1	CoA 92081	77.60	123.17	101.02	144.55	101.85	109.64	3
2	CoC 01061	70.75	113.45	92.15	125.51	99.54	100.28	
3	CoOr 03151	92.60	117.78	103.89	164.61	46.76	119.72	1
	GM	82.76	125.11	102.09	120.34	76.26		
	SE	7.093	4.66	4.04	8.68	5.003		
	CD (0.05)	NS	10.16	12.45	18.92	15.41		
	CV	14.85	4.57	6.85	8.84	11.4		
	Qualifying entries at each location							
	1	-	CoC 15338	-	-	-		
	2	-	-	-	-	-		
	3	-	-	-	-	-		

Only top three qualifying entries are listed

*Significant over the best standard

No. of locations where an entry recorded 10 % improvement over the best standard: CoC 15338(1)

Performance of the entries across locations: The entry CoV 15356 was the best in the trial which recorded the highest cane yield of (117.32 t/ha) while the best standard CoOr 03151 119.72 t/ha cane yield. None of the entries performed better than best standard for cane yield across the locations.

Table 3.5.3 CCS % at 10th month

S. No.	Entry	Anaka palle	Cuddalore	Naya garh	Nellikuppam	Vuyyuru	Mean	Rank
1	CoC 15336	11.90	13.01*	11.28	13.05	13.13	12.47	3
2	CoC 15337	11.10	12.81	11.66*	10.00	12.07	11.53	
3	CoC 15338	11.89	12.95*	11.63*	13.63	11.99	12.42	
4	CoV 15356	14.25*	12.84	11.69*	14.65*	13.55	13.40	1
	Standards							
1	CoA 92081	12.55	12.70	11.06	13.08	12.22	12.32	
2	CoC 01061	11.53	12.77	11.56	13.11	13.98	12.59	2
3	CoOr 03151	11.05	12.52	11.60	11.80	11.60	11.71	
	GM	12.04	12.80	11.50	12.76	12.65		
	SE	0.49	0.05	0.17	0.32	0.23		
	CD (0.05)	1.52	0.12	NS	0.71	0.70		
	CV	7.04	0.52	2.49	3.13	3.10		
Qualifying entries at each location								
	1	CoV 15356	-	-	CoV 15356	-	CoV 15356	
	2	-	-	-	-	-	-	
	3	-	-	-	-	-	-	

*Significant over the best standard

No. of locations where an entry recorded 5 % improvement over the best standard: CoV 15356 (2)

Performance of the entries across locations: The entry CoV 15356 recorded the highest mean CCS % of 13.40 followed by the entry CoC 15336 (12.47) while the best standard CoC 01061 recorded 12.59. The entry CoV 15356 recorded 6.43 % improvement over the best standard CoC 01061 across the locations.

Table 3.5.4 Sucrose % at 10th month

S. No.	Entry	Anaka palle	Cuddalore	Naya garh	Nellikuppam	Vuyyuru	Mean	Rank
1	CoC 15336	17.09	18.00	16.40	18.56	18.28	17.67	
2	CoC 15337	16.11	17.74	17.40	15.09	17.20	16.71	
3	CoC 15338	17.23	17.94	17.30	19.12	16.81	17.68	3
4	CoV 15356	20.21*	17.80	17.30	20.62*	18.77	18.94	1
	Standards							
1	CoA 92081	17.85	17.70	16.50	18.68	16.88	17.52	
2	CoC 01061	16.62	17.83	17.20	18.65	19.19	17.90	2
3	CoOr 03151	15.95	17.42	17.10	16.86	16.41	16.75	
	GM	17.29	17.77	17.00	18.22	17.65		
	SE	0.62	0.05	0.18	0.43	0.28		
	CD (0.05)	1.93	0.11	0.57	0.94	0.86		
	CV	6.19	0.35	1.89	2.91	2.70		
Qualifying entries at each location								
	1	CoV 15356	-	-	CoV 15356	-	CoV 15356	
	2	-	-	-	-	-	-	
	3	-	-	-	-	-	-	

*Significant over the best standard

No. of locations where an entry recorded 5 % improvement over the best standard: CoV 15356 (2)

Performance of the entries across locations: The entry CoV 15356 recorded the highest sucrose content of 18.94 % across the locations while the best standard CoC 01061 recorded 17.90 %. The entry CoV 15356 recorded 5.81 % improvement over the best standard CoC 01061 across the locations.

Table 3.5.5 Brix % at 10th month

S. No.	Entry	Anakapalle	Cuddalore	Nayagarh	Nellikuppam	Vuyyuru	Mean
1	CoC 15336	19.06	21.60	19.67	20.27	20.23	20.17
2	CoC 15337	18.39	20.95	20.83	18.55	19.95	19.73
3	CoC 15338	19.58	21.31	20.60	20.25	18.90	20.13
4	CoV 15356	21.93	21.41	20.50	21.97	20.54	21.27
	Standards						
1	CoA 92081	19.49	21.11	19.87	20.58	18.37	19.88
2	CoC 01061	18.69	21.41	20.47	20.37	20.56	20.30
3	CoOr 03151	17.99	20.53	20.23	18.59	18.78	19.22
	GM	19.30	21.19	20.31	20.08	19.62	
	SE	0.54	0.27	0.28	0.44	0.25	
	CD (0.05)	1.57	0.58	NS	0.97	0.77	
	CV	4.52	1.54	2.43	2.72	2.20	

Table 3.5.6 Purity % at 10th month

S. No.	Entry	Anakapalle	Cuddalore	Nayagarh	Nellikuppam	Vuyyuru	Mean
1	CoC 15336	89.59	90.41	83.41	91.56	90.36	89.07
2	CoC 15337	87.53	89.58	83.37	81.31	86.21	85.60
3	CoC 15338	87.91	90.11	83.81	94.46	88.98	89.05
4	CoV 15356	92.15	90.14	84.40	93.83	91.42	90.39
	Standards						
1	CoA 92081	91.54	89.67	83.07	90.78	91.89	89.39
2	CoC 01061	88.90	90.09	83.95	91.52	93.35	89.56
3	CoOr 03151	88.64	88.52	84.70	90.68	87.36	87.98
	GM	89.47	89.79	83.81	90.58	89.94	
	SE	1.03	0.45	0.88	0.86	0.62	
	CD (0.05)	NS	0.97	NS	1.88	1.90	
	CV	1.98	0.61	1.81	1.17	1.20	

Table 3.5.7 Pol % cane at harvest

S. No.	Entry	Anakapalle	Cuddalore	Naya garh	Nelliku ppam	Vuyyuru	Mean
1	CoC 15336	12.84	14.09	-	15.29	-	14.07
2	CoC 15337	11.85	13.94	-	12.42	-	12.74
3	CoC 15338	12.93	14.08	-	15.77	-	14.26
4	CoV 15356	15.23	13.94	-	16.96	-	15.38
	Standards						
1	CoA 92081	13.26	13.72	-	15.41	-	14.13
2	CoC 01061	12.16	13.96	-	15.38	-	13.83
3	CoOr 03151	11.89	13.67	-	13.89	-	13.15
	GM	12.88	13.91	-	15.01	-	
	SE	0.44	0.12	-	0.37	-	
	CD (0.05)	1.37	0.25	-	0.81	-	
	CV	5.89	1.01	-	3.05	-	

Table 3.5.8 Extraction % at harvest

S. No.	Entry	Anakapalle	Cuddalore	Naya garh	Nelliku ppam	Vuyyuru	Mean
1	CoC 15336	45.92	55.26	51.38	53.22	-	51.45
2	CoC 15337	52.75	53.62	52.73	52.40	-	52.88
3	CoC 15338	52.80	54.82	53.14	50.34	-	52.78
4	CoV 15356	64.01	55.07	52.30	53.21	-	56.15
	Standards						
1	CoA 92081	52.72	53.07	52.49	53.39	-	52.92
2	CoC 01061	52.15	54.54	51.63	50.12	-	52.11
3	CoOr 03151	49.99	52.51	52.70	51.77	-	51.74
	GM	52.91	54.13	52.34	52.06	-	
	SE	3.02	0.49	0.46	1.81	-	
	CD (0.05)	9.42	1.07	NS	3.96	-	
	CV	9.90	1.02	1.53	4.28	-	

Table 3.5.9 Fiber % at harvest

S. No.	Entry	Anakapalle	Cuddalore	Naya garh	Nelliku ppam	Vuyyuru	Mean
1	CoC 15336	14.88	12.91	13.68	12.62	-	13.52
2	CoC 15337	16.42	13.73	14.19	12.70	-	14.26
3	CoC 15338	14.92	13.57	14.90	12.55	-	13.99
4	CoV 15356	14.61	13.02	13.59	12.75	-	13.49
	Standards						
1	CoA 92081	15.70	13.45	14.41	12.53	-	14.02
2	CoC 01061	16.81	12.67	14.19	12.53	-	14.05
3	CoOr 03151	15.43	13.02	14.10	12.60	-	13.79
	GM	15.54	13.20	14.15	12.61	-	
	SE	0.25	0.24	0.21	0.30	-	
	CD (0.05)	0.78	0.53	0.66	0.66	-	
	CV	2.78	2.26	2.60	2.94	-	

Table 3.5.10 NMC (*000/ha) at harvest

S. No.	Entry	Anakapalle	Cuddalore	Naya garh	Nelliku ppam	Vuyyuru	Mean
1	CoC 15336	73.15	108.84	104.70	106.84	46.30	87.97
2	CoC 15337	65.37	99.84	122.30	100.67	60.80	89.80
3	CoC 15338	68.52	112.42	119.40	70.60	60.49	86.29
4	CoV 15356	76.30	116.07	115.60	85.59	65.74	91.86
	Standards						
1	CoA 92081	71.67	99.75	110.00	108.89	68.52	91.77
2	CoC 01061	87.78	111.91	101.00	94.69	78.86	94.85
3	CoOr 03151	78.33	101.36	110.00	110.32	59.41	91.88
	GM	74.45	107.17	111.80	96.80	60.36	
	SE	6.52	5.07	3.71	7.31	4.18	
	CD (0.05)	NS	11.05	11.43	15.93	12.89	
	CV	15.17	5.80	5.74	9.25	11.50	

Table 3.5.11 Stalk length (cm)

S. No.	Entry	Anakapalle	Cuddalore	Naya garh	Nelliku ppam	Vuyyuru	Mean
1	CoC 15336	193.67	271.00	201.30	231.33	186.75	216.81
2	CoC 15337	258.00	274.00	317.30	175.00	238.33	252.53
3	CoC 15338	224.33	292.33	238.00	160.33	225.25	228.05
4	CoV 15356	236.67	282.33	278.70	227.33	248.78	254.76
	Standards						
1	CoA 92081	204.80	270.00	299.30	226.33	247.67	249.62
2	CoC 01061	225.00	271.67	250.00	228.33	240.33	243.07
3	CoOr 03151	260.67	267.00	290.70	236.00	269.67	264.81
	GM	229.00	275.48	267.90	212.09	236.68	
	SE	18.52	7.01	14.34	4.21	6.71	
	CD (0.05)	NS	15.26	44.18	9.19	20.91	
	CV	14.76	3.11	9.27	2.44	4.90	

Table 3. 5.12 Stalk diameter (cm)

S. No.	Entry	Anakapalle	Cuddalore	Naya garh	Nelliku ppam	Vuyyuru	Mean
1	CoC 15336	2.54	2.97	2.13	2.61	2.75	2.60
2	CoC 15337	2.52	2.87	2.78	1.77	2.60	2.51
3	CoC 15338	2.49	3.05	2.59	1.55	2.80	2.50
4	CoV 15356	2.82	2.89	3.26	2.64	2.70	2.86
	Standards						
1	CoA 92081	2.54	2.81	3.07	2.60	2.74	2.75
2	CoC 01061	2.10	2.53	3.32	2.13	2.22	2.46
3	CoOr 03151	2.40	2.74	2.98	2.91	2.79	2.76
	GM	2.49	2.84	2.86	2.31	2.66	
	SE	0.12	0.70	0.09	0.10	0.07	
	CD (0.05)	0.39	0.15	0.28	0.22	0.22	
	CV	8.63	3.02	5.41	5.48	4.70	

Table 3.5.13 Single cane weight (kg)

S. No.	Entry	Anakapalle	Cuddalore	Naya garh	Nelliku ppam	Vuyyuru	Mean
1	CoC 15336	1.07	1.22	1.54	1.08	0.81	1.14
2	CoC 15337	1.34	1.24	1.50	0.67	1.10	1.17
3	CoC 15338	1.25	1.32	1.22	0.64	1.17	1.12
4	CoV 15356	1.36	1.24	1.34	1.20	1.55	1.34
	Standards						
1	CoA 92081	1.12	1.05	1.47	1.26	1.25	1.23
2	CoC 01061	0.83	0.99	1.24	0.94	1.02	1.00
3	CoOr 03151	1.21	1.19	1.68	1.34	1.27	1.34
	GM	1.17	1.18	1.43	1.06	1.17	
	SE	0.04	0.06	0.08	0.06	0.03	
	CD (0.05)	0.13	0.13	0.24	0.12	0.10	
	CV	6.21	6.38	9.59	6.35	4.90	

Table 3.5.14 CCS % at 8 months

S. No.	Entry	Anakapalle	Cuddalore	Naya garh	Nelliku ppam	Vuyyuru	Mean
1	CoC 15336	7.76	10.92	10.51	11.35	10.14	10.14
2	CoC 15337	7.66	10.89	10.88	8.22	9.41	9.41
3	CoC 15338	8.00	10.89	11.16	10.03	10.02	10.02
4	CoV 15356	9.86	10.81	11.28	11.13	10.77	10.77
	Standards						
1	CoA 92081	8.55	10.25	10.78	11.30	10.22	10.22
2	CoC 01061	10.35	10.73	11.49	9.85	10.61	10.61
3	CoOr 03151	8.44	10.38	11.62	9.44	9.97	9.97
	GM	8.66	10.70	11.10	10.19	10.16	
	SE	0.33	0.15	0.26	0.26		
	CD (0.05)	1.04	0.33	NS	0.58		
	CV	6.66	1.72	4.10	3.21		

Table 3.5.15 Sucrose % at 8 months

S. No.	Entry	Anakapalle	Cuddalore	Naya garh	Nelliku ppam	Vuyyuru	Mean
1	CoC 15336	11.56	15.75	15.70	16.42	-	14.86
2	CoC 15337	11.53	15.55	16.47	12.65	-	14.05
3	CoC 15338	11.75	15.43	16.97	14.91	-	14.77
4	CoV 15356	14.17	15.56	16.70	16.40	-	15.71
	Standards						
1	CoA 92081	12.71	15.12	16.03	16.43	-	15.07
2	CoC 01061	14.95	15.51	16.90	14.55	-	15.48
3	CoOr 03151	12.52	15.07	16.93	14.12	-	14.66
	GM	12.74	15.43	16.53	15.06	-	
	SE	0.44	0.14	0.22	0.36	-	
	CD (0.05)	1.37	0.31	0.68	0.80	-	
	CV	5.99	1.12	2.31	2.98	-	

Table 3.5.16 Brix % at 8 months

S. No.	Entry	Anakapalle	Cuddalore	Naya garh	Nelliku ppam	Vuyyuru	Mean
1	CoC 15336	13.87	19.34	18.93	18.60	-	17.69
2	CoC 15337	14.13	19.19	20.37	16.10	-	17.45
3	CoC 15338	13.73	19.30	20.00	17.82	-	17.71
4	CoV 15356	15.83	19.30	19.80	19.27	-	18.55
	Standards						
1	CoA 92081	15.20	18.61	19.20	18.81	-	17.96
2	CoC 01061	16.87	19.27	19.80	17.22	-	18.29
3	CoOr 03151	14.93	18.90	19.47	17.08	-	17.60
	GM	14.94	19.13	19.65	17.84	-	
	SE	0.43	0.18	0.38	0.40	-	
	CD (0.05)	1.33	0.40	NS	0.86	-	
	CV	4.96	1.19	3.36	2.73	-	

Table 3.5.17 Purity % at 8 months

S. No.	Entry	Anakapalle	Cuddalore	Naya garh	Nelliku ppam	Vuyyuru	Mean
1	CoC 15336	83.35	85.65	82.97	88.30	-	85.07
2	CoC 15337	81.60	84.96	80.90	78.54	-	81.50
3	CoC 15338	85.58	85.34	84.84	83.66	-	84.86
4	CoV 15356	89.51	85.25	84.38	85.08	-	86.06
	Standards						
1	CoA 92081	83.62	84.55	83.55	87.33	-	84.76
2	CoC 01061	88.62	85.27	85.40	84.53	-	85.96
3	CoOr 03151	83.86	83.75	87.03	82.66	-	84.33
	GM	85.16	84.97	84.15	84.29	-	
	SE	0.99	0.35	1.22	0.61	-	
	CD (0.05)	3.07	0.77	NS	1.33	-	
	CV	2.01	0.51	2.52	0.90	-	

Table 3.5.18 Number of shoots ('000/ha) at 240 days

S. No.	Entry	Anakapalle	Cuddalore	Naya garh	Nelliku ppam	Vuyyuru	Mean
1	CoC 15336	78.70	109.77	112.53	135.85	64.97	100.36
2	CoC 15337	69.45	106.05	128.50	122.02	63.74	97.95
3	CoC 15338	73.15	115.09	126.95	88.98	79.01	96.64
4	CoV 15356	81.30	120.05	122.89	125.85	77.62	105.54
	Standards						
1	CoA 92081	75.93	109.76	119.22	125.29	89.20	103.88
2	CoC 01061	92.78	119.98	108.22	135.98	97.99	110.99
3	CoOr 03151	82.96	109.75	116.46	133.52	87.04	105.95
	GM	79.18	112.92	119.25	123.92	79.94	
	SE	6.97	3.98	4.11	8.21	3.41	
	CD (0.05)	NS	8.68	12.69	17.89	10.51	
	CV	15.25	4.32	5.98	8.12	7.40	

Table 3.5.19 Number of tillers (*000/ha) at 120 days

S. No.	Entry	Anakapalle	Cuddalore	Naya garh	Nellikuppam	Vuyyuru	Mean
1	CoC 15336	84.72	115.71	119.01	174.25	97.69	118.28
2	CoC 15337	75.15	107.38	139.10	177.35	84.88	116.77
3	CoC 15338	81.33	114.40	134.19	128.46	101.70	112.02
4	CoV 15356	89.66	118.48	126.75	177.06	108.95	124.18
	Standards						
1	CoA 92081	81.48	121.18	124.97	169.14	109.11	121.18
2	CoC 01061	87.96	125.25	119.57	180.99	125.46	127.85
3	CoOr 03151	89.19	114.69	119.11	177.98	109.11	122.02
	GM	84.21	116.73	126.10	169.30	105.27	
	SE	8.75	4.63	4.45	10.33	4.47	
	CD (0.05)	NS	10.09	13.71	22.52	13.79	
	CV	18.00	4.86	6.11	7.48	7.40	

Table 3.5.20 Germination % at 30 days

S. No.	Entry	Anakapalle	Cuddalore	Naya garh	Nellikuppam	Vuyyuru	Mean
1	CoC 15336	65.74	53.49	45.96	89.93	48.84	60.79
2	CoC 15337	56.59	55.44	51.05	82.32	50.12	59.10
3	CoC 15338	55.09	50.92	48.71	83.38	58.56	59.33
4	CoV 15356	50.00	48.25	48.18	84.17	55.33	57.19
	Standards						
1	CoA 92081	52.19	58.63	55.63	76.94	57.76	60.23
2	CoC 01061	57.52	59.42	45.67	77.70	51.85	58.43
3	CoOr 03151	64.69	52.08	51.61	83.19	56.13	61.54
	GM	57.40	54.03	49.53	83.04	54.09	
	SE	6.39	3.08	1.88	5.37	2.36	
	CD (0.05)	NS	6.71	5.81	11.70	NS	
	CV	19.28	6.98	6.59	7.92	7.60	

Table 3.5.21 Assessment of performance of entries by monitoring team

Entries	Nellikuppam	Cuddalore	Vuyyuru	Anakapalle	Nayagarh
CoC 15336	On par	Poor	Poor	Poor	Poor
CoC 15337	Poor	On par	Poor	On par	Poor
CoC 15338	Poor	Poor	Poor	Poor	Poor
CoV 15356	Poor	Poor	On par	Poor	Poor
CoA 92081					
CoC 01061		Best			
CoOr 03151	Best		Best	Best	Best

3.6 ADVANCED VARIETAL TRIAL (MIDLATE – II PLANT)

Centres (5)	Anakapalle, Cuddalore, Nayagarh, Nellikuppam and Vuyyuru
Entries (4)	CoA 11326, CoA 12324, CoC 13339 and CoOr 13346
Standards (2)	CoV 92102 and Co 86249
Design	Randomized Block Design
Replications	Four
Plot size	Gross : 6.0 m x 8r x 0.90 m Net : 5.0 m x 6r x 0.90 m
Seed rate	12 buds/ metre
Planting time	February / March, 2017
Crop duration	12 months

Results of the previous year

The entries were evaluated at five centres along with two standards. CoC 13339 was the best performer in the zone combining both yield and quality. It recorded cane yield of 123.10 t/ha and CCS yield of 15.66 t/ha while the best standard CoV 92102 recorded 112.01 t/ha and 13.45 t/ha, respectively. CoC 13339 also recorded a mean sucrose % of 18.00 and CCS % of 12.71 at 12th month.

Results of the current year

The entry CoC 13339 was the best performer across locations combining both yield and quality. It recorded cane yield OF 114.06 t/ha and CCS yield OF 14.86 t/ha while the best standard CoV 92102 recorded 101.93 t/ha and 13.15 t/ha, respectively. It also recorded a mean sucrose % of 18.45 and CCS % of 12.94 at 12th month compared to the best standard CoV 92102 (18.26% and 12.90 %). CoC 13339 is identified as the qualifying entry with 11.90 % and 13.02 % improvement over the best standard CoV 92102 for cane yield and CCS yield and numerically superior CCS % and sucrose %. Further details are presented in Tables 3.6.1 to 3.6.20.

Table 3.6.1 CCS (t/ha) at harvest

S. No.	Entry	Anaka palle	Cuddalore	Nayagarh	Nelli kuppam	Vuyyuru	Mean	Rank
1	CoA 11326	9.71	16.46*	11.69	13.15	10.58	12.32	
2	CoA 12324	10.48	15.88	11.68	13.23	14.76	13.21	2
3	CoC 13339	13.54	18.78*	11.00	18.96*	12.03	14.86	1
4	CoOr 13346	10.03	15.66	14.11*	12.50	10.07	12.47	
Standards								
1	Co 86249	9.80	12.86	10.96	11.17	9.55	10.87	
2	CoV 92102	10.96	14.95	11.97	13.23	14.62	13.15	3
	GM	10.75	15.77	11.82	13.71	11.93		
	SE		0.59	0.43	0.59	0.84		
	CD (0.05)		1.26	1.29	1.81	2.52		
	CV		5.31	7.22	8.75	14.00		
Qualifying entries at each location								
	1	-	CoA 11326	CoOr 13346	CoC 13339	-	CoC 13339	
	2	-	CoC 13339	-	-	-	-	
	3	-	-	-	-	-	-	

*Significant over the best standard

No. of locations where an entry recorded >10 % improvement over the best standard: CoA 11326 (1), CoC 13339 (2) and CoOr 13346 (1)

Performance of the entries across locations: The entry CoC 13339 (14.86 t/ha) was the best in the trial followed by CoA 12324 (13.21 t/ha) while the best standard CoV 92102 recorded 13.15 t/ha. The entry CoC 13339 recorded 13.02 % improvement over the best standard CoV 92102 across the locations and identified as qualifying entry.

Table 3.6 .2 Cane yield (t/ha) at harvest

S. No.	Entry	Anaka palle	Cuddalore	Nayagarh	Nelli kuppam	Vuyyuru	Mean	Rank
1	CoA 11326	76.85	130.06*	101.81	94.96	80.25	96.79	
2	CoA 12324	82.47	126.45	98.92	96.35	108.33*	102.50	3
3	CoC 13339	108.16*	142.15*	95.59	134.26*	90.12	114.06	1
4	CoOr 13346	85.01	123.08	113.57*	101.27	94.14	103.41	2
Standards								
1	Co 86249	83.36	107.45	89.34	86.52	98.15	92.96	
2	CoV 92102	87.47	117.74	102.90	100.40	101.16	101.93	
	GM	87.22	124.49	100.35	102.29	95.36		
	SE	3.92	4.93	3.42	3.73	5.85		
	CD (0.05)	11.93	10.51	10.32	7.25	NS		
	CV	9.00	5.60	6.82	7.30	12.30		
Qualifying entries at each location								
	1	CoC 13339	CoA 11326	CoOr 13346	CoC 13339	-	CoC 13339	
	2	-	CoC 13339	-	-	-	-	
	3	-	-	-	-	-	-	

*Significant over the best standard

No. of locations where an entry recorded >10 % improvement over the best standard: CoA 11326(1), CoC 13339 (3) and CoOr 13346(1).

Performance of the entries across locations: The entry CoC 13339 was the best in the trial which recorded the highest cane yield of 114.06 t/ha followed by CoOr 13346 (103.41 t/ha) and CoA 12324 (102.50 t/ha). The qualifying entry CoC 13339 recorded 11.90 % improvement over the best standard CoV 92102 (101.93 t/ha).

Table 3.6.3 CCS % at 12th month

S. No.	Entry	Anakapalle	Cuddalore	Nayagarh	Nellikuppam	Vuyyuru	Mean	Rank
1	CoA 11326	12.64*	12.66	11.48	13.85*	13.15	12.76	
2	CoA 12324	12.71*	12.56	11.81	13.73	13.63	12.89	3
3	CoC 13339	12.52	13.21*	11.50	14.11*	13.35	12.94	1
4	CoOr 13346	11.79	12.73	12.43*	12.33	10.67	11.99	
Standards								
1	Co 86249	11.76	11.98	11.70	12.90	9.72	11.61	
2	CoV 92102	12.53	12.70	11.63	13.17	14.45	12.90	2
	GM	12.33	12.64	11.76	13.34	12.50	12.51	
	SE	0.36	0.11	0.09	0.22	0.17		
	CD (0.05)	NS	0.22	0.28	0.65	0.50		
	CV	5.79	1.18	1.55	3.27	2.70		
Qualifying entries at each location								
	1	-	-	CoOr 13346	CoA 11326	-		
	2	-	-	-	CoC 13339	-		
	3	-	-	-	-	-		

*Significant over the best standard

No. of locations where an entry recorded >5 % improvement over the best standard: CoA 11326 (1), CoC 13339 (1) and CoOr 13346(1)

Performance of the entries across locations: The entry CoC 13339 recorded the highest mean CCS % of 12.94 followed by the best standard CoV 92102 (12.90) and the entry CoA 12324 (12.89) respectively.

Table 3.6 .4 Sucrose % at 12th month

S. No.	Entry	Anaka palle	Cuddalore	Nayagarh	Nelli kuppam	Vuyyuru	Mean	Rank
1	CoA 11326	18.18	17.64	16.67	19.54	18.30	18.07	
2	CoA 12324	18.49*	17.61	17.01	19.42	18.94	18.29	2
3	CoC 13339	18.25	18.45*	16.92	20.04*	18.58	18.45	1
4	CoOr 13346	17.17	17.71	17.69*	17.70	15.81	17.22	
	Standards							
1	Co 86249	17.33	16.92	16.94	18.50	14.37	16.81	
2	CoV 92102	18.30	17.66	16.87	18.76	19.72	18.26	3
	GM	17.95	17.67	17.02	18.99	17.62		
	SE	0.41	0.18	0.08	0.27	0.19		
	CD (0.05)	NS	0.37	0.23	0.82	0.58		
	CV	4.51	1.40	0.91	2.88	2.20		
	Qualifying entries at each location							
	1	-	-	-	CoC 13339	-		
	2	-	-	-	-	-		
	3	-	-	-	-	-		

*Significant over the best standard

No. of locations where an entry recorded >5 % improvement over the best standard: CoC 13339 (1)

Performance of the entries across locations: The entry CoC 13339 recorded the highest sucrose content of 18.45 % across the locations followed by CoA 12324 (18.29 %) and the best standard CoV 92102 (18.26 %).

Table 3.6.5 Brix % at 12th month

S. No.	Entry	Anaka pale	Cuddalore	Nayagarh	Nelli kuppam	Vuyyuru	Mean
1	CoA 11326	20.35	20.38	19.03	20.94	20.23	20.19
2	CoA 12324	21.17	20.58	19.07	20.95	20.85	20.52
3	CoC 13339	21.01	21.42	19.83	21.81	20.50	20.91
4	CoOr 13346	19.71	20.71	19.33	19.69	18.22	19.53
Standards							
1	Co 86249	20.37	19.40	19.19	20.58	17.89	19.49
2	CoV 92102	21.11	20.64	19.19	20.56	20.86	20.47
	GM	20.62	20.52	19.28	20.75	19.76	
	SE	0.32	0.06	0.16	0.27	0.19	
	CD (0.05)	0.97	0.19	0.48	0.83	0.58	
	CV	3.10	0.62	1.65	2.65	2.00	

Table 3.6 .6 Purity % at 12th month

S. No.	Entry	Anaka pale	Cuddalore	Nayagarh	Nelli kuppam	Vuyyuru	Mean
1	CoA 11326	89.33	89.10	87.62	93.30	90.46	89.96
2	CoA 12324	87.35	89.26	89.24	92.69	89.30	89.57
3	CoC 13339	86.90	90.72	85.35	91.87	90.65	89.10
4	CoOr 13346	87.13	90.57	91.53	89.88	86.72	89.17
Standards							
1	Co 86249	85.06	88.47	88.24	89.90	80.31	86.40
2	CoV 92102	86.67	89.71	87.90	91.23	94.55	90.01
	GM	87.07	89.64	88.31	91.48	88.66	
	SE	1.44	0.52	0.89	0.74	0.92	
	CD (0.05)	NS	1.12	2.49	2.23	2.77	
	CV	3.32	0.83	1.88	1.62	2.10	

Table 3.6.7 Pol % cane at harvest

S. No.	Entry	Anaka pale	Cuddalore	Nayagarh	Nelli kuppam	Vuyyuru	Mean
1	CoA 11326	13.79	13.82	-	16.04	-	14.55
2	CoA 12324	13.85	13.63	-	15.92	-	14.47
3	CoC 13339	13.66	14.23	-	16.43	-	14.77
4	CoOr 13346	12.86	13.75	-	14.53	-	13.71
Standards							
1	Co 86249	12.96	12.82	-	15.19	-	13.66
2	CoV 92102	13.71	13.87	-	15.4	-	14.33
	GM	13.47	13.69	-	15.58	-	
	SE	0.33	0.17	-	0.3	-	
	CD (0.05)	NS	0.36	-	0.65	-	
	CV	4.876	1.74	-	2.76	-	

Table 3.6.8 Extraction % at harvest

S. No.	Entry	Anaka palle	Cuddalore	Nayagarh	Nelli kuppam	Vuyyuru	Mean
1	CoA 11326	55.70	50.48	50.63	54.29	-	52.78
2	CoA 12324	54.33	50.71	50.69	50.91	-	51.66
3	CoC 13339	56.19	51.65	51.70	54.81	-	53.59
4	CoOr 13346	54.90	50.61	53.88	49.72	-	52.28
Standards							
1	Co 86249	51.41	49.55	50.30	54.65	-	51.48
2	CoV 92102	54.08	50.70	49.71	53.66	-	52.04
	GM	54.44	50.62	51.15	53.00	-	
	SE	1.09	0.13	0.77	0.95	-	
	CD (0.05)	NS	0.27	2.31	2.02	-	
	CV	4.00	0.36	3.00	2.54	-	

Table 3.6.9 Fiber % at harvest

S. No.	Entry	Anaka palle	Cuddalore	Nayagarh	Nelli kuppam	Vuyyuru	Mean
1	CoA 11326	14.15	13.44	14.19	12.88	-	13.67
2	CoA 12324	15.09	13.33	14.82	13.03	-	14.07
3	CoC 13339	15.15	13.07	14.28	13.01	-	13.88
4	CoOr 13346	15.11	13.73	12.90	12.89	-	13.66
Standards							
1	Co 86249	15.23	13.86	14.68	12.93	-	14.18
2	CoV 92102	15.05	13.38	14.42	12.92	-	13.94
	GM	14.96	13.47	14.21	12.94	-	
	SE	0.29	0.19	0.18	0.19	-	
	CD (0.05)	NS	0.40	0.55	0.40	-	
	CV	3.91	1.96	2.56	2.09	-	

Table 3.6.10 NMC ('000/ha) at harvest

S. No.	Entry	Anaka palle	Cuddalore	Nayagarh	Nelli kuppam	Vuyyuru	Mean
1	CoA 11326	67.96	97.98	108.03	119.07	51.93	88.99
2	CoA 12324	66.20	97.23	107.97	118.19	70.22	91.96
3	CoC 13339	80.00	104.07	102.37	119.22	57.25	92.58
4	CoOr 13346	72.50	100.26	119.53	107.45	63.27	92.60
Standards							
1	Co 86249	77.50	111.35	97.61	113.52	67.28	93.45
2	CoV 92102	78.89	113.40	107.91	111.94	67.21	95.87
	GM	73.84	104.05	107.24	114.90	62.86	
	SE	3.40	5.71	3.65	4.16	2.25	
	CD (0.05)	10.33	12.17	10.98	12.53	6.79	
	CV	9.20	7.76	6.80	7.24	7.20	

Table 3.6.11 Stalk length (cm)

S. No.	Entry	Anaka palle	Cuddalore	Nayagarh	Nelli kuppam	Vuyyuru	Mean
1	CoA 11326	230.46	278.40	217.00	227.50	174.38	225.55
2	CoA 12324	234.41	274.13	236.50	218.75	200.75	232.91
3	CoC 13339	259.87	287.96	265.30	234.00	234.38	256.30
4	CoOr 13346	248.16	273.37	298.50	220.50	309.69	270.04
Standards							
1	Co 86249	300.38	275.95	251.30	223.50	193.31	248.89
2	CoV 92102	287.12	270.28	240.50	235.50	248.31	256.34
	GM	260.10	276.70	251.50	226.62	226.80	
	SE	12.90	4.74	5.69	5.19	7.91	
	CD (0.05)	39.24	10.09	17.16	11.06	24.05	
	CV	9.92	2.42	4.53	3.24	7.00	

Table 3.6.12 Stalk diameter (cm)

S. No.	Entry	Anaka palle	Cuddalore	Nayagarh	Nelli kuppam	Vuyyuru	Mean
1	CoA 11326	2.93	2.95	3.18	2.55	3.03	2.93
2	CoA 12324	3.17	2.92	2.36	2.62	3.02	2.82
3	CoC 13339	2.93	3.05	3.15	2.69	2.67	2.90
4	CoOr 13346	2.44	2.40	3.08	2.31	2.48	2.54
Standards							
1	Co 86249	2.26	2.42	2.34	2.17	2.75	2.39
2	CoV 92102	2.65	2.52	2.35	2.47	2.60	2.52
	GM	2.73	2.71	2.74	2.46	2.76	
	SE	0.13	0.06	0.05	0.03	0.07	
	CD (0.05)	0.40	0.13	0.16	0.12	0.20	
	CV	9.61	3.07	3.97	3.24	4.70	

Table 3.6.13 Single cane weight (kg)

S. No.	Entry	Anaka palle	Cuddalore	Nayagarh	Nelli kuppam	Vuyyuru	Mean
1	CoA 11326	1.17	1.29	1.23	0.94	1.52	1.23
2	CoA 12324	1.29	1.24	1.11	1.05	1.40	1.22
3	CoC 13339	1.39	1.35	1.38	1.66	1.63	1.48
4	CoOr 13346	1.17	1.21	1.44	1.03	1.22	1.21
Standards							
1	Co 86249	1.12	1.05	1.20	0.91	1.18	1.09
2	CoV 92102	1.15	1.20	1.08	1.19	1.25	1.17
	GM	1.22	1.22	1.24	1.12	1.37	
	SE	0.04	0.05	0.04	0.03	0.03	
	CD (0.05)	0.11	0.12	0.12	0.11	0.10	
	CV	5.97	6.30	6.49	6.62	4.60	

Table 3.6.14 CCS % at 10 months

S. No.	Entry	Anaka pale	Cuddalore	Nayagarh	Nelli kuppam	Vuyyuru	Mean
1	CoA 11326	10.44	10.40	10.27	10.70	11.72	10.71
2	CoA 12324	11.06	10.22	10.62	10.58	11.34	10.76
3	CoC 13339	11.84	10.74	10.54	11.60	12.29	11.40
4	CoOr 13346	10.38	10.30	10.44	10.05	8.54	9.94
Standards							
1	Co 86249	10.74	9.97	10.17	11.38	9.35	10.32
2	CoV 92102	12.12	10.45	10.23	11.60	13.39	11.56
	GM	11.10	10.35	10.38	10.98	11.10	
	SE	0.34	0.13	0.11	0.19	0.20	
	CD (0.05)	1.04	0.41	0.32	0.57	0.62	
	CV	6.15	2.60	2.05	3.48	3.70	

Table 3.6.15 Sucrose % at 10 months

S. No.	Entry	Anaka pale	Cuddalore	Nayagarh	Nelli kuppam	Vuyyuru	Mean
1	CoA 11326	15.23	15.28	14.84	15.68	16.60	15.53
2	CoA 12324	16.14	15.24	15.32	15.33	16.15	15.64
3	CoC 13339	17.19	15.58	15.18	16.86	17.05	16.37
4	CoOr 13346	15.05	15.29	15.08	14.75	12.44	14.52
Standards							
1	Co 86249	15.64	15.30	14.77	16.40	13.66	15.15
2	CoV 92102	17.32	14.96	14.78	16.78	18.37	16.44
	GM	16.10	15.28	14.99	15.96	15.71	
	SE	0.43	0.10	0.12	0.24	0.23	
	CD (0.05)	1.30	0.30	0.36	0.73	0.69	
	CV	5.31	1.31	1.59	3.03	2.90	

Table 3.6.16 Brix % at 10 months

S. No.	Entry	Anaka pale	Cuddalore	Nayagarh	Nelli kuppam	Vuyyuru	Mean
1	CoA 11326	17.56	18.90	16.74	18.25	19.02	18.09
2	CoA 12324	18.62	18.45	17.22	17.44	18.74	18.09
3	CoC 13339	19.60	19.87	17.03	19.29	18.70	18.90
4	CoOr 13346	17.15	19.32	17.03	17.19	15.09	17.16
Standards							
1	Co 86249	17.94	18.97	16.84	18.42	16.67	17.77
2	CoV 92102	19.12	19.31	16.66	18.99	19.64	18.74
	GM	18.33	19.14	16.92	18.26	17.98	
	SE	0.39	0.12	0.09	0.23	0.13	
	CD (0.05)	1.20	0.35	0.26	0.69	0.41	
	CV	4.30	1.22	1.03	2.52	1.50	

Table 3.6.17 Purity % at 10 months

S. No.	Entry	Anaka pale	Cuddalore	Nayagarh	Nelli kuppam	Vuyyuru	Mean
1	CoA 11326	86.70	84.78	88.63	85.94	87.26	86.66
2	CoA 12324	86.72	85.16	88.94	87.91	86.15	86.98
3	CoC 13339	87.67	85.65	89.15	87.42	91.18	88.21
4	CoOr 13346	87.76	85.34	88.55	85.76	82.43	85.97
Standards							
1	Co 86249	87.04	83.63	87.70	89.03	81.95	85.87
2	CoV 92102	90.61	85.12	88.71	88.37	93.50	89.26
	GM	87.75	84.95	88.61	87.40	87.08	
	SE	1.13	0.12	0.52	0.65	0.73	
	CD (0.05)	NS	0.37	NS	1.97	2.19	
	CV	2.57	0.29	1.17	1.50	1.70	

Table 3.6.18 Number of shoots ('000/ha) at 240 days

S. No.	Entry	Anaka pale	Cuddalore	Nayagarh	Nelli kuppam	Vuyyuru	Mean
1	CoA 11326	75.28	111.88	116.84	153.56	61.03	103.72
2	CoA 12324	75.09	111.64	118.16	157.87	78.55	108.26
3	CoC 13339	88.15	117.22	110.73	159.29	67.59	108.60
4	CoOr 13346	80.19	112.46	127.04	153.84	70.14	108.73
Standards							
1	Co 86249	83.70	117.04	109.90	160.65	74.54	109.17
2	CoV 92102	83.70	125.45	118.55	172.69	74.92	115.06
	GM	81.02	115.95	116.85	159.65	71.13	
	SE	5.17	4.35	3.51	6.64	2.84	
	CD (0.05)	NS	9.27	10.57	20.02	8.55	
	CV	12.77	5.31	6.00	8.32	8.00	

Table 3.6.19 Number of tillers ('000/ha) at 120 days

S. No.	Entry	Anaka pale	Cuddalore	Nayagarh	Nelli kuppam	Vuyyuru	Mean
1	CoA 11326	92.28	115.78	125.44	177.55	81.40	118.49
2	CoA 12324	89.74	116.86	125.23	178.93	99.77	122.11
3	CoC 13339	100.54	127.98	122.22	176.16	88.58	123.10
4	CoOr 13346	98.53	114.16	137.60	175.14	94.14	123.91
Standards							
1	Co 86249	99.07	122.30	118.92	177.69	95.76	122.75
2	CoV 92102	95.53	134.57	125.68	186.06	94.44	127.26
	GM	95.95	121.94	125.85	178.58	92.35	
	SE	5.94	6.63	3.21	6.35	3.73	
	CD (0.05)	NS	14.13	9.67	19.13	11.25	
	CV	12.38	7.69	5.10	7.11	8.10	

Table 3.6.20 Germination % at 30 days

S. No.	Entry	Anaka palle	Cuddalore	Nayagarh	Nelli kuppam	Vuyyuru	Mean
	CoA 11326	62.62	61.25	47.05	76.99	52.43	60.07
2	CoA 12324	64.64	58.61	48.80	81.25	46.41	59.94
3	CoC 13339	68.17	62.55	47.58	77.00	50.58	61.18
4	CoOr 13346	67.82	49.61	54.04	81.94	48.32	60.35
Standards							
1	Co 86249	65.97	51.87	52.35	79.90	51.91	60.40
2	CoV 92102	66.84	59.60	50.63	82.78	51.33	62.24
	GM	66.01	57.25	50.07	79.97	50.16	
	SE		2.04	1.13	3.69	1.73	
	CD (0.05)		4.34	3.40	11.13	NS	
	CV		5.03	4.50	9.24	6.90	

Table 3.6.21 Assessment of performance of entries by monitoring team

Entries	Nellikuppam	Cuddalore	Vuyyuru	Anakapalle	Nayagarh
CoA 11326	Poor	Poor	Poor	Poor	On par
CoA 12324	Poor	On par	Poor	Poor	On par
CoC 13339	On par	On par	On par	Poor	On par
CoOr 13346	On par	Poor	Better	On par	Better
Standards					
CoV 92102	Best	Best	Best	Best	Best
Co 86249					

3.7 ADVANCED VARIETAL TRIAL (MIDLATE – RATOON)

Centres (5)	Anakapalle, Cuddalore, Nayagarh, Nellikuppam and Vuyyuru*
Entries (4)	CoA 11326, CoA 12324, CoC 13339 and Co Or 13346
Standards (2)	Co 86249 and CoV 92102
Design	Randomized Block Design
Replications	Four
Plot size	Gross : 8 Rows x 6m x 0.9 m Net : 6 Rows x 5m x 0.9 m
Planting time	February / March, 2017
Crop duration	11 months

*Vuyyuru centre data was incomplete and not considered for calculating the mean

Results of the previous year

The entries were evaluated at five centres along with two standards. CoC 13339 was the best performer in the zone combining both yield and quality. It recorded cane yield of 123.10 t/ha and CCS yield of 15.66 t/ha while the best standard CoV 92102 recorded 112.01 t/ha and 13.45 t/ha, respectively. CoC 13339 also recorded a mean sucrose % of 18.00 and CCS % of 12.71 at 12th month.

Results of the current year

The entry CoC 13339 was the best performer across locations for CCS yield (14.92 t/ha) and cane yield (116.44 t/ha).. The next best entries for yield were CoOr 13346 (99.01 t/ha) and CoA 12324 (92.75 t/ha), respectively. For juice quality, CoA 12324 was the top ranking entry across locations with CCS % of 12.72 and sucrose content of 18.23 % followed by CoC 13339 (12.68 % and 18.17 %) and the standard CoV 92102 (12.43 % and 17.86 %) respectively. The entry CoC 13339 was identified as the qualifying entry as it recorded 29.51% and 25.74 % improvement over the best standard CoV 92102 (11.52 t/ha and 92.20 t/ha) for CCS and cane yield, respectively and numerically superior sucrose content and CCS %. Further details are presented in Tables 3.7.1 to 3.7.15.

Table 3.7.1 CCS (t/ha) at harvest

S. No.	Entry	Anaka palle	Cuddalore	Naya garh	Nellikuppam	Vuyyuru	Mean	Rank
1	CoA 11326	6.96	15.54	9.69	11.68	-	10.97	
2	CoA 12324	9.00	15.03	9.72	13.48	-	11.81	3
3	CoC 13339	12.57	17.93*	10.66	18.52*	-	14.92	1
4	Co Or 13346	10.42	14.54	12.28*	10.49	-	11.93	2
Standards								
1	Co 86249	9.82	12.26	10.26	11.01	-	10.84	
2	CoV 92102	8.79	14.31	10.50	12.48	-	11.52	
	GM	9.59	14.94	10.52	12.94	-		
	SE	1.01	0.64	0.39	0.71	-		
	CD	3.08	1.36	1.18	2.13	-		
	CV	21.05	6.04	7.43	10.92	-		
Qualifying entries at each location								
	1	CoC 13339	CoC 13339	CoOr 13346	CoC 13339	-	CoC 13339	
	2	-	-	-	-	-	-	
	3	-	-	-	-	-	-	

* Significant over the best standard

No. of locations where an entry recorded >10 % improvement over the best standard: CoC 13339 (3) and CoOr 13346 (1)

Performance of the entries across locations: The entry CoC 13339 (14.92 t/ha) was the best in the trial followed by CoOr 13346 (11.93 t/ha) and CoA 12324 (11.81 t/ha) while the best standard CoV 92102 recorded 11.52 t/ha. The entry CoC 13339 recorded 29.51 % improvement over the best standard CoV 92102 across the locations.

Table 3.7.2 Cane yield (t/ha) at harvest

S. No.	Entry	Anaka palle	Cuddalore	Naya garh	Nelliku ppam	Vuyyuru	Mean	Rank
1	CoA 11326	59.03	123.31	83.66	88.54	-	88.64	
2	CoA 12324	73.59	120.64	81.90	94.85	-	92.75	3
3	CoC 13339	107.65	135.77*	89.45	132.87*	-	116.44	1
4	CoOr 13346	94.85	114.68	99.12*	87.38	97.84	99.01	2
Standards								
1	Co 86249	93.98	104.52	86.82	85.07	84.26	92.60	
2	CoV 92102	74.86	112.06	89.75	92.13	-	92.20	
	GM	83.99	118.50	88.45	96.81	-		
	SE	7.74	5.03	3.05	4.71	-		
	CD	23.55	10.73	9.19	14.20	-		
	CV	18.44	6.01	6.90	9.73	-		
Qualifying entries at each location								
	1	CoC 13339	CoA 11326	Co Or 13346	CoC 13339	-	CoC 13339	
	2	-	CoC 13339	-	-	-	-	
	3	-	-	-	-	-	-	

* Significant over the best standard

No. of locations where an entry recorded >10% improvement over the best standard: CoA 11326 (1), CoC 13339 (3) and CoOr 13346 (1)

Performance of the entries across locations: The entry CoC 13339 was the best in the trial which recorded the highest cane yield of (116.44 t/ha) followed by CoOr 13346 (99.01 t/ha) and CoA 12324 (92.75 t/ha). The best standard Co 86249 recorded 92.60 t/ha. The entry CoC 13339 recorded 25.74 % improvement over the best standard Co 86249 across the locations.

Table 3.7.3 CCS % at 11th month

S. No.	Entry	Anaka palle	Cuddalore	Naya garh	Nelliku ppam	Vuyyuru	Mean	Rank
1	CoA 11326	11.78	12.71	11.58	13.18	13.69	12.31	
2	CoA 12324	12.23	12.56	11.86	14.21	13.65	12.72	1
3	CoC 13339	11.68	13.19*	11.91	13.93	13.81	12.68	2
4	Co Or 13346	10.98	12.73	12.40*	12.03	11.92	12.04	
Standards								
1	Co 86249	10.45	11.85	11.81	12.99	11.90	11.78	
2	CoV 92102	11.74	12.74	11.70	13.54	14.45	12.43	3
	GM	11.48	12.63	11.88	13.31	13.24		
	SE	0.26	0.12	0.08	0.42	0.11		
	CD	0.79	0.25	0.24	1.26	0.35		
	CV	4.50	1.31	1.38	6.30	1.70		
Qualifying entries at each location								
	1	-	-	Co Or 13346	-	-	-	
	2	-	-	-	-	-	-	
	3	-	-	-	-	-	-	

* Significant over the best standard

No. of locations where an entry recorded >5 % improvement over the best standard: CoOr 13346 (1)

Performance of the entries across locations: CoA 12324 was the top ranking entry across locations with CCS % of 12.72 followed by CoC 13339 (12.68) and the standard CoV 92102 (12.43).

Table 3.7.4 Sucrose % at 11th month

S. No.	Entry	Anaka pale	Cuddalore	Naya garh	Nelliku ppam	Vuyyuru	Mean	Rank
1	CoA 11326	17.28	17.67	16.79	18.78	18.72	17.63	
2	CoA 12324	18.14	17.54	17.18	20.05	18.91	18.23	1
3	CoC 13339	17.44	18.27*	17.20	19.77	18.96	18.17	2
4	Co Or 13346	16.45	17.76	17.75*	17.39	16.50	17.34	
Standards								
1	Co 86249	15.48	16.65	17.04	18.55	16.55	16.93	
2	CoV 92102	17.54	17.72	16.95	19.24	19.80	17.86	3
	GM	17.06	17.60	17.15	18.96	18.24		
	SE	0.27	0.15	0.08	0.53	0.15		
	CD	0.82	0.32	0.25	1.61	0.44		
	CV	3.11	1.22	0.95	5.64	1.60		
Qualifying entries at each location								
	1	-	-	-	-	-	-	
	2	-	-	-	-	-	-	
	3	-	-	-	-	-	-	

No. of locations where an entry recorded >5 % improvement over the best standard: none of the entries at any of the locations recorded more than 5% improvement over the best standards of their respective locations.

Performance of the entries across locations: CoA 12324 was the top ranking entry across locations with sucrose % of 18.23 followed by CoC 13339 (18.17) and the standard CoV 92102 (17.86).

Table 3.7.5 Brix % at 11th month

S. No.	Entry	Anaka palle	Cuddalore	Naya garh	Nelliku ppam	Vuyyuru	Mean
1	CoA 11326	19.57	20.61	19.11	20.56	19.88	19.96
2	CoA 12324	21.05	20.35	19.49	21.50	20.70	20.60
3	CoC 13339	20.49	21.31	19.41	21.47	20.35	20.67
4	Co Or 13346	19.42	20.64	19.68	19.68	18.03	19.86
Standards							
1	Co 86249	17.89	19.43	19.20	20.45	18.28	19.24
2	CoV 92102	20.60	20.61	19.23	20.97	21.13	20.35
	GM	19.84	20.49	19.35	20.77	19.73	
	SE	0.37	0.05	0.20	0.45	0.20	
	CD	1.13	0.15	NS	1.36	0.59	
	CV	3.74	0.50	2.03	4.37	2.00	

Table 3.7.6 Purity % at 11th month

S. No.	Entry	Anaka palle	Cuddalore	Naya garh	Nelliku ppam	Vuyyuru	Mean
1	CoA 11326	88.26	89.57	87.91	91.18	94.18	89.23
2	CoA 12324	86.20	89.40	88.18	93.24	91.39	89.26
3	CoC 13339	85.14	90.92	88.68	92.08	93.19	89.21
4	Co Or 13346	84.70	90.43	90.20	88.32	91.53	88.41
Standards							
1	Co 86249	86.52	88.65	88.77	90.70	90.58	88.66
2	CoV 92102	85.12	89.85	88.14	91.71	93.72	88.71
	GM	85.99	89.80	88.65	91.20	92.43	
	SE	1.35	0.41	0.83	0.84	0.58	
	CD	NS	1.23	NS	2.53	1.75	
	CV	3.13	0.91	1.87	1.84	1.30	

Table 3.7.7 Pol % cane at harvest

S. No.	Entry	Anaka palle	Cuddalore	Naya garh	Nelliku ppam	Vuyyuru	Mean
1	CoA 11326	13.11	14.08	-	15.41	-	14.20
2	CoA 12324	13.60	13.81	-	16.44	-	14.62
3	CoC 13339	13.10	14.54	-	16.21	-	14.62
4	Co Or 13346	12.31	14.21	-	14.25	-	13.59
Standards							
1	Co 86249	11.58	13.55	-	15.19	-	13.44
2	CoV 92102	13.14	14.40	-	15.81	-	14.45
	GM	12.81	14.10	-	15.55	-	
	SE	0.22	0.17	-	0.61	-	
	CD	0.68	0.37	-	1.30	-	
	CV	3.50	1.72	-	5.56	-	

Table 3.7.8 Extraction % at harvest

S. No.	Entry	Anaka palle	Cuddalore	Naya garh	Nelliku ppam	Vuyyuru	Mean
1	CoA 11326	55.66	50.67	50.33	54.06	-	52.68
2	CoA 12324	52.84	50.64	50.84	52.66	-	51.75
3	CoC 13339	54.63	51.74	50.42	49.18	-	51.49
4	Co Or 13346	53.63	50.54	54.35	49.72	-	52.06
Standards							
1	Co 86249	52.27	49.10	49.84	53.21	-	51.11
2	CoV 92102	55.11	50.38	49.45	56.59	-	52.88
	GM	54.02	50.51	50.87	52.57	-	
	SE	2.46	0.29	0.73	1.90	-	
	CD	NS	0.62	2.21	4.07	-	
	CV	9.12	0.82	2.88	5.14	-	

Table 3.7.9 Fibre % at harvest

S. No.	Entry	Anaka palle	Cuddalore	Naya garh	Nelliku ppam	Vuyyuru	Mean
1	CoA 11326	14.10	13.50	14.07	12.93	-	13.65
2	CoA 12324	15.04	13.66	14.82	13.03	-	14.14
3	CoC 13339	14.87	13.27	14.29	13.02	-	13.86
4	Co Or 13346	15.14	13.77	13.06	13.04	-	13.75
Standards							
1	Co 86249	15.19	13.40	14.62	12.85	-	14.02
2	CoV 92102	15.07	13.81	14.40	13.09	-	14.09
	GM	14.90	13.57	14.21	12.99	-	13.92
	SE	0.20	0.15	0.14	0.57	-	
	CD	0.62	0.31	0.42	1.73	-	
	CV	2.73	1.53	1.95	3.11	-	

Table 3.7.10 NMC ('000/ha) at harvest

S. No.	Entry	Anaka palle	Cuddalore	Naya garh	Nelliku ppam	Vuyyuru	Mean
1	CoA 11326	48.43	96.55	96.44	111.90	-	88.33
2	CoA 12324	55.56	97.02	92.42	123.24	-	92.06
3	CoC 13339	82.04	101.94	99.40	116.06	-	99.86
4	Co Or 13346	79.72	99.34	112.87	111.90	-	100.96
Standards							
1	Co 86249	82.41	106.47	93.72	109.81	-	98.10
2	CoV 92102	65.09	109.97	99.23	114.68	-	97.24
	GM	68.88	101.88	99.01	114.59	-	
	SE	4.18	4.27	3.49	4.21	-	
	CD	12.71	9.11	10.53	12.70	-	
	CV	12.14	5.93	7.06	7.35	-	

Table 3.7.11 Stalk length (cm)

S. No.	Entry	Anaka palle	Cuddalore	Naya garh	Nelliku ppam	Vuyyuru	Mean
1	CoA 11326	217.00	278.75	238.50	215.75	161.50	237.50
2	CoA 12324	229.50	276.41	199.00	223.25	178.50	232.04
3	CoC 13339	246.40	293.65	242.00	234.25	208.25	254.08
4	Co Or 13346	287.50	278.31	297.50	222.00	227.75	271.33
Standards							
1	Co 86249	311.50	270.53	270.80	219.00	182.75	267.96
2	CoV 92102	273.20	277.46	238.50	234.25	202.75	255.85
	GM	260.90	279.19	247.70	224.75	193.58	
	SE	9.44	5.38	4.08	6.16	3.02	
	CD	28.73	11.47	12.29	13.40	9.20	
	CV	7.24	2.73	3.29	3.88	3.10	

Table 3.7.12 Stalk diameter (cm)

S. No.	Entry	Anaka palle	Cuddalore	Naya garh	Nelliku ppam	Vuyyuru	Mean
1	CoA 11326	3.02	2.95	2.61	2.65	2.27	2.81
2	CoA 12324	2.70	2.88	2.86	2.67	2.74	2.78
3	CoC 13339	2.39	3.02	2.21	2.66	2.69	2.57
4	Co Or 13346	2.28	2.36	2.89	2.35	2.64	2.47
Standards							
1	Co 86249	2.13	2.41	2.62	2.25	2.59	2.35
2	CoV 92102	2.20	2.48	2.48	2.45	2.55	2.40
	GM	2.45	2.68	2.61	2.50	2.58	
	SE	0.13	0.07	0.05	0.05	0.04	
	CD	0.38	0.14	0.16	0.15	0.13	
	CV	10.15	3.41	3.99	3.98	3.20	

Table 3.7.13 Single cane weight (kg)

S. No.	Entry	Anaka palle	Cuddalore	Naya garh	Nelliku ppam	Vuyyuru	Mean
1	CoA 11326	1.27	1.28	1.18	1.00	0.85	1.18
2	CoA 12324	1.38	1.25	1.10	1.21	1.24	1.24
3	CoC 13339	1.33	1.31	0.98	1.65	1.19	1.32
4	Co Or 13346	1.23	1.20	1.45	1.10	1.20	1.25
Standards							
1	Co 86249	1.16	1.03	1.06	0.90	1.09	1.04
2	CoV 92102	1.19	1.21	1.09	1.22	1.10	1.18
	GM	1.26	1.21	1.14	1.18	1.11	
	SE	0.10	0.05	0.15	0.03	0.03	
	CD	NS	0.10	0.14	0.09	0.08	
	CV	15.38	5.47	8.11	5.10	4.50	

Table 3.7.14 Number of shoots ('000/ha) at 180 days

S. No.	Entry	Anaka palle	Cuddalore	Naya garh	Nelliku ppam	Vuyyuru	Mean
1	CoA 11326	54.81	113.81	110.52	135.97	-	103.78
2	CoA 12324	61.85	112.84	109.90	137.13	-	105.43
3	CoC 13339	90.37	118.80	109.49	142.92	-	115.40
4	Co Or 13346	87.01	112.09	129.61	155.42	-	121.03
Standards							
1	Co 86249	94.81	116.34	109.50	140.14	-	115.20
2	CoV 92102	69.72	124.62	109.79	145.12	-	112.31
	GM	76.43	116.42	113.14	142.78	-	
	SE	5.19	3.91	3.10	5.64	-	
	CD	15.80	8.34	9.34	17.00	-	
	CV	13.59	4.75	5.48	7.90	-	

Table 3.7.15 Number of tillers ('000/ha) at 90 days

S. No.	Entry	Anaka palle	Cuddalore	Naya garh	Nelliku ppam	Vuyyuru	Mean
1	CoA 11326	63.19	117.78	115.15	161.71	-	114.46
2	CoA 12324	72.45	118.35	108.97	158.70	-	114.62
3	CoC 13339	106.48	132.38	107.39	163.80	-	127.51
4	Co Or 13346	102.24	117.67	128.03	179.31	-	131.81
Standards							
1	Co 86249	122.84	123.17	111.77	182.09	-	134.97
2	CoV 92102	82.56	136.13	110.94	174.91	-	126.14
	GM	91.63	124.25	113.71	170.08	-	
	SE	5.59	6.73	3.16	6.46	-	
	CD	17.02	14.33	9.52	19.50	-	
	CV	12.21	7.66	5.55	7.60	-	

Table 3.7.16 Assessment of performance of entries by monitoring team

Entries	Nellikuppam	Cuddalore	Vuyyuru	Anakapalle	Nayagarh
CoA 11326	Poor	Poor	Poor	Poor	Poor
CoA 12324	Poor	On par	Poor	Poor	Poor
CoC 13339	Better	Poor	On par	On par	Poor
CoOr 13346	Better	On par	Better	Better	Better
Standards					
CoV 92102					
Co 86249	Best	Best	Best	Best	Best

3.8 ADVANCED VARIETAL TRIAL (MIDLATE) Pooled data of 2 Plant + 1Ratoon

Centres (5)	Anakapalle, Cuddalore, Nayagarh, Nellikuppam and Vuyyuru*
Entries (4)	CoA 11326, CoA 12324, CoC 13339 and CoOr 13346
Standards (2)	Co 86249 and CoV 92102
Design	Randomized Block Design
Replications	Three
Plot size	Gross : 6.0 m x 0.9 m x 8 R Net : 5.0 m x 0.9 m x 6 R

*Vuyyuru centre ratoon data was incomplete and not considered for calculating the mean

Four early maturing clones and two standards were evaluated under AVT I Plant during 2016-17, AVT II Plant and AVT Ratoon during 2017-18 at five locations. The pooled mean of CCS yield, cane yield, CCS % and sucrose % at harvest of two plant crops and one ratoon crop are given in Table 3.8.1 to 3.8.4 and Figures 3.8.1 to 3.8.4. The salient results pertaining to CCS (t/ha), cane yield (t/ha), CCS % and sucrose % are given below.

Commercial Cane Sugar (t/ha):

The entry CoC 13339 (15.16 t/ha) ranked first in the zone for CCS yield and it recorded 18.55 % improvement over the better standard CoV 92102 (12.79 t/ha).

Cane Yield (t/ha):

For cane yield, the entry CoC 13339 ranked first in the zone with an overall mean of 117.97 t/ha followed by the entry CoOr 13346(103.98 t/ha). These two entries recorded 14.81 % and 1.20% improvement over the better standard CoV 92102 (102.75 t/ha), respectively.

Commercial Cane Sugar (%):

The entry CoC 13339 ranked first with a mean CCS % of 12.78 followed by the entry CoA 12324 (12.56). The better standard CoV 92102 recorded CCS % of 12.46.

Sucrose (%):

The entry CoC 13339 ranked first with a mean sucrose % of 18.21 followed by the CoA 12324 (17.95). The better standard CoV 92102 recorded a sucrose content of 17.77 %.

Overall performance:

Based on the pooled mean of two plant and one ratoon crops at five centres, CoC 13339 is identified as the qualifying entry combining both quality and yield. It recorded 18.55% improvement over the best standard for CCS yield, 14.81% for cane yield and numerically superior than the best standard for both CCS % and sucrose %.

Table 3.8.1 CCS at harvest (t/ha) -Pooled data of two plant and one ratoon crops

S. No.	Clone	Anakapalle				Cuddalore				Nayagarh			
		I P	II P	R	Mean	I P	II P	R	Mean	I P	II P	R	Mean
1	CoA 11326	11.05	9.71	6.96	9.24	15.79	16.46	15.54	15.93	11.42	11.69	9.69	10.93
2	CoA 12324	12.18	10.48	9.00	10.55	15.34	15.88	15.03	15.42	12.01	11.68	9.72	11.14
3	CoC 13339	15.35	13.54	12.57	13.82	18.64	18.78	17.93	18.45	13.37	11.00	10.66	11.68
4	CoOr 13346	9.78	10.03	10.42	10.08	15.14	15.66	14.54	15.11	13.84	14.11	12.28	13.41
	Standards												
1	Co 86249	9.91	9.80	9.82	9.84	12.45	12.86	12.26	12.52	12.29	10.96	10.26	11.17
2	CoV 92102	11.88	10.96	8.79	10.54	15.43	14.95	14.31	14.90	11.14	11.97	10.50	11.20
	GM	11.69	10.75	9.59		15.47	15.77	14.94		12.35	11.82	10.52	
S. No.	Clone	Nellikuppam				Vuyyuru				GM (Wt. Avg.)	Rank		
		I P	II P	R	Mean	I P	II P	R	Mean				
1	CoA 11326	9.76	13.15	11.68	11.53	14.06	10.58	-	-	11.97			
2	CoA 12324	10.78	13.23	13.48	12.50	14.67	14.76	-	-	12.73	3		
3	CoC 13339	15.30	18.96	18.52	17.59	15.63	12.03	-	-	15.16	1		
4	CoOr 13346	10.03	12.50	10.49	11.01	14.28	10.07	-	-	12.37			
	Standards												
1	Co 86249	8.32	11.17	11.01	10.17	14.45	9.55	-	-	11.08			
2	CoV 92102	11.48	13.23	12.48	12.40	17.34	14.62	-	-	12.79	2		
	GM	10.95	13.71	12.94		15.07	11.93						

Table 3.8.2 Cane yield at harvest (t/ha) -Pooled data of two plant and one ratoon crops

S. No.	Clone	Anakapalle				Cuddalore				Nayagarh			
		IP	II P	R	Mean	IP	II P	R	Mean	IP	II P	R	Mean
1	CoA 11326	88.12	76.85	59.03	74.67	125.31	130.06	123.31	126.23	103.09	101.81	83.66	96.19
2	CoA 12324	96.75	82.47	73.59	84.27	123.16	126.45	120.64	123.42	101.20	98.92	81.90	94.01
3	CoC 13339	111.15	108.16	107.65	108.99	141.15	142.15	135.77	139.69	111.19	95.59	89.45	98.74
4	CoOr 13346	87.03	85.01	94.85	88.96	119.43	123.08	114.68	119.06	112.97	113.57	99.12	108.55
	Standards												
1	Co 86249	89.36	83.36	93.98	88.90	106.2	107.45	104.52	106.06	104.01	89.34	86.82	93.39
2	CoV 92102	94.85	87.47	74.86	85.73	120.85	117.74	112.06	116.88	99.70	102.90	89.75	97.45
	GM	94.54	87.22	83.99		122.68	124.49	118.50		105.36	100.35	88.45	
S. No.	Clone	Nellikuppam				Vuyyuru				GM	Rank		
		IP	II P	R	Mean	IP	II P	R	Mean	(Wt. Aver.)			
1	CoA 11326	95.08	94.96	88.54	92.86	103.09	80.25	-	-	96.65			
2	CoA 12324	106.95	96.35	94.85	99.38	108.02	108.33	-	-	101.40			
3	CoC 13339	136.03	134.26	132.87	134.39	115.97	90.12	-	-	117.97	1		
4	CoOr 13346	105.98	101.27	87.38	98.21	117.21	94.14	-	-	103.98	2		
	Standards												
1	Co 86249	85.71	86.52	85.07	85.77	106.33	98.15	-	-	94.77			
2	CoV 92102	122.68	100.40	92.13	105.07	121.99	101.16	-	-	102.75	3		
	GM	108.71	102.29	96.81		112.1	95.36						

Table 3.8.3 CCS (%) at harvest -Pooled data of two plant and one ratoon crops

S. No.	Clone	Anakapalle				Cuddalore				Nayagarh			
		IP	II P	R	Mean	IP	II P	R	Mean	IP	II P	R	Mean
1	CoA 11326	12.51	12.64	11.78	12.31	12.61	12.66	12.71	12.66	11.64	11.48	11.58	11.57
2	CoA 12324	12.59	12.71	12.23	12.51	12.46	12.56	12.56	12.53	11.84	11.81	11.86	11.84
3	CoC 13339	13.82	12.52	11.68	12.67	13.20	13.21	13.19	13.20	11.81	11.50	11.91	11.74
4	CoOr 13346	11.28	11.79	10.98	11.35	12.67	12.73	12.73	12.71	12.17	12.43	12.40	12.33
	Standards												
1	Co 86249	11.11	11.76	10.45	11.11	11.73	11.98	11.85	11.85	11.92	11.70	11.81	11.81
2	CoV 92102	12.53	12.53	11.74	12.27	12.76	12.70	12.74	12.73	11.43	11.63	11.70	11.59
	GM	12.31	12.33	11.48		12.57	12.64	12.63		11.80	11.76	11.88	
S. No.	Clone	Nellikuppam				Vuyyuru				GM (Wt. Aver.)	Rank		
		IP	II P	R	Mean	IP	II P	R	Mean				
1	CoA 11326	10.26	13.85	13.18	12.43	13.63	13.15	-	-	12.41			
2	CoA 12324	10.08	13.73	14.21	12.67	13.59	13.63	-	-	12.56	2		
3	CoC 13339	11.25	14.11	13.93	13.10	13.49	13.35	-	-	12.78	1		
4	CoOr 13346	9.47	12.33	12.03	11.28	12.18	10.67	-	-	11.85			
	Standards												
1	Co 86249	9.71	12.90	12.99	11.87	13.59	9.72	-	-	11.66			
2	CoV 92102	9.35	13.17	13.54	12.02	14.21	14.45	-	-	12.46	3		
	GM	10.02	13.34	13.31		13.45	12.50						

Table 3.8.4 Sucrose (%) at harvest -Pooled data of two plant and one ratoon crops

S. No.	Clone	Anakapalle				Cuddalore				Nayagarh			
		IP	II P	R	Mean	IP	II P	R	Mean	IP	II P	R	Mean
1	CoA 11326	18.38	18.18	17.28	17.95	17.60	17.64	17.67	17.64	17.09	16.67	16.79	16.85
2	CoA 12324	18.34	18.49	18.14	18.32	17.46	17.61	17.54	17.54	17.26	17.01	17.18	17.15
3	CoC 13339	19.74	18.25	17.44	18.48	18.15	18.45	18.27	18.29	17.16	16.92	17.20	17.09
4	CoOr 13346	16.65	17.17	16.45	16.76	17.66	17.71	17.76	17.71	17.66	17.69	17.75	17.70
	Standards												
1	Co 86249	16.35	17.33	15.48	16.39	16.6	16.92	16.65	16.72	17.16	16.94	17.04	17.05
2	CoV 92102	18.13	18.30	17.54	17.99	17.71	17.66	17.72	17.70	16.68	16.87	16.95	16.83
	GM	17.93	17.95	17.06		17.53	17.67	17.60		17.17	17.02	17.15	
S. No.	Clone	Nellikuppam				Vuyyuru				GM	Rank		
		IP	II P	R	Mean	IP	II P	R	Mean				
1	CoA 11326	15.19	19.54	18.78	17.84	18.85	18.30	-	-	17.71			
2	CoA 12324	14.96	19.42	20.05	18.14	18.85	18.94	-	-	17.95	2		
3	CoC 13339	16.38	20.04	19.77	18.73	18.58	18.58	-	-	18.21	1		
4	CoOr 13346	14.18	17.70	17.39	16.42	17.07	15.81	-	-	17.05			
	Standards												
1	Co 86249	14.40	18.50	18.55	17.15	18.73	14.37	-	-	16.79			
2	CoV 92102	13.93	18.76	19.24	17.31	19.61	19.72	-	-	17.77	3		
	GM	14.84	18.99	18.96		18.62	17.62						

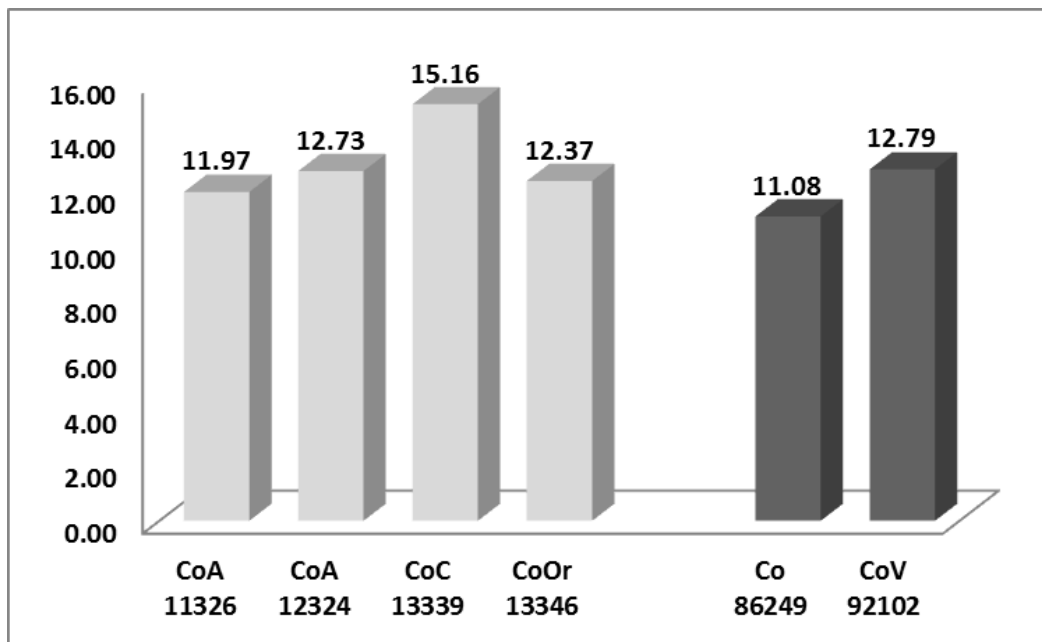


Fig.3.8.1 Mean performance of (2P+1R) of AVT midlate clones for CCS (t/ha)

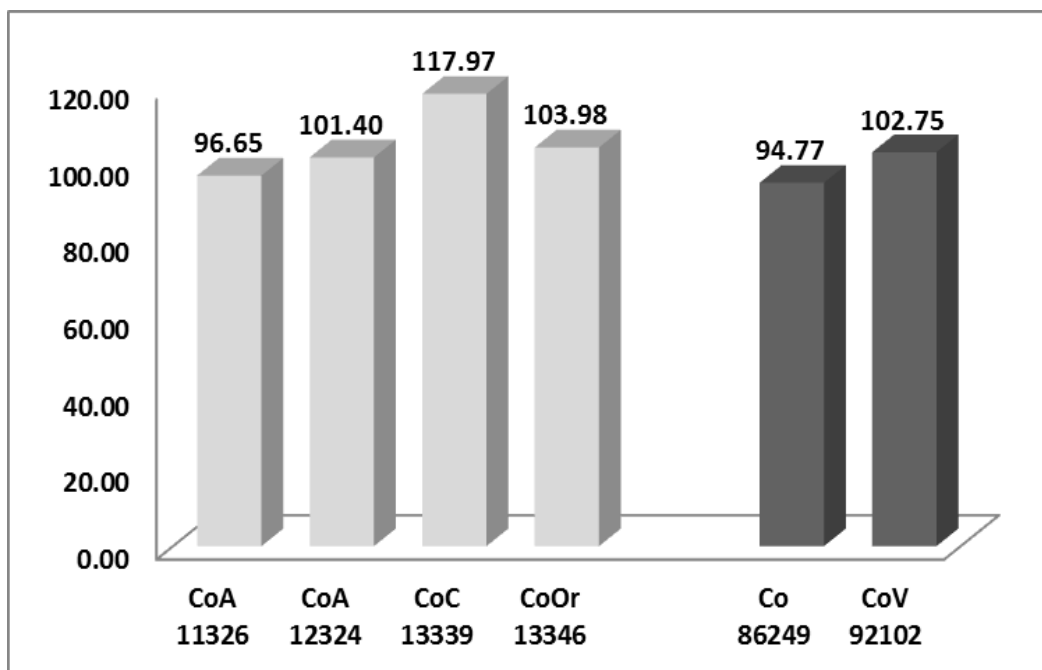


Fig.3.8.2 Mean performance of (2P+1R) of AVT midlate clones for Cane Yield (t/ha)

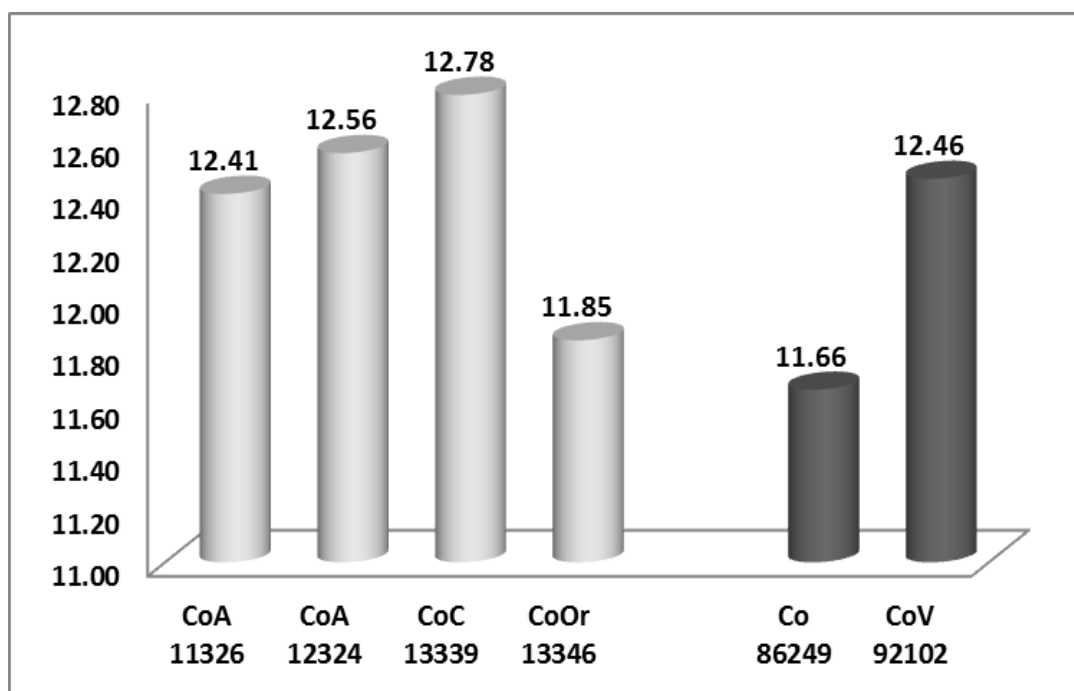


Fig.3.8.3. Mean performance of (2P+1R) of AVT midlate clones for CCS (%)

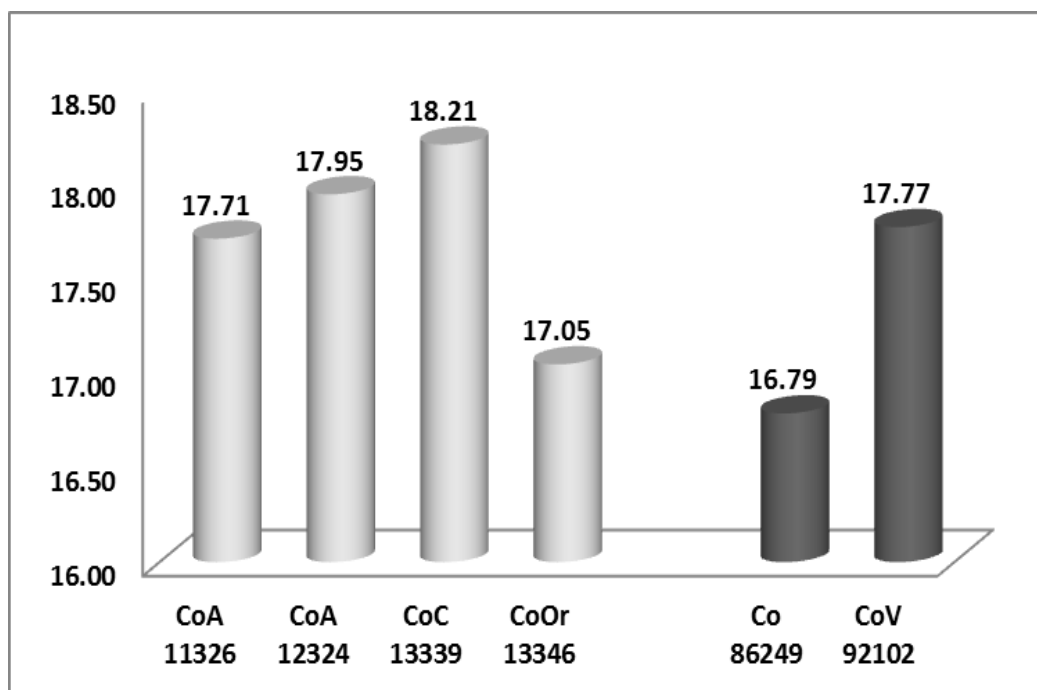


Fig.3.8.4. Mean performance of (2P+1R) of AVT midlate clones for Sucrose (%)

Simultaneous selection of high yielding and stable genotypes in Advance Varietal Trial (Midlate) – Plant I, II and Ratoon

Four entries, CoA 11326, CoA 12324, CoC 13339 and CoOr 13346 and two standards viz., Co 86249 and CoV 92102 were evaluated during three crop cycles (I, II Plant and ratoon) at 5 locations in East Coast Zone. The data on CCS (t/ha), cane yield (t/ha) and sucrose (%) were subjected to stability analysis using AMMI model. Simultaneous selection of high yielding and stable genotypes was done by estimated index value based ranking. Estimated index values, CCS (t/ha), cane yield (t/ha) and sucrose (%) values and stability values of different genotypes along with their ranks are presented in Tables 6.4 to 6.6.

Results based on index of simultaneous selection of high CCS (t/ha) and stable genotypes revealed that three entries, CoA 12324, CoA 11326 and CoC 13339 were at first, second and third rank, respectively. Such ranking differs with the ranking based only on mean data of CCS (t/ha) presented in Table 6.4. Considering top three entries for high CCS (t/ha) and stable genotype, CoA 12324, CoA 11326 and CoC 13339 were superior among the entries. CoC 13339 was better than the best standard CoV 92102.

Results based an index of simultaneous selection for high cane yield (t/ha) and stable genotypes revealed that only one entry, CoA 12324 was found superior than the best standard. Such a ranking differs with the ranking based only on mean data of cane yield (Table 6.5). Considering top entry with high cane yielding and stable genotypes, CoA 12324 was superior among entries.

Results based on index of simultaneous selection for high sucrose (%) and stable genotypes revealed that three entries, CoC 13339, CoA 12324 and CoA 11326 were at first, second and third rank, respectively. Such a ranking differs with the ranking based only on mean data of sucrose content (Table 6.6). Considering top three entries for high sucrose (%) and stable genotype, CoC 13339, CoA 12324 and CoA 11326 were superior among the entries. Numerical values of sucrose (%) of CoC 13339 and CoA 11326 were better than the best standard, CoV 92102.

From the above analysis, it may be concluded that entry, CoA 12324, was the most stable genotype with superiority for CCS (t/ha), cane yield (t/ha) and sucrose (%) in midlate maturing group of East Coast Zone.

Table 6.4 - Ranking of genotypes of AVT (M) of East Coast Zone according to their (i) mean performance, (ii) stability and (iii) simultaneous index value in respect of CCS (t/ha)

Variety	Estimated value			Rank based on estimated value		
	Index Value	CCS (t/ha) value	Stability value	Index value based rank	CCS (t/ha) based rank	Stability based rank
CoA 11326	1.38	11.99	4.09	2	5	1
CoA 12324	1.39	12.87	4.69	1	3	2
CoC 13339	1.27	15.07	20.20	3	1	6
CoOr 13346	1.14	12.36	10.83	5	4	5
Standards						
Co 86249	1.10	11.14	7.83	6	6	3
CoV 92102	1.21	13.00	9.33	4	2	4

Table 6.5- Ranking of genotypes of AVT (M) of East Coast Zone according to their (i) mean performance, (ii) stability and (iii) simultaneous index value in respect of cane yield (t/ha)

Variety	Estimated value			Rank based on estimated value		
	Index Value	Cane Yield (t/ha) value	Stability value	Index value based rank	Cane Yield (t/ha) based rank	Stability based rank
CoA 11326	1.14	96.32	290.94	5	5	3
CoA 12324	1.52	101.85	114.96	1	4	1
CoC 13339	1.21	116.97	862.88	4	1	6
CoOr 13346	1.21	104.09	308.77	3	2	4
Standards						
Co 86249	1.07	95.27	419.35	6	6	5
CoV 92102	1.35	103.34	174.30	2	3	2

Table 6.6 - Ranking of genotypes of AVT (M) of East Coast Zone according to their (i) mean performance, (ii) stability and (iii) simultaneous index value in respect of sucrose (%)

Variety	Estimated value			Rank based on estimated value		
	Index Value	Sucrose (%) value	Stability value	Index value based rank	Sucrose (%) based rank	Stability based rank
CoA 11326	1.31	12.47	2.29	3	4	2
CoA 12324	1.31	12.63	2.35	2	2	3
CoC 13339	1.35	12.83	2.19	1	1	1
CoOr 13346	1.12	11.82	4.14	6	5	6
Standards						
Co 86249	1.18	11.66	2.87	5	6	4
CoV 92102	1.23	12.59	3.30	4	3	5

3.9 ADVANCED VARIETAL TRIAL (MIDLATE – I PLANT)

Centres (5)	Anakapalle ,Cuddalore, Nayagarh, Nellikuppam and Vuyyuru
Entries (6)	Co13028, Co13029, Co13031, CoA14323, CoC14337 and PI14377
Standards (3)	Co 86249, Co 06030* and CoV 92102
Design	Randomized Block Design
Replications	Three
Plot size	Gross : 6.0 m x 8r x 0.90 m Net : 5.0 m x 6r x 0.90 m
Bud rate	12 buds/ metre
Planting time	February / March, 2017
Crop duration	12 months

**The standard Co 06030 was included in the trial only at two locations and hence, not considered for comparison*

Results of the previous year

The IVT trial had been conducted by five centers with 12 entries. CoC 14337 was the top ranking entry in the zone for both CCS yield (14.75 t/ha) and cane yield (118.38 t/ha). CoV 92102 was the better standard for both CCS (12.68 t/ha) and cane yield (104.08 t/ha). However for juice quality, the entry PI 14376 was the top ranking in the zone with a CCS % of 12.63 and sucrose % of 18.13 followed by the entry CoA14323 with 12.56 % and 17.91%, respectively.

Results of the current year

The entry CoA 14323 was the best performer across locations combining yield and quality. It recorded cane yield (124.56 t/ha), CCS yield (16.37 t/ha) and mean sucrose % of 18.51 at 12th month. The best standard CoV 92102 recorded 109.39 t/ha, 14.21 t/ha and 18.27%, respectively. However, the entry PI 14377 recorded the highest CCS % of 13.08 at 12th month. No qualifying entries were identified from the trial as none of them recorded either 10% improvement for yield or 5% improvement for quality over the respective best standards. Further details are presented in Tables 3.9.1 to 3.9.20.

Table 3.9.1 CCS (t/ha) at harvest

S. No.	Entry	Anaka Palle	Cuddalore	Nayagarh	Nelli Kuppam	Vuyyuru	Mean	Rank
1	Co 13028	9.21	16.28	10.63	15.30	12.31	12.75	
2	Co 13029	12.81	16.42	10.85	12.79	16.47	13.87	
3	Co 13031	12.79	15.90	12.89	18.04	13.30	14.58	
4	CoA 14323	15.80	17.16*	9.42	20.08	19.41*	16.37	1
5	CoC 14337	12.56	18.37*	10.86	17.46	16.24	15.10	3
6	PI 14377	13.91	17.04*	9.46	20.10	17.94	15.69	2
	Standards							
1	Co 86249	13.18	13.99	11.71	12.02	14.22	13.02	
2	Co 06030	-	15.58	-	17.19	-	16.39	
3	CoV 92102	11.53	15.31	10.46	17.95	15.81	14.21	
	GM	12.72	16.23	10.79	16.76	15.71		
	SE	1.06	0.43	0.61	1.08	0.79		
	CD (0.05)	3.23	1.30	1.84	3.26	2.95		
	CV	13.97	4.63	9.75	11.24	10.70		
Qualifying entries at each location								
	1	CoA14323	CoA14323	Co13031	CoA14323	CoA14323		
	2	-	-	-	PI14377	PI14377		
	3	-	-	-	-	-		

*Significant over the best standard

No. of locations where an entry recorded >10 % improvement over the best standard: Co 13031 (1), CoA 14323 (4) and PI 14377 (2)

Performance of the entries across locations: The entry CoA 14323 (16.37 t/ha) was the best in the trial followed by PI 14377 (15.69 t/ha) and CoC 14337 (15.10 t/ha). The best standard CoV 92102 recorded 14.21 t/ha across the locations.

Table 3.9.2 Cane yield (t/ha) at harvest

S. No	Entry	Anakapalle	Cuddalore	Nayagarh	Nellikuppam	Vuyyuru	Mean	Rank
1	Co 13028	68.64	128.74	93.46	133.49	92.28	103.32	
2	Co 13029	111.92*	129.51	95.33	115.66	125.93	115.67	
3	Co 13031	100.99	124.50	109.55	130.40	95.27	112.14	
4	CoA 14323	115.57	131.87	85.31	163.81*	126.23	124.56	1
5	CoC 14337	99.29	142.10*	89.35	129.55	119.14	115.89	3
6	PI 14377	106.60	132.94*	78.81	153.01*	124.18	119.11	2
	Standards							
1	Co 86249	103.90	114.65	98.37	106.79	110.19	106.78	
2	Co 06030	-	121.98	-	133.26	-	127.62	
3	CoV 92102	95.77	119.77	88.43	133.72	109.26	109.39	
	GM	100.34	127.34	92.33	133.29	112.81		
	SE	7.31	3.43	4.78	5.76	5.83		
	CD (0.05)	12.39	10.30	14.51	17.28	17.69		
	CV	12.62	4.67	8.97	7.49	9.00		
	Qualifying entries at each location							
	1	CoA14323	CoC14337	Co13031	CoA14323	Co13029		
	2	-	-	-	PI14377	CoA14323		
	3	-	-	-	-	PI14377		

*Significant over the best standard

No. of locations where an entry recorded >10 % improvement over the best standard: Co 13029 (1), Co 13031 (1), CoA 14323 (3), CoC 14337 (1) and PI 14377 (2)

Performance of the entries across locations: The entry CoA 14323 was the best in the trial which recorded the highest cane yield of (124.56 t/ha) followed by PI 14377 (119.11 t/ha) and CoC 14337 (115.89 t/ha). The best standard CoV 92102 recorded a cane yield of 109.39 t/ha.

Table 3.9.3 CCS % at 12th month

S. No.	Entry	Anakapalle	Cuddalore	Nayagarh	Nellikuppam	Vuyyuru	Mean	Rank
1	Co 13028	13.41*	12.65	11.37	11.46	13.32	12.44	
2	Co 13029	11.45	12.68	11.41	11.10	13.08	11.94	
3	Co 13031	12.67	12.77	11.76	13.82	13.96	13.00	3
4	CoA 14323	13.67*	13.01*	11.05	12.24	15.33*	13.06	2
5	CoC 14337	12.65	12.92*	12.15	13.47	13.63	12.96	
6	PI 14377	13.05	12.81	12.00	13.11	14.43	13.08	1
	Standards							
1	Co 86249	12.68	12.21	11.88	11.29	12.90	12.19	
2	Co 06030	-	12.77	-	12.89	-	12.83	
3	CoV 92102	12.04	12.78	11.50	13.42	14.48	12.84	
	GM	12.70	12.73	11.64	12.53	13.89	12.69	
	SE	0.15	0.04	0.17	0.55	0.72		
	CD (0.05)	0.47	0.13	0.52	1.66	0.83		
	CV	2.05	0.59	2.54	7.65	3.40		
Qualifying entries at each location								
	1	Co13028	-	-	-	CoA14323		
	2	CoA14323	-	-	-	-		
	3	-	-	-	-	-		

*Significant over the best standard

No. of locations where an entry recorded >5 % improvement over the best standard: Co 13028 (1) and CoA 14323 (2)

Performance of the entries across locations: The entry PI 14377 recorded the highest mean CCS % of 13.08 followed by CoA 14323 (13.06) and Co 13031 (13.00) respectively and all these entries were numerically superior to the best standard CoV 92102(12.84%)

Table 3.9.4 Sucrose % at 12th month

S. No.	Entry	Anakapalle	Cuddalore	Nayagarh	Nellikuppam	Vuyyuru	Mean	Rank
1	Co 13028	19.38*	17.64	16.53	16.47	18.17	17.64	
2	Co 13029	16.62	17.85	16.70	16.11	17.81	17.02	
3	Co 13031	18.44	17.92	17.21	19.67	19.20	18.49	2
4	CoA 14323	19.70*	18.12*	16.49	17.56	20.69*	18.51	1
5	CoC 14337	18.46	17.93	17.46	19.16	18.96	18.39	4
6	PI 14377	18.98	17.96	17.31	18.73	19.47	18.49	2
	Standards							
1	Co 86249	18.60	17.35	17.26	16.31	17.72	17.45	
2	Co 06030	-	17.81	-	18.39	-	18.10	
3	CoV 92102	17.64	17.80	17.24	19.04	19.64	18.27	
	GM	18.48	17.82	17.03	17.94	18.96		
	SE	0.20	0.08	0.13	0.68	0.34		
	CD (0.05)	0.61	0.23	0.38	2.04	1.03		
	CV	1.88	0.74	1.27	6.57	3.10		
Qualifying entries at each location								
	1	-	-	-	-	CoA14323		
	2	-	-	-	-	-		
	3	-	-	-	-	-		

*Significant over the best standard

No. of locations where an entry recorded >5 % improvement over the best standard: CoA 14323 (1)

Performance of the entries across locations: The entry CoA 14323 recorded the highest sucrose content of 18.51 % across the locations followed by the entries Co 13031 and PI 14377 (18.49 %) and CoC 14337 (18.39 %).

Table 3.9.5 Brix % at 12th month

S. No.	Entry	Anaka palle	Cuddalore	Nayagarh	Nelli kuppam	Vuyyuru	Mean
1	Co13028	21.88	20.41	18.91	18.40	19.17	19.75
2	Co13029	18.96	20.23	19.37	18.37	18.74	19.13
3	Co13031	21.16	20.90	19.98	21.52	20.71	20.85
4	CoA14323	22.14	21.50	19.88	19.53	21.31	20.87
5	CoC14337	21.30	21.02	19.51	20.91	21.04	20.76
6	PI14377	21.73	21.10	19.46	20.66	20.04	20.60
Standards							
1	Co 86249	21.66	19.81	19.70	18.41	19.04	19.72
2	Co 06030	-	20.75	-	20.24	-	20.50
3	CoV 92102	20.52	20.70	19.82	20.67	20.45	20.43
	GM	21.17	20.71	19.58	19.86	20.06	
	SE	0.33	0.14	0.26	0.49	0.34	
	CD (0.05)	1.00	0.42	NS	1.48	1.02	
	CV	2.66	1.18	2.26	4.30	2.90	

Table 3.9.6 Purity % at 12th month

S. No.	Entry	Anaka palle	Cuddalore	Nayagarh	Nelli kuppam	Vuyyuru	Mean
1	Co13028	88.57	89.67	87.44	89.50	94.74	89.98
2	Co13029	87.64	88.21	86.23	87.32	95.00	88.88
3	Co13031	87.16	90.65	86.21	91.34	92.76	89.62
4	CoA14323	88.98	90.24	82.97	89.81	97.08	89.82
5	CoC14337	86.68	90.12	89.58	91.62	90.09	89.62
6	PI14377	87.32	90.36	89.02	90.65	97.55	90.98
Standards							
1	Co 86249	85.87	88.75	87.62	88.56	93.08	88.78
2	Co 06030	-	90.01	-	90.89	-	90.45
3	CoV 92102	85.98	89.91	87.02	92.09	96.06	90.21
	GM	87.28	89.77	87.01	90.19	94.55	
	SE	0.89	0.17	1.59	1.33	0.96	
	CD (0.05)	NS	0.52	NS	4.00	2.90	
	CV	1.76	0.33	3.16	2.56	1.70	

Table 3.9.7 Pol % cane at harvest

S. No.	Entry	Anaka palle	Cuddalore	Nayagarh	Nelli kuppam	Vuyyuru	Mean
1	Co13028	14.62	13.74	-	13.5	-	13.95
2	Co13029	12.52	13.44	-	13.23	-	13.06
3	Co13031	13.95	13.86	-	16.19	-	14.67
4	CoA14323	14.94	14.25	-	14.45	-	14.55
5	CoC14337	13.9	14.03	-	15.73	-	14.55
6	PI14377	14.29	14.11	-	15.4	-	14.60
Standards							
1	Co 86249	13.93	13.05	-	13.41	-	13.46
2	Co 06030	-	13.85	-	15.13	-	14.49
3	CoV 92102	13.22	13.75	-	15.64	-	14.20
	GM	13.92	13.79	-	14.74	-	
	SE	0.153	0.08	-	0.78	-	
	CD (0.05)	0.467	0.22	-	1.66	-	
	CV	1.899	0.94	-	6.51	-	

Table 3.9.8 Extraction % at harvest

S. No.	Entry	Anaka palle	Cuddalore	Nayagarh	Nelli kuppam	Vuyyuru	Mean
1	Co13028	56.46	49.71	50.16	54.32	-	52.66
2	Co13029	46.97	49.05	52.42	48.87	-	49.33
3	Co13031	51.83	49.05	50.7	49.39	-	50.24
4	CoA14323	43.06	50.92	54.98	49.88	-	49.71
5	CoC14337	48.15	49.94	50.12	50.12	-	49.58
6	PI14377	52.03	50.71	52.33	53.39	-	52.12
Standards							
1	Co 86249	47.22	49.3	52.6	51.83	-	50.24
2	Co 06030	-	50.03	-	46.08	-	48.06
3	CoV 92102	52.97	50.11	49.54	49.96	-	50.65
	GM	49.84	-	51.6	50.43	-	
	SE	1.912	0.17	0.91	1.95	-	
	CD (0.05)	5.884	0.52	2.75	4.13	-	
	CV	6.678	0.61	3.05	4.73	-	

Table 3.9.9 Fiber % at harvest

S. No.	Entry	Anaka palle	Cuddalore	Nayagarh	Nelli kuppam	Vuyyuru	Mean
1	Co13028	14.53	13.31	13.69	13.05	-	13.65
2	Co13029	14.67	13.56	14.79	12.84	-	13.97
3	Co13031	14.35	13.15	14.01	12.71	-	13.56
4	CoA14323	14.19	12.94	14.66	12.75	-	13.64
5	CoC14337	14.72	13.24	14.24	12.89	-	13.77
6	PI14377	14.71	13.27	13.58	12.78	-	13.59
Standards							
1	Co 86249	15.11	13.33	13.43	12.77	-	13.66
2	Co 06030	-	13.42	-	12.72	-	13.07
3	CoV 92102	15.08	13.06	14.86	12.83	-	13.96
	GM	14.67	13.25	14.22	12.81	-	
	SE	0.094	0.08	0.23	0.22	-	
	CD (0.05)	0.284	0.24	0.7	0.48	-	
	CV	1.105	1.07	2.81	2.18	-	

Table 3.9.10 NMC (*000/ha) at harvest

S. No.	Entry	Anaka palle	Cuddalore	Nayagarh	Nelli kuppam	Vuyyuru	Mean
1	Co13028	84.32	117.08	97.81	121.05	74.69	98.99
2	Co13029	100.74	114.47	99.31	120.25	91.87	105.33
3	Co13031	84.69	111.36	118.29	105.24	79.53	99.82
4	CoA14323	80.49	116.18	89.56	113.02	92.49	98.35
5	CoC14337	82.47	104.68	95.63	97.90	75.72	91.28
6	PI14377	80.37	107.91	87.99	127.84	92.70	99.36
Standards							
1	Co 86249	89.75	116.44	107.39	115.99	88.99	103.71
2	Co 06030	-	106.41	-	113.95	-	110.18
3	CoV 92102	77.16	99.81	96.33	122.28	87.45	96.61
	GM	85.00	110.48	99.04	115.28	85.43	
	SE	7.54	3.73	5.12	7.33	3.84	
	CD (0.05)	NS	11.18	15.53	21.98	11.66	
	CV	10.87	5.85	8.95	11.01	7.80	

Table 3.9.11 Stalk length (cm)

S. No.	Entry	Anaka palle	Cuddalore	Nayagarh	Nelli kuppam	Vuyyuru	Mean
1	Co13028	182.33	276.45	230.00	210.67	235.42	226.97
2	Co13029	218.00	271.50	202.67	207.00	269.75	233.78
3	Co13031	227.00	270.84	255.33	211.33	265.67	246.03
4	CoA14323	250.67	281.67	215.33	232.33	300.83	256.17
5	CoC14337	197.67	276.11	234.33	215.00	227.00	230.02
6	PI14377	237.00	275.83	214.00	221.67	266.67	243.03
Standards							
1	Co 86249	261.33	266.68	219.00	215.33	290.00	250.47
2	Co 06030	-	258.22	-	220.33	-	239.28
3	CoV 92102	281.33	258.33	228.67	224.33	297.92	258.12
	GM	231.90	270.63	224.92	217.55	269.16	
	SE	9.05	4.87	4.11	4.13	6.21	
	CD (0.05)	27.71	14.59	12.46	8.77	19.02	
	CV	6.76	3.12	3.16	2.33	4.00	

Table 3.9.12 Stalk diameter (cm)

S. No.	Entry	Anaka palle	Cuddalore	Nayagarh	Nelli kuppam	Vuyyuru	Mean
1	Co13028	2.38	2.83	2.66	2.64	2.51	2.60
2	Co13029	2.70	2.85	2.32	2.68	2.27	2.56
3	Co13031	2.57	2.71	2.59	2.60	2.96	2.69
4	CoA14323	2.81	2.81	2.51	2.63	2.99	2.75
5	CoC14337	2.61	3.01	2.65	2.60	2.81	2.74
6	PI14377	2.71	2.85	2.41	2.68	2.76	2.68
Standards							
1	Co 86249	2.25	2.57	2.25	2.21	2.47	2.35
2	Co 06030	-	2.75	-	2.73	-	2.74
3	CoV 92102	2.38	2.65	2.37	2.41	2.65	2.49
	GM	2.55	2.78	2.47	2.57	2.68	
	SE	0.05	0.05	0.90	0.03	0.15	
	CD (0.05)	0.15	0.15	0.28	0.10	0.46	
	CV	3.33	3.14	6.47	2.26	9.70	

Table 3.9.13 Single cane weight (kg)

S. No.	Entry	Anaka palle	Cuddalore	Nayagarh	Nelli kuppam	Vuyyuru	Mean
1	Co13028	0.84	1.20	1.10	1.38	1.21	1.15
2	Co13029	1.15	1.27	1.23	1.25	1.23	1.23
3	Co13031	1.24	1.18	1.34	1.39	1.56	1.34
4	CoA14323	1.51	1.28	1.01	1.49	1.79	1.42
5	CoC14337	1.20	1.36	1.27	1.37	1.40	1.32
6	PI14377	1.36	1.21	1.34	1.29	1.45	1.33
Standards							
1	Co 86249	1.18	1.03	1.25	0.91	1.34	1.14
2	Co 06030	-	1.27	-	1.52	-	1.40
3	CoV 92102	1.26	1.24	1.33	1.32	1.40	1.31
	GM	1.22	1.23	1.23	1.32	1.42	
	SE	1.17	0.03	0.05	0.04	0.04	
	CD (0.05)	0.06	0.10	0.15	0.14	0.11	
	CV	7.83	4.92	7.00	6.48	4.40	

Table 3.9.14 CCS % at 10 months

S. No.	Entry	Anaka palle	Cuddalore	Nayagarh	Nelli kuppam	Vuyyuru	Mean
1	Co13028	11.32	10.53	9.93	8.93	11.89	10.52
2	Co13029	10.75	10.08	9.63	9.44	8.83	9.75
3	Co13031	11.29	10.52	9.83	12.33	14.71	11.74
4	CoA14323	11.42	10.74	9.90	11.67	13.36	11.42
5	CoC14337	10.86	10.64	10.52	11.88	14.55	11.69
6	PI14377	11.01	10.77	10.56	12.19	12.40	11.39
Standards							
1	Co 86249	10.33	9.97	10.96	9.55	11.94	10.55
2	Co 06030	-	10.61	-	11.84	-	11.23
3	CoV 92102	11.78	10.62	10.93	11.88	14.06	11.85
	GM	11.10	10.50	10.28	11.08	12.72	
	SE	0.51	0.10	0.11	0.14	0.22	
	CD (0.05)	NS	0.31	0.35	0.44	0.66	
	CV	7.92	1.72	1.92	2.29	3.00	

Table 3.9.15 Sucrose % at 10 months

S. No.	Entry	Anaka palle	Cuddalore	Nayagarh	Nelli kuppam	Vuyyuru	Mean
1	Co13028	16.64	15.42	14.45	13.12	16.62	15.25
2	Co13029	15.86	14.97	14.10	14.10	12.99	14.40
3	Co13031	16.82	15.51	14.26	17.73	19.72	16.81
4	CoA14323	16.81	16.10	14.26	16.78	18.38	16.47
5	CoC14337	16.05	15.83	15.21	17.13	20.04	16.85
6	PI14377	16.10	16.01	15.18	17.50	17.19	16.40
Standards							
1	Co 86249	15.06	14.66	15.51	14.14	16.49	15.17
2	Co 06030	-	15.81	-	17.10	-	16.46
3	CoV 92102	17.17	15.74	15.72	17.13	19.33	17.02
	GM	16.31	15.56	14.84	16.08	17.59	
	SE	0.67	0.10	0.14	0.19	0.28	
	CD (0.05)	NS	0.30	0.43	0.58	0.84	
	CV	7.12	1.10	1.63	2.11	2.70	

Table 3.9.16 Brix % at 10 months

S. No.	Entry	Anaka palle	Cuddalore	Nayagarh	Nelli kuppam	Vuyyuru	Mean
1	Co13028	19.48	19.68	16.55	15.34	18.51	17.91
2	Co13029	18.68	19.40	16.33	17.01	16.04	17.49
3	Co13031	20.20	20.04	16.22	19.84	20.00	19.26
4	CoA14323	19.71	20.45	16.00	18.77	19.79	18.94
5	CoC14337	18.98	19.81	17.17	19.27	21.66	19.38
6	PI14377	18.66	20.19	16.95	19.51	18.83	18.83
Standards							
1	Co 86249	17.34	18.91	16.73	16.77	17.93	17.54
2	Co 06030	-	19.61	-	19.30	-	19.46
3	CoV 92102	19.74	19.62	17.60	19.27	20.77	19.40
	GM	19.10	19.75	16.70	18.34	19.19	
	SE	0.65	0.25	0.20	0.19	0.28	
	CD (0.05)	NS	0.73	0.60	0.59	0.84	
	CV	5.93	2.15	2.03	1.87	2.50	

Table 3.9.17 Purity % at 10 months

S. No.	Entry	Anaka palle	Cuddalore	Nayagarh	Nelli kuppam	Vuyyuru	Mean
1	Co13028	85.42	85.42	87.35	85.55	89.75	86.70
2	Co13029	84.89	84.70	86.37	82.91	80.94	83.96
3	Co13031	83.25	85.24	87.90	89.38	98.60	88.87
4	CoA14323	85.27	86.45	89.14	89.41	92.83	88.62
5	CoC14337	84.56	85.34	88.55	88.90	92.57	87.98
6	PI14377	86.30	85.42	89.60	89.73	91.25	88.46
Standards							
1	Co 86249	86.83	83.94	92.69	84.28	92.00	87.95
2	Co 06030	-	85.17	-	88.58	-	86.88
3	CoV 92102	86.98	85.25	89.31	88.90	93.09	88.71
	GM	85.44	85.21	88.86	87.51	91.38	
	SE	1.19	0.23	0.80	0.35	0.71	
	CD (0.05)	NS	0.67	2.43	1.05	2.16	
	CV	2.42	0.46	1.56	0.70	1.40	

Table 3.9.18 Number of shoots ('000/ha) at 240 days

S. No.	Entry	Anaka palle	Cuddalore	Nayagarh	Nelli kuppam	Vuyyuru	Mean
1	Co13028	92.96	123.76	106.38	158.64	78.60	112.07
2	Co13029	108.89	119.24	109.87	146.54	94.65	115.84
3	Co13031	94.07	118.14	123.39	140.74	85.49	112.37
4	CoA14323	92.10	123.28	98.94	147.84	99.59	112.35
5	CoC14337	90.62	118.23	100.13	163.89	79.42	110.46
6	PI14377	87.65	117.45	94.58	163.70	95.78	111.83
Standards							
1	Co 86249	97.65	118.84	113.65	148.09	96.19	114.88
2	Co 06030	-	108.72	-	150.62	-	129.67
3	CoV 92102	84.69	109.37	107.34	149.69	93.62	108.94
	GM	93.58	117.45	106.79	152.19	90.42	
	SE	6.23	3.23	5.13	8.18	4.81	
	CD (0.05)	NS	9.67	15.57	24.54	14.60	
	CV	11.53	4.76	8.33	9.31	9.20	

Table 3.9.19 Number of tillers (*000/ha) at 120 days

S. No.	Entry	Anaka palle	Cuddalore	Nayagarh	Nelli kuppam	Vuyyuru	Mean
1	Co13028	105.56	135.51	116.88	179.63	102.68	128.05
2	Co13029	122.43	130.36	117.90	162.90	111.73	129.06
3	Co13031	106.37	124.41	134.75	177.78	104.94	129.65
4	CoA14323	103.91	130.07	111.07	178.70	125.00	129.75
5	CoC14337	100.00	134.65	111.09	193.52	113.07	130.47
6	PI14377	98.66	123.03	107.63	186.98	109.47	125.15
Standards							
1	Co 86249	108.85	128.77	126.90	175.80	120.58	132.18
2	Co 06030	-	111.84	-	180.56	-	146.20
3	CoV 92102	95.68	125.14	110.85	183.64	121.71	127.40
	GM	105.18	127.09	117.24	179.94	113.65	
	SE	7.26	3.35	5.51	7.31	4.84	
	CD (0.05)	NS	10.05	16.70	21.91	14.66	
	CV	11.95	4.57	8.13	7.03	7.40	

Table 3.9.20 Germination % at 30 days

S. No.	Entry	Anaka palle	Cuddalore	Nayagarh	Nelli kuppam	Vuyyuru	Mean
1	Co13028	62.27	55.09	50.06	83.49	53.09	60.80
2	Co13029	71.45	52.99	54.28	81.90	47.38	61.60
3	Co13031	72.92	55.48	49.13	87.04	54.01	63.72
4	CoA14323	69.75	59.66	50.06	88.89	51.23	63.92
5	CoC14337	60.49	64.11	58.59	77.96	64.51	65.13
6	PI14377	59.41	49.95	53.59	86.63	51.23	60.16
Standards							
1	Co 86249	62.57	53.09	49.49	87.67	48.61	60.29
2	Co 06030	-	49.58	-	84.52	-	67.05
3	CoV 92102	60.96	61.53	50.24	84.55	56.79	62.81
	GM	64.98	55.72	51.93	84.75	53.36	
	SE	5.14	1.23	1.66	4.12	2.74	
	CD (0.05)	NS	3.69	5.03	12.37	8.32	
	CV	13.64	3.82	5.53	8.43	8.90	

Table 3.9.21 Assessment of performance of entries by monitoring team

Entries	Nellikuppam	Cuddalore	Vuyyuru	Anakapalle	Nayagarh
Co 13028	On par	On par	Poor	Poor	Poor
Co 13029	On par	Poor	On par	Poor	Poor
Co 13031	Poor	On par	On par	Poor	Poor
CoA 14323	On par	On par	Better	Better	On par
CoC 14337	Poor	On par	Better	On par	On par
PI 14377	On par	Poor	On par	Poor	NA
Standards					
CoV 92102	Best	Best	Best	Best	Best
Co 86249					
Co 06030					

3.10 INITIAL VARIETAL TRIAL (MIDLATE)

Centres (5)	Anakapalle, Cuddalore, Nayagarh, Nellikuppam and Vuyyuru
Entries (5)	1. CoC 15339 (81 V 48 PC) 2. CoC 15340 (Co 8371 x CoA 7602) 3. CoOr15346 (C 81615 GC) 4. PI 15376 (Co 91017 PC) 5. PI 15377 (PI 03-0560 PC)
Standards (3)	Co 86249, Co 06030 and CoV 92102
Design	Randomized Block Design
Replications	Three
Plot size	Gross : 6.0 m x 6r x 0.90 m Net : 5.0 m x 4r x 0.90 m
Bud rate	12 buds/ metre
Planting time	February / March, 2017
Crop duration	12 months

Results of the previous year

The entries were under multiplication in the respective centres.

Results of the current year

The entry CoC 15339 was the best performer across locations for both cane yield (123.35 t/ha) and CCS yield (16.05 t/ha). The second best entry for cane yield was CoOr 15346 (116.53 t/ha). The best standard CoV 92102 recorded a cane yield of 114.50 t/ha and CCS yield of 15.51 t/ha across locations. For juice quality (CCS % and sucrose %), PI 15376 was the top ranking entry in the zone. Its mean sucrose content at 12th month was 19.14 % and CCS % at 12th month was 13.52. The best standard Co 06030 recorded a mean sucrose content of 19.03% and CCS % of 13.42. No qualifying entries were identified from the trial as none of them recorded either 10% improvement for yield or 5% improvement for quality over the respective best standards. Further details are presented in Tables 3.10.1 to 3.10.20.

Table 3.10.1 CCS (t/ha) at harvest

S. No.	Entry	Anaka palle	Cuddalore	Naya garh	Nelli kuppam	Vuyyuru	Mean	Rank
1	CoC 15339	14.24*	18.27*	11.88	20.63	15.23	16.05	1
2	CoC 15340	12.40	17.52*	11.63	12.79	4.43	11.75	
3	CoOr 15346	10.15	16.07	14.01*	20.17	14.20	14.92	
4	PI 15376	10.48	16.11	12.55	22.95	14.55	15.33	3
5	PI 15377	9.68	16.50	12.12	19.31	14.76	14.47	
	Standards							
1	Co 86249	9.90	12.58	10.29	16.46	13.84	12.61	
2	Co 06030	9.93	15.95	11.99	20.06	15.55	14.70	
3	CoV 92102	11.69	13.52	12.16	21.14	19.04	15.51	2
	GM	11.06	15.82	12.08	19.18	13.95		
	SE	0.65	0.68	0.51	1.16	0.72		
	CD (0.05)	2.00	1.43	1.54	3.51	2.17		
	CV	10.21	5.24	7.26	10.44	8.90		
Qualifying entries at each location								
	1	CoC 15339	CoC 15339	CoOr 15346	-	-	-	
	2	-	-	-	-	-	-	
	3	-	-	-	-	-	-	

*Significant over the best standard

No. of locations where an entry recorded >10 % improvement over the best standard: CoC 15339 (2) and CoOr 15346 (1)

Performance of the entries across locations: The entry CoC 15339 (16.05 t/ha) was the best in the trial followed by the standard CoV 92102 (15.51 t/ha) and the entry PI 15376 (15.33 t/ha). The entry CoC 15339 recorded 3.48 % improvement over the best standard CoV 92102 across the locations.

Table 3. 10 .2 Cane yield (t/ha) at harvest

S. No.	Entry	Anaka Palle	Cuddalore	Naya garh	Nelli kuppam	Vuyyuru	Mean #	Rank
1	CoC 15339	109.08*	140.21*	103.58	152.78	111.11	123.35	1
2	CoC 15340	98.71*	137.26*	102.66	91.36	36.57	93.31	
3	CoOr 15346	86.86	125.50	117.49*	150.00	102.78	116.53	2
4	PI 15376	76.30	126.26	105.25	154.83	101.39	112.81	
5	PI 15377	75.19	130.13	101.55	140.64	100.93	109.69	
Standards								
1	Co 86249	73.34	100.42	89.39	121.91	104.17	97.85	
2	Co 06030	69.82	125.34	101.01	148.97	105.09	110.05	
3	CoV 92102	85.01	105.91	106.15	146.71	128.70	114.50	3
	GM	84.29	123.88	103.39	138.37	98.84		
	SE	3.23	5.20	3.20	7.10	5.44		
	CD (0.05)	9.88	11.03	9.71	21.55	16.50		
	CV	6.63	5.14	5.36	8.89	9.50		
Qualifying entries at each location								
	1	CoC 15339	CoC 15339	CoOr 15346	-	-	-	
	2	CoC 15340	-	-	-	-	-	
	3	-	-	-	-	-	-	

*Significant over the best standard

No. of locations where an entry recorded >10% improvement over the best standard: CoC 15339 (2), CoC 15340 (1) and CoOr 15346 (1)

Performance of the entries across locations: The entry CoC 15339 was the best in the trial which recorded the highest cane yield of 123.35 t/ha followed by CoOr 15346 (116.53 t/ha). The best standard CoV 92102 recorded 114.50 t/ha cane yield. The entries CoC 15339 and CoOr 15346 recorded 7.73% and 1.77% improvement respectively, over the best standard CoV 92102 across the locations.

Table 3. 10.3 CCS % at 12th month

S. No.	Entry	Anakapalle	Cuddalore	Naya garh	Nellikuppam	Vuyyuru	Mean #	Rank
1	CoC 15339	13.06	13.03*	11.42	13.43	13.72	12.93	
2	CoC 15340	12.57	12.76	11.51	13.98	12.09	12.58	
3	CoOr 15346	11.69	12.81	11.92*	13.43	13.81	12.73	
4	PI 15376	13.74	12.76	11.92*	14.81	14.35	13.52	1
5	PI 15377	12.88	12.68	11.59	13.73	14.62	13.10	
Standards								
1	Co 86249	13.49	12.53	11.52	13.51	13.29	12.87	
2	Co 06030	14.26	12.72	11.89	13.45	14.80	13.42	2
3	CoV 92102	13.67	12.76	11.46	14.38	14.80	13.41	3
	GM	13.17	12.76	11.65	13.84	13.94		
	SE	0.47	0.10	0.16	0.33	0.12		
	CD (0.05)	1.44	0.21	NS	1.01	0.35		
	CV	6.20	0.94	2.37	4.17	1.40		
Qualifying entries at each location								
	1	-	-	-	-	-	-	
	2	-	-	-	-	-	-	
	3	-	-	-	-	-	-	

*Significant over the best standard

No. of locations where an entry recorded >5 % improvement over the best standard: None of the entries at any of the locations recorded more than 5% improvement over the best standards of their respective locations.

Performance of the entries across locations: The entry PI 15376 recorded the highest mean CCS % of 13.52 followed by the standards Co 06030 (13.42) and CoV 92102 (13.41).

Table 3. 10.4 Sucrose % at 12th month

S. No.	Entry	Anakapalle	Cuddalore	Naya garh	Nellikuppam	Vuyyuru	Mean #	Rank
1	CoC 15339	18.99	18.05	16.68	19.50	18.80	18.40	
2	CoC 15340	18.21	17.65	16.99	20.12	17.33	18.06	
3	CoOr 15346	17.02	17.71	17.59*	19.50	19.15	18.19	
4	PI 15376	19.79	17.84	17.11	21.20	19.75	19.14	1
5	PI 15377	18.61	17.67	17.09	19.95	20.20	18.70	
Standards								
1	Co 86249	19.21	16.83	16.63	19.43	18.10	18.04	
2	Co 06030	20.65	17.75	17.03	19.30	20.41	19.03	2
3	CoV 92102	19.67	17.77	16.61	20.72	20.32	19.02	3
	GM	19.02	17.66	16.97	19.96	19.26		
	SE	0.53	0.15	0.14	0.42	0.10		
	CD (0.05)	1.62	0.32	0.46	1.29	0.30		
	CV	4.81	1.05	1.47	3.71	0.90		
Qualifying entries at each location								
	1	-	-	-	-	-		
	2	-	-	-	-	-		
	3	-	-	-	-	-		

*Significant over the best standard

No. of locations where an entry recorded >5 % improvement over the best standard: None of the entries at any of the locations recorded more than 5% improvement over the best standards of their respective locations.

Performance of the entries across locations: The entry PI 15376 recorded the highest sucrose content of 19.14 % across the locations and was numerically superior to both the standards Co 06030 (19.03 %) and CoV 92102 (19.02 %).

Table 3. 10.5 Brix % at 12th month

S. No.	Entry	Anakapalle	Cuddalore	Nayagarh	Nellikuppam	Vuyyuru	Mean
1	CoC 15339	21.75	21.60	19.22	22.23	20.06	20.97
2	CoC 15340	20.70	21.14	20.06	22.54	20.33	20.95
3	CoOr 15346	19.54	20.73	20.72	22.23	21.00	20.84
4	PI 15376	22.23	21.07	19.04	23.49	21.30	21.43
5	PI 15377	21.04	21.24	18.98	22.79	21.97	21.20
Standards							
1	Co 86249	21.03	19.82	18.76	21.73	19.03	20.07
2	Co 06030	23.47	21.07	18.90	21.50	22.10	21.41
3	CoV 92102	22.02	21.06	18.90	23.28	21.80	21.41
	GM	21.47	20.97	19.32	22.47	20.95	
	SE	0.27	0.18	0.20	0.40	0.17	
	CD (0.05)	0.83	0.37	0.61	1.21	0.53	
	CV	2.19	1.02	1.79	3.09	1.40	

Table 3. 10.6 Purity % at 12th month

S. No.	Entry	Anakapalle	Cuddalore	Nayagarh	Nellikuppam	Vuyyuru	Mean
1	CoC 15339	87.30	91.26	86.98	87.69	93.70	89.39
2	CoC 15340	87.97	89.87	84.72	89.24	85.21	87.40
3	CoOr 15346	87.12	90.42	85.00	87.69	91.27	88.30
4	PI 15376	89.04	90.06	89.93	90.27	92.77	90.41
5	PI 15377	88.45	90.66	90.00	87.52	91.97	89.72
Standards							
1	Co 86249	91.34	88.15	88.68	89.40	95.11	90.54
2	Co 06030	87.97	90.11	90.13	89.76	92.35	90.06
3	CoV 92102	89.14	90.64	87.33	88.97	93.21	89.86
	GM	88.54	90.15	87.91	88.81	91.95	
	SE	1.54	0.75	1.05	0.79	0.92	
	CD (0.05)	NS	1.58	3.18	2.42	2.78	
	CV	3.01	1.01	2.06	1.55	1.70	

Table 3. 10.7 Pol % cane at harvest

S. No.	Entry	Anakapalle	Cuddalore	Nayagarh	Nellikuppam	Vuyyuru	Mean
1	CoC 15339	14.26	14.13	-	15.99	-	14.79
2	CoC 15340	13.50	13.54	-	16.43	-	14.49
3	CoOr 15346	12.71	13.82	-	15.99	-	14.17
4	PI 15376	14.93	13.84	-	17.45	-	15.41
5	PI 15377	13.89	13.74	-	16.35	-	14.66
Standards							
1	Co 86249	14.20	12.91	-	15.95	-	14.35
2	Co 06030	15.36	13.58	-	15.90	-	14.95
3	CoV 92102	14.54	13.82	-	16.96	-	15.11
	GM	14.17	13.67	-	16.37	-	
	SE	0.37	0.23	-	0.51	-	
	CD (0.05)	1.14	0.48	-	1.09	-	
	CV	4.55	2.02	-	3.83	-	

Table 3. 10.8 Extraction % at harvest

S. No.	Entry	Anakapalle	Cuddalore	Nayagarh	Nellikuppam	Vuyyuru	Mean
1	CoC 15339	49.31	50.66	50.70	54.41	-	51.27
2	CoC 15340	44.77	50.19	53.41	51.64	-	50.00
3	CoOr 15346	45.60	50.23	54.09	50.68	-	50.15
4	PI 15376	58.11	50.41	50.34	52.01	-	52.72
5	PI 15377	43.56	50.34	51.02	50.70	-	48.91
Standards							
1	Co 86249	49.18	49.07	50.02	50.11	-	49.60
2	Co 06030	49.36	50.18	52.10	47.22	-	49.72
3	CoV 92102	49.22	50.26	52.14	51.28	-	50.73
	GM	48.64	50.17	51.76	51.00	-	
	SE	1.17	0.24	0.80	1.25	-	
	CD (0.05)	3.58	0.50	2.43	2.67	-	
	CV	4.17	0.58	2.68	2.99	-	

Table 3. 10.9 Fiber % at harvest

S. No.	Entry	Anakapalle	Cuddalore	Nayagarh	Nellikuppam	Vuyyuru	Mean
1	CoC 15339	14.88	13.17	14.69	13.01	-	13.94
2	CoC 15340	15.85	13.85	14.88	13.34	-	14.48
3	CoOr 15346	15.32	13.29	13.14	12.97	-	13.68
4	PI 15376	14.56	13.24	15.05	12.69	-	13.89
5	PI 15377	15.37	13.41	15.05	13.03	-	14.22
Standards							
1	Co 86249	16.10	13.47	14.67	12.91	-	14.29
2	Co 06030	15.63	13.15	14.70	12.60	-	14.02
3	CoV 92102	16.08	12.84	15.14	13.16	-	14.31
	GM	15.47	13.30	14.67	12.96	-	
	SE	0.22	0.22	0.19	0.28	-	
	CD (0.05)	0.68	0.48	0.58	0.60	-	
	CV	2.49	2.06	2.25	2.66	-	

Table 3. 10.10 NMC ('000/ha) at harvest

S. No.	Entry	Anakapalle	Cuddalore	Nayagarh	Nellikuppam	Vuyyuru	Mean
1	CoC 15339	88.52	101.25	111.81	104.46	75.93	96.39
2	CoC 15340	81.48	98.36	113.75	105.15	27.78	85.30
3	CoOr 15346	74.26	108.66	124.54	95.78	64.35	93.52
4	PI 15376	68.70	104.23	116.57	105.08	70.37	92.99
5	PI 15377	70.37	95.88	110.89	112.98	69.44	91.91
Standards							
1	Co 86249	69.26	113.38	107.10	94.00	77.16	92.18
2	Co 06030	63.33	106.31	111.90	97.21	73.15	90.38
3	CoV 92102	75.37	92.87	116.56	96.55	80.09	92.29
	GM	73.91	102.62	114.14	101.40	67.28	
	SE	3.55	5.71	2.57	5.29	4.81	
	CD (0.05)	10.84	12.11	7.81	16.06	14.59	
	CV	8.29	6.81	3.91	9.04	12.40	

Table 3. 10.11 Stalk length (cm)

S. No.	Entry	Anakapalle	Cuddalore	Nayagarh	Nellikuppam	Vuyyuru	Mean
1	CoC 15339	287.33	296.67	215.30	240.00	275.83	263.03
2	CoC 15340	315.67	291.33	234.70	175.00	247.42	252.82
3	CoOr 15346	308.00	274.67	294.70	224.67	219.92	264.39
4	PI 15376	264.33	283.67	244.30	235.33	254.17	256.36
5	PI 15377	251.33	274.33	240.70	244.00	250.50	252.17
Standards							
1	Co 86249	275.40	275.67	243.00	223.67	246.11	252.77
2	Co 06030	272.00	267.33	234.00	224.67	219.83	243.57
3	CoV 92102	295.33	261.67	231.70	232.00	235.83	251.31
	GM	283.70	278.17	242.30	224.91	243.70	
	SE	8.36	8.32	5.99	6.03	5.53	
	CD (0.05)	25.62	17.64	18.16	13.93	16.95	
	CV	5.11	3.66	4.28	3.28	3.90	

Table 3. 10.12 Stalk diameter (cm)

S. No.	Entry	Anakapalle	Cuddalore	Nayagarh	Nellikuppam	Vuyyuru	Mean
1	CoC 15339	2.65	2.85	2.21	2.71	2.65	2.61
2	CoC 15340	2.78	2.78	2.79	1.82	2.85	2.60
3	CoOr 15346	2.51	2.75	3.01	2.47	2.57	2.66
4	PI 15376	2.78	2.71	2.28	2.80	2.91	2.70
5	PI 15377	2.44	2.83	2.98	2.28	2.44	2.59
Standards							
1	Co 86249	2.17	2.45	2.38	2.24	2.68	2.38
2	Co 06030	2.87	2.71	2.21	2.84	3.02	2.73
3	CoV 92102	2.24	2.63	2.23	2.37	2.71	2.44
	GM	2.56	2.71	2.51	2.44	2.73	
	SE	0.07	0.08	0.05	0.06	0.06	
	CD (0.05)	0.21	0.19	0.16	0.19	0.17	
	CV	4.63	3.97	3.72	4.46	3.60	

Table 3. 10.13 Single cane weight (kg)

S. No.	Entry	Anakapalle	Cuddalore	Nayagarh	Nellikuppam	Vuyyuru	Mean
1	CoC 15339	1.26	1.34	1.46	1.16	1.19	1.28
2	CoC 15340	1.26	1.40	1.47	0.66	1.20	1.20
3	CoOr 15346	1.21	1.35	1.82	0.91	1.22	1.30
4	PI 15376	1.15	1.29	1.33	0.89	1.27	1.19
5	PI 15377	1.10	1.31	1.62	0.97	1.04	1.21
Standards							
1	Co 86249	1.06	1.01	1.56	0.85	1.09	1.11
2	Co 06030	1.15	1.24	1.34	1.19	1.10	1.20
3	CoV 92102	1.13	1.27	1.42	1.15	1.26	1.25
	GM	1.17	1.28	1.50	0.97	1.17	
	SE	0.05	0.08	0.06	0.06	0.03	
	CD (0.05)	NS	0.16	0.19	0.14	0.10	
	CV	6.91	7.15	7.09	8.37	5.00	

Table 3. 10.14 CCS % at 10 months

S. No.	Entry	Anakapalle	Cuddalore	Nayagarh	Nellikuppam	Vuyyuru	Mean
1	CoC 15339	11.45	11.14	10.20	11.87	12.02	11.34
2	CoC 15340	10.84	10.56	10.91	10.90	11.29	10.90
3	CoOr 15346	11.35	10.60	11.64	12.53	13.50	11.92
4	PI 15376	11.46	10.51	10.17	12.63	13.98	11.75
5	PI 15377	12.54	10.71	10.05	11.08	14.09	11.69
Standards							
1	Co 86249	11.24	9.95	9.85	11.73	11.45	10.84
2	Co 06030	12.35	10.51	10.51	12.38	14.55	12.06
3	CoV 92102	12.74	10.55	10.03	12.35	14.15	11.96
	GM	11.75	10.57	10.42	11.93	13.13	
	SE	0.74	0.20	0.24	0.12	0.22	
	CD (0.05)	NS	0.43	0.74	0.38	0.65	
	CV	10.85	2.34	4.06	1.86	2.80	

Table 3. 10.15 Sucrose % at 10 months

S. No.	Entry	Anakapalle	Cuddalore	Nayagarh	Nellikuppam	Vuyyuru	Mean
1	CoC 15339	16.37	15.70	14.80	17.19	16.85	16.18
2	CoC 15340	15.69	15.09	15.59	15.94	16.29	15.72
3	CoOr 15346	16.23	15.36	16.77	18.05	18.64	17.01
4	PI 15376	16.54	15.60	14.80	18.09	18.85	16.78
5	PI 15377	17.83	15.55	14.75	16.12	19.44	16.74
Standards							
1	Co 86249	16.29	14.67	14.39	17.22	16.04	15.72
2	Co 06030	17.65	15.39	15.16	17.75	20.07	17.20
3	CoV 92102	18.18	15.45	14.64	17.61	19.44	17.06
	GM	16.85	15.35	15.11	17.24	18.20	
	SE	0.90	0.21	0.28	0.16	0.26	
	CD (0.05)	NS	0.44	0.84	0.49	0.79	
	CV	9.27	1.67	3.17	1.64	2.50	

Table 3. 10.16 Brix % at 10 months

S. No.	Entry	Anakapalle	Cuddalore	Nayagarh	Nellikuppam	Vuyyuru	Mean
1	CoC 15339	18.08	19.45	16.85	19.50	18.93	18.56
2	CoC 15340	17.78	19.19	17.22	18.47	19.38	18.41
3	CoOr 15346	17.96	19.53	18.83	20.24	20.23	19.36
4	PI 15376	18.63	19.15	16.96	20.04	20.18	18.99
5	PI 15377	19.47	20.26	17.22	18.47	21.08	19.30
Standards							
1	Co 86249	18.52	19.83	16.61	20.11	17.96	18.61
2	Co 06030	19.50	19.22	17.06	19.72	21.73	19.45
3	CoV 92102	20.00	19.29	16.86	19.34	20.66	19.23
	GM	18.74	19.49	17.20	19.48	20.02	
	SE	0.70	0.28	0.22	0.15	0.19	
	CD (0.05)	NS	0.58	0.68	0.65	0.57	
	CV	6.45	1.72	2.25	1.38	1.60	

Table 3. 10.17 Purity % at 10 months

S. No.	Entry	Anakapalle	Cuddalore	Nayagarh	Nellikuppam	Vuyyuru	Mean
1	CoC 15339	90.33	85.95	87.82	88.15	89.01	88.25
2	CoC 15340	88.25	85.07	90.55	86.29	84.03	86.84
3	CoOr 15346	90.25	85.31	89.10	89.16	92.14	89.19
4	PI 15376	88.46	85.41	87.27	90.27	93.39	88.96
5	PI 15377	91.56	85.58	85.85	87.28	92.20	88.49
Standards							
1	Co 86249	88.06	83.57	86.61	85.63	89.31	86.64
2	Co 06030	90.52	85.19	88.84	89.99	92.36	89.38
3	CoV 92102	90.90	85.51	86.88	91.02	94.07	89.68
	GM	89.79	85.20	87.87	88.47	90.81	
	SE	2.07	0.51	1.19	0.37	0.78	
	CD (0.05)	NS	1.09	NS	1.13	2.35	
	CV	4.00	0.74	2.35	0.73	1.50	

Table 3. 10.18 Number of shoots ('000/ha) at 240 days

S. No.	Entry	Anakapalle	Cuddalore	Nayagarh	Nellikuppam	Vuyyuru	Mean
1	CoC 15339	95.93	115.31	122.57	144.46	85.96	112.85
2	CoC 15340	87.96	106.18	121.63	145.15	68.52	105.89
3	CoOr 15346	81.48	110.87	126.92	135.78	72.38	105.49
4	PI 15376	75.19	108.50	123.47	138.41	81.79	105.47
5	PI 15377	76.48	122.27	122.13	149.31	79.78	109.99
Standards							
1	Co 86249	76.67	126.54	114.15	134.00	86.73	107.62
2	Co 06030	68.70	103.18	120.55	130.54	75.31	99.66
3	CoV 92102	82.41	110.82	124.01	136.55	89.82	108.72
	GM	80.60	112.96	121.93	140.10	80.04	
	SE	4.09	6.79	2.09	6.79	5.56	
	CD (0.05)	12.51	14.40	6.34	20.61	NS	
	CV	8.78	7.36	2.97	8.40	12.00	

Table 3. 10.19 Number of tillers ('000/ha) at 120 days

S. No.	Entry	Anakapalle	Cuddalore	Nayagarh	Nellikuppam	Vuyyuru	Mean
1	CoC 15339	104.78	127.27	130.37	178.75	111.11	130.46
2	CoC 15340	95.37	119.74	125.56	187.64	78.86	121.43
3	CoOr 15346	89.66	121.54	133.66	177.22	97.22	123.86
4	PI 15376	83.33	127.84	127.01	178.19	110.49	125.37
5	PI 15377	84.10	123.25	128.37	190.42	109.57	127.14
Standards							
1	Co 86249	83.49	141.04	121.34	177.64	105.40	125.78
2	Co 06030	75.00	124.13	125.15	167.08	116.98	121.67
3	CoV 92102	88.58	114.16	131.39	179.58	116.36	126.01
	GM	88.04	124.87	127.85	179.56	105.75	
	SE	5.07	6.64	2.30	7.46	5.87	
	CD (0.05)	15.52	14.07	6.96	22.64	17.80	
	CV	9.97	6.51	3.11	7.20	9.60	

Table 3. 10.20 Germination % at 30 days

S. No.	Entry	Anakapalle	Cuddalore	Nayagarh	Nellikuppam	Vuyyuru	Mean
1	CoC 15339	54.51	56.61	51.22	90.97	61.00	62.86
2	CoC 15340	65.85	60.27	52.70	87.96	54.40	64.24
3	CoOr 15346	53.01	48.88	60.27	84.26	50.00	59.28
4	PI 15376	54.51	52.22	50.61	80.86	64.00	60.44
5	PI 15377	65.63	60.33	50.47	85.00	60.76	64.44
Standards							
1	Co 86249	53.24	50.87	53.61	89.70	48.03	59.09
2	Co 06030	61.92	47.48	48.20	89.47	68.29	63.07
3	CoV 92102	54.05	50.03	47.95	91.44	60.65	60.82
	GM	57.84	53.34	51.88	87.45	58.39	
	SE	4.96	2.23	17.78	3.94	3.13	
	CD (0.05)	NS	4.74	5.42	11.97	9.48	
	CV	14.85	5.13	5.97	7.81	9.30	

Table 3. 10.21 Assessment of performance of entries by monitoring team

	Nellikuppam	Cuddalore	Vuyyuru	Anakapalle	Nayagarh
CoC 15339	On par	Poor	On par	On par	Poor
CoC 15340	Poor	Poor	Poor	Poor	Poor
CoOr 15346	Poor	Poor	Poor	On par	On par
PI 15376	On par	Poor	On par	Poor	On par
PI 15377	Poor	Poor	Poor	Poor	Poor
Standards					
CoV 92102	Best		Best	Best	
Co 86249					Best
Co 06030		Best			NA

4. NORTH WEST ZONE

North West Zone of India comprises the states of Haryana, Punjab, Western and Central Uttar Pradesh, Uttarakhand and Rajasthan. There are 10 AICRP (Sugarcane) centres in the zone and its location are given below.

State	AICRP(S) centres
Haryana	Karnal, Uchani
Punjab	Faridkot, Kapurthala
Rajasthan	Kota, Sriganganagar
Uttarakhand	Pantnagar
Uttar Pradesh	Lucknow, Shahjahanpur, Muzaffarnagar

List of trials conducted

Eight AICRP(S) trials was planned in the zone during 2017-18. The number of trials conducted at each centre during 2017-18 are given below.

Sl No.	Location	IVT Early	AVT Early I Plant	AVT Early II Plant	AVT Early Ratoon	IVT Midlate	AVT Midlate I Plant	AVT Midlate II Plant	AVT Midlate Ratoon
1	Faridkot	C	C	C	C	C	C	C	C
2	Kapurthala	C	C	C	C	C	C	C	C
3	Karnal*	C	C	-	-	-	-	C	C
4	Kota	C	C	C	NC	C	C	C	NC
5	Lucknow	C	C	C	C	C	C	C	C
6	Muzaffarnagar	C	C	C	C	C	C	C	C
7	Pantnagar	C	C	C	C	NC	C	C	C
8	Shahjahanpur	C	C	C	C	C	C	C	C
9	Sriganganagar	C	C	C	C	C	C	C	C
10	Uchani*	-	-	C	C	C	C	-	-

C= Conducted, NC= Not Conducted

* - : Trials are shared between Karnal and Uchani centres

4.1 Advanced Varietal Trial (Early) II Plant

Centres (9)	Faridkot, Kapurthala, Kota, Lucknow, Muzaffarnagar, Pantnagar, Shahjahanpur, Sriganaganagar and Uchani
Entries (4)	Co 12026, Co 12027, CoLk 12203 and CoPant 12221
Standards (2)	CoJ 64 and Co 0238
Design	RBD
Replications	3
Plot size	Gross : 8 Rows x 6m x 0.75 m Net : 6 Rows x 5m x 0.75 m
Bud rate	12 buds/ metre
Planting time	February / March, 2017
Crop Duration	10 months

Results of the previous year: In the AVT (E) I Plant trial of 2016-17 season, the average germination was 39.68 percent, but the Lucknow centre reported very low (19.22%) germination. Co 0238 emerged as the best standard for CCS yield with zonal mean of 11.00 t/ha. None of the test entries showed >10 improvement for CCS yield over Co 0238 although the CCS yield of Co 12027 (11.01 t/ha) was numerically higher than that of Co 0238. Co 12027 showed >10% improvement for CCS yield at two centres namely, Kota and Sriganaganagar. For cane yield, Co 0238 was the best standard for cane yield (87.94 t/ha) as well. None of the test clones showed >10% improvement over the best standard although clones such as Co 12027 and CoPant 12221 at Sriganaganagar and CoLk 12203 at Muzaffarnagar recorded >10 percent improvement for this trait. For juice quality traits such as CCS% and sucrose content, Co 0238 ranked as the better standard with mean CCS% of 12.61 and sucrose % of 18.18. No test entries showed >5% improvement for CCS% over Co 0238, although Co 12027 recorded numerically higher CCS % (13.11%). The entries, Co 12027 (18.92%) and Co 12026 (18.20%) recorded numerically higher sucrose% than Co 0238 but their percent improvement was less than 5%.

Result of the current years: Four test clones (Co 12026, Co 12027, CoLk 12203 and CoPant 12221) and two standards (CoJ 64 and Co 0238) were evaluated in RBD with three replications in nine centres. For CCS yield (t/ha), Co 0238 was the better standard variety with zonal mean yield of 10.78 t/ha. Among the test entries, Co 12027 recorded zonal mean of 9.90 t/ha with 13.56 percent improvement at Kota. For cane yield, Co 0238 was the best standard with zonal mean of 87.41 t/ha. Among the test entries, CoLk 12203 recorded the zonal mean of 86.45 t/ha with more than 10 percent improvement at Sriganaganagar (28.57%) and Muzaffarnagar (9.66%) centres. For CCS(%), CoJ 64 was the best zonal standard with average mean of 12.41%. Among the test entries, Co 12027 was the best clones with zonal mean of 12.71% and recorded 6.21 percent improvement over the best standard at Kota. Entry Co 12026 ranked second for CCS (%) based on overall zonal performance with zonal of mean of 12.42% and recorded 5.24% improvement over the best standard. For sucrose (%), Co 0238 recorded the zonal mean of 17.89% and among the test entries, Co 12027 recorded the 18.34% sucrose and numerically superior over the best standard at all centres except at Lucknow and Shajahanpur. None of the entries was identified as qualifying entry. Further details are presented in table 4.1.1 to 4.1.19.

Table 4.1.1. CCS (t/ha) at harvest

S. No.	Entry	Faridkot	Kapurthala	Kota	Lucknow*	Muzafar nagar	Pantnagar	Shahja hanpur	Sriganga nagar	Uchani	Mean	Rank
1	Co 12026	12.13	10.05	9.03	2.94	9.74	8.58	9.25	11.43	11.86	9.45	
2	Co 12027	12.40	11.43	10.55	6.63	8.94	7.94	10.47	11.31	9.47	9.90	2
3	CoLk 12203	11.90	8.15	8.52	9.34	11.08	7.90	9.71	11.10	10.05	9.75	3
4	CoPant 12221	12.93	9.74	7.74	5.88	9.13	9.25	9.44	11.71	10.96	9.64	
Standards												
1	CoJ 64	11.23	9.31	8.13	6.72	8.51	8.27	9.66	9.04	9.49	8.93	
2	Co 0238	12.37	10.70	9.29	10.05	9.92	10.78	10.80	11.03	12.11	10.78	1
	Mean	12.16	9.90	8.88	6.93	9.55	8.79	9.89	10.94	10.66	9.74	
	SE(m)	0.56		0.16	0.37	0.64	0.14		0.27	0.40		
	CD	1.70	0.64	0.38	0.79	1.37	0.42		0.81	1.27		
	CV	9.28	4.28	7.06	7.53	9.52	3.15		4.27	6.44		
Top entries with 10 percent improvement for CCS (t/ha) over the better standard variety at each centre												
	Rank-1			Co 12027 (13.56%)		CoLk 12203 (11.69%)						

* Data of Co 12026 from Lucknow centre was not considered for estimation of mean due to low germination of 21 percent.

Number of locations where an entry recorded 10 percent improvement for CCS (t/ha) over the better standard variety: Co 12027 (2), CoLk 12203 (1)

Performance across location: Co 0238 was the better standard with zonal mean yield of 10.78 t/ha. Among the test entries, Co 12027 recorded mean zonal yield of 9.90 t/ha with 13.56 percent improvement at Kota. Entry CoLk 12203 recorded the zonal mean of 9.75 t/ha and 11.69 percent improvement at Muzafarnagar.

Table 4.1.2. Cane yield (t/ha) at harvest

S. No.	Entry	Faridkot	Kapurthala	Kota	Lucknow	Muzafar nagar	Pantnagar	Shahja hanpur	Sriganga nagar	Uchani	Mean	Rank
1	Co 12026	105.83	83.13	76.81	23.20	82.31	60.97	77.89	94.74	84.56	83.28	
2	Co 12027	101.94	90.54	85.09	52.83	74.53	57.92	85.22	89.56	66.26	78.21	
3	CoLk 12203	118.89	74.79	83.14	77.10	90.36	62.92	83.89	104.72	82.27	86.45	2
4	CoPant 12221	121.67	88.33	80.84	47.44	78.33	72.92	84.78	112.29	84.70	85.70	3
Standards												
1	CoJ 64	95.83	75.84	75.97	50.92	72.31	62.37	76.33	71.85	70.53	72.44	
2	Co 0238	110.83	91.98	81.42	78.33	82.40	80.63	87.22	87.34	86.51	87.41	1
	Mean	109.17	84.10	80.55	54.97	80.04	66.29	82.56	93.42	79.14	81.14	
	SE(m)	5.30		1.41	2.69	5.21	1.02	2.24	3.28	3.45		
	CD	15.97	1.22	3.44	5.74	11.11	3.06	4.76	9.86	11.02		
	CV	9.71	0.96	7.03	6.92	9.19	3.07	5.42	8.72	7.56		
Top entries with 10 percent improvement for cane yield (t/ha) over the better standard variety at each centre												
	Rank-1								CoPant 12221 (28.57%)			
	Rank-2								CoLk 12203 (19.90%)			

* Data of Co 12026 from Lucknow centre is not considered for estimation of mean due to low germination of 21 percent.

Number of locations where an entry recorded 10 percent improvement for cane yield (t/ha) over the better standard variety: CoLk 12203 (1), CoPant 12221 (1)

Performance across location: Among the standards, Co 0238 was the better standard with zonal mean of 87.41 t/ha. Among the test entries, CoLk 12203 recorded the zonal mean of 86.45 t/ha and recorded 28.75 percent improvement at Sriganganagar. Entry CoPant 12221 was the best with zonal mean of 85.70 t/ha and recorded 10% improvement for cane yield at Sriganganagar.

Table 4.1.3. CCS (%) at 10th month

S. No.	Entry	Faridkot	Kapurthala	Kota	Lucknow	Muzafar nagar	Pantnagar	Shahja hanpur	Sriganga nagar	Uchani	Mean	Rank
1	Co 12026	11.46	12.08	11.77	12.65	11.81	14.07	11.88	12.06	14.02	12.42	2
2	Co 12027	12.18	12.62	12.15	12.55	12.01	13.71	12.28	12.63	14.29	12.71	1
3	CoLk 12203	10.01	10.90	10.24	12.12	12.26	12.56	11.58	10.60	12.24	11.39	
4	CoPant 12221	10.64	11.02	9.59	12.38	11.67	13.94	11.14	10.43	12.94	11.53	
Standards												
1	CoJ 64	11.72	12.27	10.70	13.21	11.77	13.26	12.66	12.58	13.48	12.41	3
2	Co 0238	11.15	11.63	11.44	12.83	11.94	13.37	12.38	12.63	14.01	12.37	4
	Mean	11.19	11.75	10.98	12.62	11.91	13.49	11.99	11.82	13.50	12.14	
	SE(m)	0.11		0.14	0.14	0.09	0.49	0.13	0.13	0.25		
	CD	0.32	0.72	0.29	0.30	0.20	1.48	0.27	0.39	0.80		
	CV	1.91	4.09	3.53	1.59	1.14	7.31	2.13	2.61	3.23		
Top entries with five percent improvement for CCS (%) over the better standard variety at each centre												
				Co 12027 (6.21%)			Co 12026 (5.24%)					

Number of locations where an entry recorded five percent improvement for CCS (%) over the better standard variety: Co 12027 (1), Co 12026 (1)

Performance across location: For CCS(%), CoJ 64 was the better zonal standard with average zonal mean of 12.41%. Among the standards, Co 12027 was the best with the zonal mean of 12.71% and recorded 6.21 percent improvement over the better standard at Kota. Entry Co 12026 ranked second with zonal of mean of 12.42% and recorded 5.24% improvement over the better standard at Pantnagar.

Table 4.1.4. Sucrose (%) at 10th month

S. No.	Entry	Faridkot	Kapurthala	Kota	Lucknow	Muzafar nagar	Pantnagar	Shahja hanpur	Sriganga nagar	Uchani	Mean	Rank
1	Co 12026	16.65	17.20	16.80	18.24	17.20	20.10	17.34	17.46	19.96	17.88	3
2	Co 12027	17.64	18.02	17.88	18.15	17.42	19.81	17.81	18.09	20.22	18.34	1
3	CoLk 12203	14.37	15.38	15.26	17.52	17.69	18.50	16.89	15.32	17.70	16.51	
4	CoPant 12221	15.34	15.70	15.35	17.94	16.96	18.60	16.32	15.22	18.73	16.68	
Standards												
1	CoJ 64	16.97	17.42	15.63	18.99	17.03	18.90	18.31	18.08	19.26	17.84	
2	Co 0238	16.13	16.90	16.60	18.36	17.30	19.74	17.95	17.92	20.09	17.89	2
	Mean	16.13	16.90	16.60	18.36	17.30	19.74	17.95	17.92	20.09	17.52	
	SE(m)	0.17		0.18	0.20	0.14	0.39	0.18	0.23	0.33		
	CD	0.52	1.03	0.38	0.43	0.29	1.19	0.38	0.67	1.04		
	CV	2.13	4.07	3.09	1.56	1.15	4.12	2.03	2.75	2.93		
Top entries with five percent improvement for sucrose content over the better standard variety at each centre												

Number of locations where an entry recorded five percent improvement for sucrose content over the better standard variety: None

Performance across location: Among the best standards, Co 0238 was the best standard with zonal mean of 17.89%. Among test entries, Co 12027 recorded the 18.34% sucrose content and numerically superior over the best standards at all centres except at Lucknow and Shajahanpur. However, none of the test entries recorded five percent improvement over the better standard.

Table 4.1.5. Brix (%) at 10th month

S. No.	Entry	Farid kot	Kapur thala	Kota	Luck now	Muzafar nagar	Pant nagar	Shahja hanpur	Sriganga nagar	Uch ani	Mean
1	Co 12026	19.00	18.83	18.48	20.52	19.73	23.73	19.86	19.81	21.83	20.20
2	Co 12027	20.00	19.83	20.96	20.52	19.83	22.58	20.28	20.03	21.83	20.65
3	CoLk 12203	16.00	16.50	18.31	19.81	19.90	20.75	19.44	17.31	20.03	18.67
4	CoPant 12221	17.25	17.18	20.87	20.39	19.40	20.90	18.97	17.54	21.27	19.31
1	CoJ 64	19.25	18.95	18.06	21.22	19.28	21.68	20.73	20.18	21.23	20.06
2	Co 0238	18.25	19.30	18.92	20.31	19.73	22.35	20.41	19.48	22.33	20.12
	Mean	18.29	18.43	19.27	20.46	19.65	22.00	19.95	19.06	21.42	19.84
	SE(m)	0.31		0.29	0.32	0.19	0.19	0.17	0.24	0.37	
	CD	0.94	1.21	0.61	0.67	0.41	0.59	0.36	0.71	1.18	
	CV	3.40	4.36	4.21	2.18	1.39	1.80	1.70	2.36	2.99	

Table 4.1.6. Purity (%) at 10th month

S. No.	Entry	Farid kot	Kapur thala	Kota	Luck now	Muzafar nagar	Pant nagar	Shahja hanpur	Sriganga nagar	Uch ani	Mean
1	Co 12026	87.61	91.42	90.96	88.91	87.59	87.49	87.33	88.12	91.45	88.99
2	Co 12027	88.25	90.85	85.40	88.49	87.84	87.99	87.81	90.13	92.62	88.82
3	CoLk 12203	89.78	93.22	83.42	88.40	88.59	87.81	86.85	87.26	88.40	88.19
4	CoPant 12221	88.95	91.43	73.66	88.01	87.41	87.97	86.38	86.81	88.12	86.53
1	CoJ 64	88.15	91.92	86.58	89.51	88.09	88.45	88.32	89.62	90.68	89.03
2	Co 0238	88.40	87.56	87.75	90.37	87.81	87.11	87.93	87.92	89.95	88.31
	Mean	88.52	91.07	84.63	88.95	87.89	87.80	87.44	88.31	90.20	88.31
	SE(m)	0.80		0.88	0.82	0.51	0.36	0.18	0.63	0.89	
	CD	2.40	1.98	1.87	ns	1.09	1.08	0.39	1.88	2.83	
	CV	1.80	1.44	2.93	1.30	0.82	0.82	0.42	1.42	1.70	

Table 4.1.7. Extraction (%) at 10th month

S. No.	Entry	Farid kot	Kapur thala	Kota	Luck now	Muzafar nagar	Pant nagar	Shahja hanpur	Sriganga nagar	Uch ani	Mean
1	Co 12026	49.16	55.74	45.00	50.04	49.02		54.87	49.78	50.07	50.46
2	Co 12027	50.74	51.43	44.83	49.92	52.46		54.69	52.26	48.74	50.63
3	CoLk 12203	53.64	52.95	45.13	55.54	50.01		53.80	50.64	43.50	50.65
4	CoPant 12221	57.07	53.98	44.26	49.94	48.74		54.10	49.59	50.43	51.01
1	CoJ 64	56.03	55.37	45.48	55.97	53.07		55.03	51.37	47.16	52.43
2	Co 0238	58.06	57.37	43.06	59.54	51.48		56.71	50.48	50.63	53.42
	Mean	54.12	54.47	44.63	53.49	50.80		54.87	50.69	48.42	51.43
	SE(m)	0.49		0.65	2.80	-		0.50	0.69	0.66	
	CD	1.47	NS	1.38	5.97	-		1.07	2.06	2.10	
	CV	1.81	8.24	4.12	7.41	-		1.84	2.84	2.35	

Table 4.1.8. Pol%cane and Fibre (%) at 10th month

S. No.	Entry	Pol%cane					Fibre%				
		Kapur thala	Luck now	Muzafar nagar	Shahja hanpur	Mean	Kapur thala	Luck now	Muzafar nagar	Shahja hanpur	Mean
1	Co 12026	13.87	14.02	12.96	13.22	13.52	13.96	13.14	13.42	13.36	13.47
2	Co 12027	13.98	14.03	13.10	13.88	13.75	14.31	12.68	13.26	13.27	13.38
3	CoLk 12203	11.42	13.34	13.21	12.14	12.53	13.94	13.83	14.10	13.29	13.79
4	CoPant 12221	13.25	13.70	12.71	12.36	13.01	14.01	13.62	14.06	13.33	13.75
1	CoJ 64	13.73	14.61	12.78	13.17	13.57	10.49	13.06	13.16	13.24	12.49
2	Co 0238	14.03	14.08	12.99	13.12	13.56	12.18	13.27	13.58	13.19	13.06
	Mean	13.38	13.96	12.96	12.98	13.32	13.15	13.27	13.60	13.28	13.32
	SE(m)		0.17	-	-			0.20	-	-	
	CD	0.71	0.35	-	-		1.56	0.44	-	-	
	CV	3.52	1.68	-	-		7.89	2.18	-	-	

Table 4.1.9. Number of millable canes (‘000/ha) at 10th month

S. No.	Entry	Farid kot	Kapur thala	Kota	Luck now	Muzafar nagar	Pant nagar	Shahja hanpur	Sriganga nagar	Uch ani	Mean
1	Co 12026	105.97	95.62	89.03	36.46	104.72	44.58	93.11	104.28	111.71	87.28
2	Co 12027	123.89	88.75	96.88	88.66	98.14	45.76	98.11	98.46	111.89	94.50
3	CoLk 12203	129.31	114.16	89.98	96.96	117.77	50.97	103.44	109.71	129.71	104.67
4	CoPant 12221	136.67	121.48	98.08	84.72	110.27	48.96	110.67	115.63	121.78	105.36
1	CoJ 64	115.56	97.51	98.98	85.13	112.59	53.96	103.67	92.59	119.13	97.68
2	Co 0238	108.06	111.37	90.73	83.45	94.16	51.60	93.44	95.38	109.85	93.12
	Mean	119.91	104.82	93.95	79.23	106.28	49.31	100.41	102.68	117.35	97.10
	SE(m)	4.10		1.18	2.86	5.53	1.10	3.94	3.96	4.27	
	CD	12.37	12.29	2.52	6.10	11.80	3.33	8.40	11.89	NS	
	CV	6.84	7.39	3.56	5.11	7.37	4.48	7.85	7.59	6.30	

Table 4.1.10 Millable cane height (cm) at 10th month

S. No.	Entry	Farid kot	Kapur thala	Kota	Luck now	Muzafar nagar	Pant nagar	Shahja hanpur	Sriganga nagar	Uch ani	Mean
1	Co 12026	209.67	303.40	232.00	113.90	293.00	229.00	205.75	198.57	235.00	224.48
2	Co 12027	204.91	292.10	255.00	168.90	251.00	200.00	231.25	187.29	193.75	220.47
3	CoLk 12203	218.50	269.10	265.00	213.05	283.00	207.00	218.50	205.16	214.17	232.61
4	CoPant 12221	246.50	266.70	244.00	199.40	308.00	229.00	227.50	220.46	247.33	243.21
1	CoJ 64	207.75	285.20	246.00	174.60	233.00	176.00	217.75	180.35	185.25	211.77
2	Co 0238	211.16	300.40	265.00	204.30	285.00	211.00	248.25	186.26	219.17	236.73
	Mean	216.42	286.15	251.17	179.03	275.50	208.67	224.83	196.35	215.78	228.21
	SE(m)	3.03	-	-	-	-	-	6.07	5.16	7.68	
	CD	9.12	NS	-	-	-	-	12.94	15.47	24.51	
	CV	2.80	7.80	4.88	9.68	6.51	6.50	5.40	7.89	6.17	

Table 4.1.11 Cane diameter (cm) at 10th month

S. No.	Entry	Farid kot	Kapur thala	Kota	Luck now	Muzafar nagar	Pant nagar	Shahja hanpur	Sriganga nagar	Uch ani	Mean
1	Co 12026	2.51	2.19	2.31	2.03	2.22	2.50	2.39	2.54	2.25	2.33
2	Co 12027	2.49	2.24	2.21	2.34	2.33	2.44	2.47	2.28	2.08	2.32
3	CoLk 12203	2.59	2.14	2.26	2.28	2.26	2.48	2.24	2.24	2.17	2.30
4	CoPant 12221	2.22	2.05	2.21	1.97	2.20	2.38	2.20	2.55	2.18	2.22
1	CoJ 64	2.46	2.04	2.12	2.13	2.24	2.46	2.21	2.30	2.20	2.24
2	Co 0238	2.70	2.36	2.21	2.80	2.66	2.72	2.67	2.56	2.49	2.57
	Mean	2.50	2.17	2.22	2.26	2.32	2.50	2.36	2.41	2.23	2.33
	SE(m)	0.05		0.02	0.13	0.08	0.09	0.06	0.05	0.04	
	CD	0.16	0.20	0.05	0.28	0.17	0.28	0.12	0.14	0.13	
	CV	4.20	6.08	3.26	8.10	4.88	7.45	4.77	4.71	3.16	

Table 4.1.12 Single cane weight (kg) at 10th month

S. No.	Entry	Farid kot	Kapur thala	Kota	Luck now	Muzafar nagar	Pant nagar	Shahja hanpur	Sriganga nagar	Uch ani	Mean
1	Co 12026	1.05	1.25	0.91	0.64	0.91	1.35	0.95	0.90	0.83	0.98
2	Co 12027	0.95	1.30	0.67	0.60	0.81	1.22	0.96	0.78	0.63	0.88
3	CoLk 12203	1.03	1.06	1.04	0.80	0.79	1.21	0.83	0.91	0.70	0.93
4	CoPant 12221	0.95	1.02	0.79	0.56	0.75	1.48	0.80	0.98	0.80	0.90
1	CoJ 64	0.90	1.01	1.00	0.60	0.68	1.00	0.85	0.78	0.64	0.83
2	Co 0238	1.19	1.42	0.86	0.94	0.93	1.56	1.05	0.91	0.90	1.08
	Mean	1.01	1.18	0.88	0.69	0.81	1.30	0.91	0.88	0.75	0.93
	SE(m)	0.05		0.02	0.04	0.03	0.04	0.05	0.03	0.02	
	CD	0.16	NS	0.04	0.07	0.06	0.11	0.11	0.09	0.07	
	CV	10.19	21.44	8.62	7.21	5.36	5.71	11.66	7.98	4.68	

Table 4.1.13 CCS (%) at 8th month

S. No.	Entry	Farid kot	Kapur thala	Kota	Luck now	Muzafar nagar	Pant nagar	Shahja hanpur	Sriganga nagar	Uch ani	Mean
1	Co 12026	8.80	11.43	9.23	11.93	10.39	12.62	10.98	10.32	11.39	10.79
2	Co 12027	11.31	12.18	10.27	9.99	11.10	12.18	11.36	11.05	12.24	11.30
3	CoLk 12203	6.92	9.20	8.30	9.95	10.36	9.75	11.03	8.70	7.25	9.05
4	CoPant 12221	7.23	9.48	8.75	10.21	9.32	10.34	9.99	8.76	11.06	9.46
1	CoJ 64	8.99	10.48	8.16	12.10	10.38	10.86	11.27	10.76	10.56	10.40
2	Co 0238	8.69	11.35	9.40	11.55	10.43	12.22	11.32	10.04	11.33	10.70
	Mean	8.66	10.69	9.02	10.95	10.33	11.33	10.99	9.94	10.64	10.28
	SE(m)	0.15		0.28	0.31	0.25	0.35	0.07	0.25	1.15	
	CD	0.44	1.09	0.60	0.65	0.54	1.04	0.14	0.75	0.36	
	CV	3.37	6.79	8.76	3.96	3.50	6.12	1.21	3.25	5.86	

Table 4.1.14 Sucrose (%) at 8th month

S. No.	Entry	Farid kot	Kapur thala	Kota	Luck now	Muzafar nagar	Pant nagar	Shahja hanpur	Sriganga nagar	Uch ani	Mean
1	Co 12026	13.11	16.37	13.78	17.21	15.43	18.57	16.24	15.04	16.44	15.80
2	Co 12027	16.28	17.27	15.18	14.75	16.39	17.85	16.59	15.98	17.22	16.39
3	CoLk 12203	10.42	13.49	12.38	14.54	15.30	14.37	16.24	12.82	11.80	13.48
4	CoPant 12221	10.86	13.90	12.96	14.84	13.86	15.23	14.78	12.93	15.66	13.89
1	CoJ 64	13.44	15.24	12.41	17.53	15.33	16.00	16.48	15.69	15.50	15.29
2	Co 0238	12.93	16.34	13.90	16.88	15.36	17.97	16.54	14.72	16.24	15.65
	Mean	12.84	15.44	13.44	15.96	15.28	16.67	16.15	14.53	15.48	15.08
	SE(m)	0.20		0.24	0.41	0.35	0.48	0.06	0.41	0.38	
	CD	0.60	1.42	0.52	0.87	0.75	1.45	0.13	1.22	1.21	
	CV	3.11	6.09	5.12	3.61	3.27	5.78	0.78	2.82	4.24	

Table 4.1.15 Brix (%) at 8th month

S. No.	Entry	Farid kot	Kapur thala	Kota	Luck now	Muzafar nagar	Pant nagar	Shahja hanpur	Sriganga nagar	Uch ani	Mean
1	Co 12026	15.75	18.17	16.63	19.36	18.40	21.75	18.99	17.30	18.53	18.32
2	Co 12027	18.25	18.71	17.94	17.43	19.35	20.78	19.18	18.10	18.37	18.68
3	CoLk 12203	12.75	15.73	14.93	16.82	18.07	16.90	19.09	15.06	16.47	16.20
4	CoPant 12221	13.25	16.18	15.41	16.98	16.60	17.90	17.50	15.24	16.93	16.22
1	CoJ 64	16.25	17.45	15.48	19.93	17.87	18.83	19.07	18.07	18.07	17.89
2	Co 0238	15.50	18.34	16.45	19.54	18.02	21.05	19.11	17.13	18.07	18.13
	Mean	15.29	17.43	16.14	18.34	18.05	19.54	18.82	16.82	17.74	17.57
	SE(m)	0.26		223.00	0.40	0.34	0.52	0.05	0.38	1.27	
	CD	0.77	1.26	0.48	0.86	0.74	1.56	0.12	1.14	0.40	
	CV	3.36	4.82	3.92	3.12	2.74	5.30	0.58	3.89	3.90	

Table 4.1.16 Purity (%) at 8th month

S. No.	Entry	Farid kot	Kapur thala	Kota	Luck now	Muzafar nagar	Pant nagar	Shahja hanpur	Sriganga nagar	Uch ani	Mean
1	Co 12026	83.23	90.02	83.02	88.89	83.86	85.34	85.49	86.98	88.71	86.17
2	Co 12027	89.20	92.31	84.61	84.63	84.70	85.95	86.50	88.29	93.93	87.79
3	CoLk 12203	81.73	85.78	83.36	86.47	84.67	85.08	85.08	85.16	71.68	83.22
4	CoPant 12221	81.99	85.91	84.19	87.39	83.48	87.56	84.42	84.83	92.69	85.83
1	CoJ 64	82.75	87.36	80.41	87.98	85.78	84.94	86.43	86.84	85.79	85.36
2	Co 0238	83.46	88.99	84.50	86.43	85.22	85.36	86.53	85.96	89.88	86.26
	Mean	83.73	88.40	83.35	86.96	84.62	85.71	85.74	86.34	87.11	85.77
	SE(m)	0.74		2.29	0.79	0.55	1.32	0.14	0.58	2.32	
	CD	2.23	2.49	4.89	1.68	1.18	3.98	0.31	1.74	7.39	
	CV	1.77	1.87	7.78	1.28	0.92	3.08	0.34	1.68	4.61	

Table 4.1.17 Number of shoots (ˆ000/ha) at 8th month

S. No.	Entry	Farid kot	Kapur thala	Kota	Luck now	Muzafar nagar	Pant nagar	Shahja hanpur	Sriganga nagar	Uch ani	Mean
1	Co 12026	136.39	100.22		39.12					117.38	98.28
2	Co 12027	134.31	93.03		91.61					115.56	108.63
3	CoLk 12203	156.94	119.66		106.19					141.38	131.04
4	CoPant 12221	169.44	127.34		89.06					131.78	129.41
1	CoJ 64	144.31	116.75		91.49					123.47	119.00
2	Co 0238	122.64	102.22		87.44					115.51	106.95
	Mean	144.01	109.87		84.15					124.18	115.55
	SE(m)	5.68			2.94					4.07	
	CD	17.10	12.90		6.27					13.00	
	CV	7.88	7.80		4.94					5.68	

Table 4.1.18 Number of tillers (ˆ000/ha) at 120th days

S. No.	Entry	Farid kot	Kapur thala	Kota	Luck now	Muzafar nagar	Pant nagar	Shahja hanpur	Sriganga nagar	Uch ani	Mean
1	Co 12026	144.44	103.42	123.65	44.79	190.92	62.29	184.89	144.56	143.04	126.89
2	Co 12027	140.83	96.09	121.50	100.58	161.85	64.79	181.33	142.16	126.22	126.15
3	CoLk 12203	195.42	123.60	126.25	121.70	205.18	66.81	196.22	153.19	176.38	151.64
4	CoPant 12221	215.14	131.53	126.37	95.49	202.31	64.86	214.67	164.64	176.11	154.57
1	CoJ 64	153.47	120.53	124.50	98.44	196.70	71.39	203.67	139.57	140.13	138.71
2	Co 0238	144.31	105.51	129.00	93.81	170.55	69.93	191.44	140.72	147.18	132.49
	Mean	165.60	113.45	125.21	92.47	187.92	66.68	195.37	147.47	151.51	138.41
	SE(m)	5.08		2.68	4.90	4.59	1.06	6.55	5.18	6.53	
	CD	15.31	13.39	5.71	10.44	9.79	3.19	13.96	15.56	20.84	
	CV	6.13	7.83	5.97	7.50	3.45	3.17	6.70	6.77	7.46	

Table 4.1.19 Germination (%) at 45th days

S. No.	Entry	Farid kot	Kapur thala	Kota	Luck now	Muzafar nagar	Pant nagar	Shahja hanpur	Sriganga nagar	Uch ani	Mean
1	Co 12026	47.22	41.83	42.75	21.00	37.98	24.64	50.97	29.57	48.92	38.32
2	Co 12027	35.74	30.67	42.25	32.73	35.21	28.70	46.81	36.62	32.08	35.64
3	CoLk 12203	50.00	40.87	46.66	38.97	50.35	29.14	52.71	38.19	39.25	42.90
4	CoPant 12221	48.15	43.95	45.00	33.54	46.04	23.49	57.71	39.36	42.80	42.23
1	CoJ 64	43.15	43.22	42.25	32.64	41.53	27.14	56.11	42.45	48.75	41.92
2	Co 0238	42.04	42.35	42.50	33.05	39.79	34.95	54.79	39.33	50.32	42.13
	Mean	44.38	40.48	43.57	31.99	41.82	28.01	53.18	37.59	43.69	40.52
	SE(m)	1.32		0.58	1.54	2.82	1.38	2.27	1.15	2.22	
	CD	3.99	6.38	1.24	3.27	6.03	4.16	4.83	3.47	7.09	
	CV	5.96	10.46	3.87	6.79	9.58	9.86	8.53	7.02	8.81	

Table 4.1.20 Assessment of performance of entries by monitoring team

S. No	Entries	Lucknow	Shahjahanpur	Pantnagar	Muzaffarnagar	Karnal	Uchan	Kapurthala	Faridkot	Sriganganagar	Kota
1	Co 12026	Poor	Good	On par	Good	Not allotted	On par	Good	Better	On par	Better
2	Co 12027	Better	On par	Better	Poor		Good	Good	On par	Better	On par
3	CoLk 12203	Better	Good	On par	On par		On par	On par	Better	Better	Better
4	CoPant 12221	Poor	On par	Poor	Good		Good	Good	Good	Better	Good
Standards											
1	CoJ 64	Best	Good	Good	Good		Good	Good	Best	Best	Good
2	Co 0238	good	Best	Best	Best		Best	Best	On par	Good	Best

4.2 Advanced Varietal Trial (Early) Ratoon Trial

Centres (8)	Faridkot, Kapurthala, Lucknow, Muzaffarnagar, Pantnagar, Shahjahanpur, Sriganaganagar and Uchani
Entries (4)	Co 12026, Co 12027, CoLk 12203, CoPant 12221
Standards (2)	CoJ 64 and Co 0238
Design	RBD
Replications	3
Plot size	Gross : 8 Rows x 6m x 0.75 m Net : 6 Rows x 5m x 0.75 m
Time of ratooning	February / March, 2017
Crop Duration	Nine months

Results of the previous year: In the AVT (E) I Plant trial of 2016-17 season, the average germination was 39.68 percent, but the Lucknow centre reported very low (19.22%) germination. Co 0238 emerged as the best standard for CCS yield with zonal mean of 11.00 t/ha. None of the test entries showed >10 improvement for CCS yield over Co 0238 although the CCS yield of Co 12027 (11.01 t/ha) was numerically higher than that of Co 0238. Co 12027 showed >10% improvement for CCS yield at two centres namely, Kota and Sriganaganagar. For cane yield, Co 0238 was the best standard for cane yield (87.94 t/ha) as well. None of the test clones showed >10% improvement over the best standard although clones such as Co 12027 and CoPant 12221 at Sriganaganagar and CoLk 12203 at Muzaffarnagar recorded >10 percent improvement for this trait. For juice quality traits such as CCS% and sucrose content, Co 0238 ranked as the better standard with mean CCS% of 12.61 and sucrose % of 18.18. No test entries showed >5% improvement for CCS% over Co 0238, although Co 12027 recorded numerically higher CCS % (13.11%). The entries, Co 12027 (18.92%) and Co 12026 (18.20%) recorded numerically higher sucrose% than Co 0238 but their percent improvement was less than 5%.

Result of the current years: Four test clones and two standards (Co 0238 and CoJ 64) were evaluated in randomized block design with three replications in eight centres. For CCS yield (t/ha), Co 0238 was the better standard with average zonal mean of 9.05 t/ha. Among the test clones, CoPant 12221 recorded 11.18%, 10.19% and 23.37% improvement over the better standard at Faridkot, Muzafarnagar and Sriganaganagar respectively. Entry Co 12027 recorded 10.47% improvement at Sriganaganagar. For cane yield, Co 0238 was the better standard with average zonal cane yield of 7.69 t/ha. Among the test entries, CoPant 12221 was identified as the best clone with zonal mean yield of 74.49 t/ha and it recorded 16.07%, 17.73% and 32.96% improvement over the best standards at Faridkot, Muzafarnagar and Sriganaganagar respectively. For CCS(%) and sucrose content, CoJ 64 was the better zonal standard with mean of 12.54% and 17.86% respectively. Among the test entries, Co 12027 was identified as the best for CCS(%) with zonal mean of 13.04% with 3.98% improvement over the best standard CoJ 64. It recorded 49.85, 6.31 and 8.03 percent improvement over the best standards at Kapurthala, Shahjahanpur and Uchani respectively. For sucrose content, Co 12027 was identified as the better entry with zonal mean 18.57% with 3.98% improvement over the best standard CoJ 64 and recorded 13.39% and 6.23% improvement over the best standards at Kapurthala and Uchani centres respectively. Though none of the entries were qualified based on overall zonal performances, Co 12027 recorded 10% improvement for CCS yield with numerically superior to sucrose content at Kapurthala and Sriganaganagar respectively. Besides, Co 12026 also recorded 10% improvement for CCS yield and cane yield with numerically superior to sucrose content at Sriganaganagar. Further details of data presented in table 4.2.1 to 4.2.19.

Table 4.2.1. CCS (t/ha) at harvest

S. No.	Entry	Faridkot	Kapurthala	Kota	Lucknow	Muzafar nagar	Pantnagar	Shahja hanpur	Sriganga nagar	Uchani	Mean	Rank
1	Co 12026	10.49	9.75			7.67	7.01	7.11	10.92	8.00	8.71	2
2	Co 12027	9.82	11.53		5.11	6.35	6.16	8.41	9.50	4.52	7.68	
3	CoLk 12203	8.95	8.46		6.29	6.34	6.97	7.96	8.90	7.08	7.62	
4	CoPant 12221	12.63	7.43		4.60	8.33	8.31	7.75	10.61	8.46	8.51	3
Standards												
1	CoJ 64	9.34	8.79		3.91	5.48	6.98	7.97	8.20	5.76	7.05	
2	Co 0238	11.36	10.49		7.23	7.56	8.87	9.42	8.60	8.83	9.05	1
	Mean	10.43	9.41		5.43	6.96	7.38	8.10	9.46	7.11	8.10	
	SE(m)	0.60			0.32	0.43	0.24	0.30	0.31	0.39		
	CD	1.82	0.37		0.69	0.91	0.74	0.65	0.93	1.24		
	CV	11.58	2.64		8.22	8.71	6.62	7.48	6.58	0.39		
Top entries with 10 percent improvement for CCS (t/ha) over the better standard variety at each centre												
	Rank-I	CoPant 12221 (11.18%)				CoPant 12221 (10.19%)			Co 12026 (26.98%)			
	Rank-II								CoPant 12221 (23.37%)			
	Rank-III								Co 12027 (10.47%)			

Number of locations where an entry recorded 10 percent improvement for CCS (t/ha) over the better standard variety: CoPant 12221 (3), Co 12027 (1), Co 12026 (1)

Performance across location: Co 0238 was the best standard with average zonal mean of 9.05 t/ha. Among the standards, CoPant 12221 recorded 11.18%, 10.19% and 23.37% improvement over the better standard at Faridkot, Muzafarnagar and Sriganganagar respectively. Co 12027 recorded 10.47% improvement at Sriganganagar.

Table 4.2.2. Cane yield (t/ha) at harvest

S. No.	Entry	Faridkot	Kapurthala	Kota	Lucknow	Muzafar nagar	Pantnagar	Shahja hanpur	Sriganga nagar	Uchani	Mean	Rank
1	Co 12026	83.61	64.19			67.44	54.53	60.56	86.78	60.67	68.25	4
2	Co 12027	72.78	69.93		47.95	55.67	50.16	66.67	72.24	32.60	58.50	
3	CoLk 12203	88.33	68.20		60.05	57.89	61.46	72.11	79.34	58.79	68.27	3
4	CoPant 12221	108.33	57.74		44.78	77.44	69.88	70.22	94.16	73.35	74.49	1
Standards												
1	CoJ 64	72.50	58.52		33.56	48.22	58.25	68.22	62.57	46.21	56.01	
2	Co 0238	93.33	71.02		62.65	65.78	74.66	74.67	70.82	68.56	72.69	2
	Mean	86.48	64.93		49.80	62.07	61.49	68.74	77.65	56.70	66.37	
	SE(m)	5.80			3.09	3.69	0.94	2.24	2.96	4.87		
	CD	17.47	1.27		6.74	7.88	2.83	4.77	8.87	15.55		
	CV	13.41	13.00		8.78	8.42	3.05	6.51	8.35	10.88		
Top entries with 10 percent improvement for cane yield (t/ha) over the better standard variety at each centre												
		CoPant 12221 (16.07%)				CoPant 12221 (17.73%)			CoPant 12221 (32.96%)			
									Co 12026 (22.54%)			
									CoLk 12203 (12.03%)			

Number of locations where an entry recorded 10 percent improvement for cane yield (t/ha) over the better standard variety: CoPant 12221 (3), Co 12026 (1), CoLk 12203 (1)

Performance across location: Co 0238 was the better standard variety with average zonal mean of 72.96 t/ha. Among the test entries, CoPant 12221 was as the best entry with zonal mean yield of 74.49 t/ha and recorded 16.07, 17.73 and 32.96 percent improvement over the best standard at Faridkot, Muzafarnagar and Sriganganar respectively.

Table 4.2.3. CCS (%) at 9th month

S. No.	Entry	Faridkot	Kapurthala	Kota	Lucknow	Muzafar nagar	Pantnagar	Shahja hanpur	Sriganga nagar	Uchani	Mean	Rank
1	Co 12026	12.51	15.20			11.37	12.86	11.74	12.58	13.21	12.78	2
2	Co 12027	13.51	16.51		10.78	11.57	12.27	12.63	13.15	13.90	13.04	1
3	CoLk 12203	10.13	12.43		10.50	10.78	11.34	11.04	11.22	12.06	11.19	
4	CoPant 12221	11.65	12.86		10.28	10.89	11.88	11.02	11.27	11.54	11.42	
Standards												
1	CoJ 64	12.88	15.03		11.62	11.38	11.96	11.88	13.11	12.45	12.54	3
2	Co 0238	12.20	14.78		11.56	11.48	11.89	12.61	12.15	12.87	12.44	4
	Mean	12.15	14.47		10.95	11.25	12.03	11.82	12.25	12.67	12.24	
	SE(m)	0.14			0.60	0.27	0.31	0.11	0.19	0.23		
	CD	0.43	0.60		ns	NS	0.93	0.24	0.59	0.73		
	CV	2.34	2.76		7.70	3.40	5.13	1.91	2.84	3.13		
Top entries with five percent improvement for CCS (%) over the better standard at each centre												
			Co 12027 (9.85%)				Co 12026 (7.53%)	Co 12027 (6.31%)		Co 12027 (8.03%)		

Number of locations where an entry recorded five percent improvement for CCS (%) over the better standard: Co 12027 (3), Co 12026 (1)

Performance across location: CoJ 64 was the better zonal standard with CCS(%) mean of 12.54%. Among the test clones, Co 12027 was the best entry with zonal mean 13.04% and recorded 3.98% improvement over the standard CoJ 64. It recorded 9.85%, 6.31% and 8.03% improvement over the best standards at Kapurthala, Shahjahanpur and Uchani centres respectively.

Table 4.2.4. Sucrose (%) at 9th month

S. No.	Entry	Faridkot	Kapurthala	Kota	Lucknow	Muzafar nagar	Pantnagar	Shahja hanpur	Sriganga nagar	Uchani	Mean	Rank
1	Co 12026	17.92	19.56			16.62	18.62	17.09	18.09	18.76	18.09	2
2	Co 12027	19.36	21.85		15.96	16.67	17.74	18.27	18.83	19.85	18.57	1
3	CoLk 12203	14.56	15.59		15.63	15.78	16.44	16.13	16.26	17.34	15.97	
4	CoPant 12221	16.69	16.26		15.32	15.92	17.18	16.12	16.37	16.75	16.33	
Standards												
1	CoJ 64	18.51	19.27		17.15	16.72	17.33	17.27	18.80	17.82	17.86	3
2	Co 0238	17.44	18.79		17.02	16.75	17.18	18.24	17.59	18.69	17.71	4
	Mean	17.41	18.55		16.21	16.41	17.42	17.19	17.66	18.20	17.42	
	SE(m)	0.19			0.79	0.32	0.43	0.15	0.26	0.31		
	CD	0.57	0.85		ns	0.68	1.28	0.32	0.78	0.99		
	CV	2.17	3.02		6.87	2.74	4.88	1.75	2.74	2.96		
Top entries with five percent improvement for sucrose (%) over the better standard variety at each centre												
			Co 12027 (13.39%)				Co 12026 (8.38%)			Co 12027 (6.23%)		

Number of locations where an entry recorded five percent improvement for sucrose content over the better standard variety: Co 12027 (2), Co 12026 (1)

Performance across location: CoJ 64 was the better zonal standard with mean of 17.86%. Among the test entries, Co 12027 was the best with zonal mean 18.57% and recorded 3.98% improvement over the best standard CoJ 64. It recorded 13.39% and 6.23% improvement over the better standards at Kapurthala and Uchani respectively.

Table 4.2.5. Brix (%) at 9th month

S. No.	Entry	Farid kot	Kapur thala	Kota	Luck now	Muzafar nagar	Pant nagar	Shahja hanpur	Sriganga nagar	Uch ani	Mean
1	Co 12026	19.88	21.84			19.25	21.15	19.62	20.24	20.43	20.34
2	Co 12027	21.50	23.19		18.94	19.25	20.05	20.70	20.87	21.87	20.80
3	CoLk 12203	16.25	18.29		18.73	18.32	18.70	18.68	18.48	19.37	18.35
4	CoPant 12221	18.50	18.79		18.41	18.42	19.43	18.71	18.69	19.10	18.76
Stds											
1	CoJ 64	20.68	21.66		20.21	19.30	19.70	19.79	20.89	19.73	20.24
2	Co 0238	19.25	21.45		19.98	19.32	19.43	20.66	19.96	21.33	20.17
	Mean	19.34	20.87		19.25	18.98	19.74	19.69	19.86	20.31	19.78
	SE(m)	0.21			0.73	0.29	0.44	0.14	0.23	0.38	
	CD	0.64	0.85		ns	0.62	1.34	0.30	0.70	1.22	
	CV	2.19	2.70		5.34	2.16	4.49	1.42	2.26	3.27	

Table 4.2.6. Purity (%) at 9th month

S. No.	Entry	Farid kot	Kapur thala	Kota	Luck now	Muzafar nagar	Pant nagar	Shahja hanpur	Sriganga nagar	Uch ani	Mean
1	Co 12026	90.14	89.54			86.38	88.03	87.16	89.41	91.82	88.93
2	Co 12027	90.02	94.21		84.18	86.62	88.46	88.27	90.26	90.80	89.10
3	CoLk 12203	89.57	85.24		83.41	86.15	87.74	86.38	88.83	89.50	87.10
4	CoPant 12221	90.21	86.53		83.16	86.42	88.44	86.19	87.57	87.66	87.02
Stds											
1	CoJ 64	89.55	88.98		84.85	86.66	87.92	87.30	90.09	90.32	88.21
2	Co 0238	90.56	87.61		85.15	86.71	88.45	88.26	88.15	87.66	87.82
	Mean	90.01	88.69		84.15	86.49	88.17	87.26	89.05	89.63	88.03
	SE(m)	0.49			1.09	0.50	0.47	0.15	0.43	0.85	
	CD	1.46	2.11		ns	NS	1.41	0.32	1.31	2.72	
	CV	1.08	1.58		1.83	0.81	1.06	0.34	2.08	1.65	

Table 4.2.7. Extraction (%) at 9th month

S. No.	Entry	Farid kot	Kapur thala	Kota	Luck now	Muzafar nagar	Pant nagar	Shahja hanpur	Sriganga nagar	Uch ani	Mean
1	Co 12026	56.44	53.43			48.15		54.48	50.34		52.57
2	Co 12027	55.19	51.62		54.56	50.00		54.09	51.29		52.79
3	CoLk 12203	51.55	50.64		50.01	50.00		53.11	49.71		50.84
4	CoPant 12221	55.36	51.67		49.63	45.89		51.46	48.56		50.43
Stds											
1	CoJ 64	55.18	55.06		49.53	48.08		54.81	50.96		52.27
2	Co 0238	58.11	53.06		55.72	53.57		55.29	50.27		54.34
	Mean	55.31	52.58		51.89	49.28		53.87	50.19		52.21
	SE(m)	0.46			1.83	-		0.89	0.51		
	CD	1.39	NS		3.99	-		NS	1.51		
	CV	1.66	5.61		4.99	-		3.29	1.89		

Table 4.2.8. Pol%cane and Fibre content at 9th month

S. No.	Entry	Pol%cane					Fibre (%)				
		Kapur thala	Luck now	Muzafar nagar	Shahja hanpur	Mean	Kapur thala	Luck now	Muzafar nagar	Shahja hanpur	Mean
1	Co 12026	14.02		12.44	12.40	12.95	13.42		13.20	13.46	13.36
2	Co 12027	15.37	12.33	12.32	13.21	13.31	13.20	12.72	13.52	13.41	13.21
3	CoLk 12203	12.53	11.91	11.85	12.12	12.10	12.79	13.81	13.55	13.36	13.38
4	CoPant 12221	12.60	11.72	11.88	12.04	12.06	13.58	13.54	13.47	13.43	13.50
Stds											
1	CoJ 64	14.16	13.25	12.39	12.17	12.99	12.79	12.75	13.10	13.31	12.99
2	Co 0238	15.20	13.08	12.41	13.46	13.54	10.89	13.16	13.22	13.27	12.64
	Mean	15.20	13.08	12.41	13.46	12.82	12.78	13.20	13.34	13.37	13.18
	SE(m)		0.60	-	-			0.21	-	-	
	CD	1.27	ns	-	-		1.11	0.45	-	-	
	CV	6.01	6.82	-	-		5.75	2.21	-	-	

Table 4.2.9. Number of millable canes (‘000/ha) at 9th month

S. No.	Entry	Farid kot	Kapur thala	Kota	Luck now	Muzafar nagar	Pant nagar	Shahja hanpur	Sriganga nagar	Uch ani	Mean
1	Co 12026	102.64	71.71			110.55	55.19	88.33	110.72	78.00	88.16
2	Co 12027	102.22	66.20		78.94	85.88	59.48	98.44	90.64	52.75	79.32
3	CoLk 12203	107.64	85.02		80.15	90.66	59.15	101.78	96.88	81.72	87.88
4	CoPant 12221	131.81	90.80		71.24	117.77	79.04	106.11	115.29	100.75	101.60
Stds											
1	CoJ 64	104.31	83.37		80.09	97.66	64.19	97.11	89.56	73.31	86.20
2	Co 0238	107.36	73.16		67.94	88.11	62.70	94.67	91.17	78.61	82.96
	Mean	107.36	73.16		67.94	88.11	62.70	94.67	91.17	78.61	82.96
	SE(m)	3.37			3.50	6.04	1.40	3.56	3.38	4.87	
	CD	10.15	9.09		7.63	12.88	4.22	7.59	10.14	15.55	
	CV	6.16	7.70		6.55	8.68	4.43	7.28	6.42	10.88	

Table 4.2.10 Millable cane height (cm)

S. No.	Entry	Farid kot	Kapur thala	Kota	Luck now	Muzafar nagar	Pant nagar	Shahja hanpur	Sriganga nagar	Uch ani	Mean
1	Co 12026	233.75	277.40			142.00	189.00	176.25	187.26	156.67	194.62
2	Co 12027	217.08	266.10		182.00	116.00	183.00	191.00	178.24	140.47	184.24
3	CoLk 12203	235.83	243.20		191.50	185.00	225.00	187.50	179.16	192.93	205.02
4	CoPant 12221	264.33	240.80		182.65	167.00	224.00	208.75	196.38	197.00	210.11
Stds											
1	CoJ 64	211.75	259.20		145.50	130.00	176.00	197.25	170.43	163.67	181.72
2	Co 0238	232.83	274.40		215.00	133.00	210.00	221.50	173.56	168.73	203.63
	Mean	232.60	260.18		183.33	145.50	201.17	197.04	180.84	169.91	196.32
	SE(m)	232.60						6.31	5.39	2.78	
	CD	11.74	NS					13.45	16.18	8.88	
	CV	3.35	8.50		4.74	3.14	6.23	6.41	6.85	2.84	

Table 4.2.11 Cane diameter (cm)

S. No.	Entry	Farid kot	Kapur thala	Kota	Luck now	Muzafar nagar	Pant nagar	Shahja hanpur	Sriganga nagar	Uch ani	Mean
1	Co 12026	2.35	2.05			2.06	2.13	2.44	2.51	2.35	2.27
2	Co 12027	2.34	2.09		2.03	1.92	2.28	2.38	2.34	2.20	2.20
3	CoLk 12203	2.39	1.96		1.98	1.97	2.28	2.28	2.33	2.24	2.18
4	CoPant 12221	2.16	1.94		1.94	1.89	2.16	2.18	2.51	2.00	2.10
Stds											
1	CoJ 64	2.36	1.86		1.82	2.15	2.36	2.10	2.29	2.13	2.13
2	Co 0238	2.58	2.18		2.29	2.24	2.44	2.62	2.50	2.39	2.41
	Mean	2.36	2.01		2.01	2.04	2.28	2.33	2.41	2.22	2.21
	SE(m)	0.05			0.07	0.05	0.05	0.07	0.05	0.05	
	CD	0.16	0.15		0.16	0.12	0.16	0.14	0.15	0.17	
	CV	4.43	4.95		5.01	3.79	4.60	5.56	5.20	4.04	

Table 4.2.12 Single cane weight (kg)

S. No.	Entry	Farid kot	Kapur thala	Kota	Luck now	Muzafar nagar	Pant nagar	Shahja hanpur	Sriganga nagar	Uch ani	Mean
1	Co 12026	0.93	0.91			0.71	0.97	0.90	0.86	0.83	0.87
2	Co 12027	0.85	0.99		0.61	0.60	0.83	0.95	0.71	0.67	0.78
3	CoLk 12203	0.97	0.77		0.75	0.66	1.02	0.87	0.84	0.79	0.83
4	CoPant 12221	0.91	0.73		0.63	0.71	0.88	0.77	0.92	0.77	0.79
Stds											
1	CoJ 64	0.82	0.72		0.42	0.54	0.89	0.78	0.71	0.73	0.70
2	Co 0238	1.04	1.08		0.93	0.68	1.20	1.03	0.84	0.93	0.97
	Mean	0.92	0.87		0.67	0.65	0.97	0.88	0.81	0.79	0.82
	SE(m)	0.04			0.04	0.01	0.03	0.03	0.03	0.03	
	CD	0.13	NS		0.09	0.03	0.09	0.07	0.07	0.09	
	CV	9.24	22.25		8.75	2.76	6.39	7.23	3.59	6.48	

Table 4.2.13 Number of shoots and tillers (000/ha)

S. No.	Entry	Number of shoots at 180 days				Number of tillers at 90 days					
		Farid kot	Luck now	Uch ani	Mean	Farid kot	Luck now	Muzafar nagar	Shahja hanpur	Uch ani	Mean
1	Co 12026	147.92		84.49	116.21	200.56		196.44	181.67	71.98	162.66
2	Co 12027	131.11	83.28	55.51	89.97	169.31	86.75	156.77	172.56	46.18	126.31
3	CoLk 12203	141.39	85.01	106.53	110.98	180.83	88.08	183.55	189.56	94.44	147.29
4	CoPant 12221	180.56	78.59	119.30	126.15	281.94	83.97	205.66	204.56	112.03	177.63
Stds											
1	CoJ 64	139.31	84.38	84.23	102.64	181.81	89.76	195.33	173.89	75.84	143.32
2	Co 0238	127.36	72.16	93.56	97.69	163.19	77.31	152.77	194.56	86.94	134.96
	Mean	144.61	80.68	90.60	105.30	196.27	85.17	181.75	186.13	81.24	148.70
	SE(m)	4.63	3.36	5.18		5.92	2.81	4.95	6.58	4.44	
	CD	13.95	7.33	16.54		17.84	6.11	10.55	14.03	14.18	
	CV	6.4	5.90	9.91		6.03	4.66	3.85	7.07	9.47	

Table 4.2.14 Assessment of performance of entries by monitoring team

S. No	Entries	Luck now	Shahjahanpur	Pantnagar	Muzzaffarnagar	Karnal	Ucharni	Kapurthala	Faridkot	Sriganganagar	Kota
1	Co 12026	Poor	Good	Poor	Good	Trial was not allotted	On par	Good	On par	On par	The trial was not conducted
2	Co 12027	On par	Poor	On par	Good		Good	On par	Better	Better	
3	CoLk 12203	On par	Good	Poor	Good		On par	Good	On par	Good	
4	CoPant 12221	Poor	Good	On par	Poor		Good	Poor	Better	Better	
Standards											
1	CoJ 64	Good	Good	Good	Good		Good	Good	Best	Good	
2	Co 0238	Best	Best	Best	Best		Best	Best	On par	Best	

4.3 ADVANCED VARIETAL TRIAL (EARLY)

Pooled data of 2 Plant crops + 1 Ratoon Crops

Centres (9)	Faridkot, Kapurthala, Kota, Lucknow, Muzaffarnagar, Pantnagar, Shahjahanpur, Sriganaganagar, Uchani
Entries (6)	Co 12026, Co 12027, CoLk 12203, CoPant 12221
Standards (3)	CoJ 64 and Co 0238
Design	RBD
Replications	3
Plot size	Gross : 8 Rows x 6 m x 0.75 m Net : 6 Rows x 5 m x 0.75 m

Four test entries (Co 12026, Co 12027, CoLk 12203 and CoPant 12221) and two standards (Co 0238 and CoJ 64) were evaluated across nine locations in RBD with three replications. Kota centre did not conduct the ratoon trial during 2017-18. Hence, the mean of 2 plant crops alone is presented. The average cane yield in AVT (E) I Plant trial at Lucknow centre was lower than the average cane yield of Uttar Pradesh. The data was not considered for calculating pooled and weighted mean. The pooled mean of AVT (E) I Plant, AVT (E) II plant and AVT (E) ratoon trials of nine centres are given in Table 4.3.1 to 4.3.4 and in Figures 4.3.1 to 4.3.4. The salient results of these trials in respect of CCS yield, cane yield, CCS % and sucrose % are highlighted below.

Commercial Cane Sugar (CCS) yield (t/ha): The mean CCS yield of the better standard Co 0238 in the zone was 10.27 t/ha. None of the test entries was found superior to better standard Co 0238 for CCS yield although the entries such as Co 12027 recorded 12.91 and 10.65 percent improvement at Kota and Sriganaganagar centres respectively and, Co 12026 and CoPant 12221 recorded with 10.51% and 11.66% improvement respectively at Sriganaganagar.

Cane yield (t/ha): Co 0238 was the better among the standards for cane yield and its zonal mean was 82.87 t/ha. Among the test clones, CoPant 12221 recorded numerically superior cane yield of 83.40 t/ha at zonal level and ranked first in the zone. None of the test entries recorded 10 percent improvement over the better standard Co 0238 at cane yield, however entry CoPant 12221 recorded 20.34% and 10.19% improvement at Sriganaganagar and Faridkot respectively, and Co 12026 recorded 10.19% improvement over the better standard Co 0238 at Sriganaganagar.

Commercial Cane Sugar percentage (CCS %): CoJ 64 was the better standard in the zone with zonal mean of 12.50 %. Test clone Co 12027 recorded numerically higher CCS % (12.95) than CoJ 64 and its percent improvement over CoJ 64 was 4.93, 6.70 and 5.02 at Kapurthala, Kota and Uchani respectively. However, the overall CCS mean of the entries in the zone indicated that none of the test entries recorded >5 % improvement over the better standard CoJ 64.

Sucrose %: The mean sucrose content of the better standard Co 0238 in the zone was 17.94 %. Test clone Co 12027 recorded numerically higher sucrose content (18.61 %) than the better standard but its percent improvement over Co 0238 was less than 5%. Co 12027 recorded 6.52, 7.35 and 6.52 percent improvement over the better standard at Faridkot, Kapurthala and Uchani respectively. The overall mean sucrose content in the zone indicated that none of the test entry recorded >5% improvement over the better standard.

None of the entries was identified as qualified entries from this trial.

Table 4.3.1 CCS (t/ha) at harvest

Sl No	Entries	Farid kot	Kapur thala	Kota**	Luck now***	Muzaffar Nagar	Pant nagar	Shahja hanpur	Sriganga nagar	Uchani	Mean*	Rank
1	Co 12026	12.12	9.81	8.89		9.37	8.34	8.57	10.59	10.61	9.83	2
2	Co 12027	11.90	11.44	10.58	5.87	8.10	8.21	9.99	10.60	8.33	9.57	3
3	CoLk 12203	10.81	8.34	8.34	7.82	9.70	7.66	8.93	9.71	9.36	9.01	
4	CoPant 12221	12.79	8.99	8.07	5.24	9.33	9.85	8.91	10.70	10.06	9.54	
	Standards											
1	CoJ 64	10.69	9.17	7.98	5.32	7.67	8.40	8.85	8.64	8.73	8.49	
2	Co 0238	12.31	10.73	9.37	8.64	9.45	10.37	10.12	9.58	11.22	10.27	1
	Mean	11.77	9.75	8.87	6.58	8.94	8.80	9.23	9.97	9.72	9.45	
Top three entries showing 10% improvement over the better standard at each location												
Rank 1				Co 12027 (12.91%)					CoPant 12221 (11.66%)			
Rank 2									Co 12027 (10.65%)			
Rank 3									Co 12026 (10.51%)			

* Mean cane yield of AVT (E) I Plant trial at Lucknow centre was lower than the state average cane yield. Data was not considered for calculating pooled and weighted mean.

** Kota centre did not conduct ratoon trial. Hence mean of 2 plant crop is given.

*** Data of Co 12026 from Lucknow centre not considered for estimation of pooled and weighted mean

Number of locations where an entry recorded 10 percent improvement over the better standard: Co 12027 (2), Co 12026 (1), CoPant 12221 (1)

Performance across locations: The mean CCS yield of the better standard Co 0238 in the zone was 10.27 t/ha. None of the test entries were found superior to better standard variety Co 0238 for although the entries Co 12027 recorded 12.91 and 10.65 percent improvement at Kota and Sriganganagar respectively, Co 12026 with 10.51% improvement and CoPant 12221 with 11.66% improvement respectively at Sriganganagar.

Table 4.3.2 Cane yield (t/ha) at harvest

Sl No	Entries	Farid kot	Kapur thala	Kota**	Luck now***	Muzaffar Nagar	Pant nagar	Shahja hanpur	Sriganga nagar	Uchani	Mean*	Rank
1	Co 12026	98.98	76.63	76.22		79.18	61.58	70.93	86.94	77.05	78.54	
2	Co 12027	92.31	83.57	85.90	50.39	66.81	59.33	78.63	82.74	57.89	73.46	
3	CoLk 12203	107.68	72.41	82.76	68.58	81.90	64.38	78.96	88.26	78.54	80.76	3
4	CoPant 12221	115.37	77.95	80.91	46.11	78.85	77.74	78.70	99.05	82.64	83.40	1
	Standards											
1	CoJ 64	86.20	69.97	75.29	42.24	62.77	66.10	73.22	68.59	66.00	68.55	
2	Co 0238	103.61	84.73	82.13	70.49	76.54	81.12	81.82	78.90	82.10	82.87	2
	Mean	100.69	77.54	80.53	55.56	74.34	68.38	77.04	84.08	74.04	77.93	
Top three entries showing 10% improvement over the better standard at each location												
Rank 1		CoPant 12221 (10.19%)							CoPant 12221 (20.34%)			
Rank 2									Co 12026 (10.19%)			
Rank 3												

* Mean cane yield of AVT (E) I Plant trial at Lucknow centre was lower than the state average cane yield. Data was not considered for calculating pooled and weighted mean

** Kota centre did not conduct ratoon trial. Hence mean of 2 plant crop is given

*** Data of Co 12026 from Lucknow centre not considered for estimation of pooled and weighted mean

Number of locations where an entry recorded 10 percent improvement over the better standard: CoPant 12221 (2), Co 12026 (1)

Performance across locations: Co 0238 was the better among the standards for cane yield and its zonal mean was 82.87 t/ha. Among the test clones, CoPant 12221 recorded numerically superior cane yield of 83.40 t/ha at zonal level (ranked 1st in the zone). None of the test entries recorded 10 percent improvement over the better standard Co 0238, although entries such as CoPant 12221 recorded 20.34 and 10.19 percent improvement at Sriganganagar and Faridkot respectively, and Co 12026 recorded 10.19% improvement over the better standard Co 0238 at Sriganganagar.

Table 4.3.3 CCS % at harvest

Sl No	Entries	Farid kot	Kapur thala	Kota*	Luck now	Muzaffar Nagar	Pant nagar	Shahja hanpur	Sriganga nagar	Uchani	Mean	Rank
1	Co 12026	12.25	12.99	11.67		11.79	13.52	12.07	12.17	13.72	12.56	2
2	Co 12027	12.96	13.91	12.19	12.00	12.13	13.28	12.71	12.83	14.29	12.95	1
3	CoLk 12203	10.05	11.55	10.08	11.46	11.68	11.89	11.29	11.04	11.97	11.27	
4	CoPant 12221	11.11	11.68	9.99	11.57	11.86	13.03	11.20	10.82	12.15	11.55	
	Standards											
1	CoJ 64	12.45	13.25	10.60	12.79	12.15	12.72	12.13	12.62	13.13	12.50	3
2	Co 0238	11.91	12.83	11.43	12.66	12.26	12.76	12.35	12.13	13.61	12.48	
	Mean	11.79	12.70	10.99	12.10	11.98	12.87	11.96	11.94	13.14	12.22	
Top three entries showing five percent improvement over the better standard at each location												
Rank 1			Co 12027 (4.93%)	Co 12027 (6.70%)				Co 12026 (5.93%)			Co 12027 (5.02%)	
Rank 2												
Rank 3												

* Kota centre did not conduct ratoon trial. Hence mean of 2 plant crop is given.

Number of locations where an entry recorded five percent improvement over the better standard: Co 12027 (3), Co 12026 (1)

Performance across locations: CoJ 64 was the better standard in the zone with zonal mean of 12.50 %. Test clone Co 12027 recorded numerically higher CCS % (12.95) than CoJ 64 and its percent improvement over CoJ 64 was 4.93, 6.70 and 5.02 per cent at Kapurthala, Kota and Uchani respectively. However, the overall CCS mean in the zone indicated that none of the test entries recorded >5 % improvement over the better standard CoJ 64.

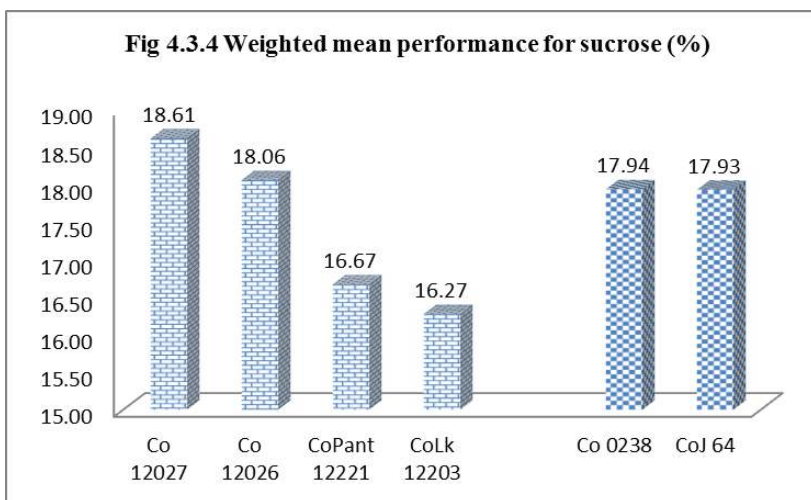
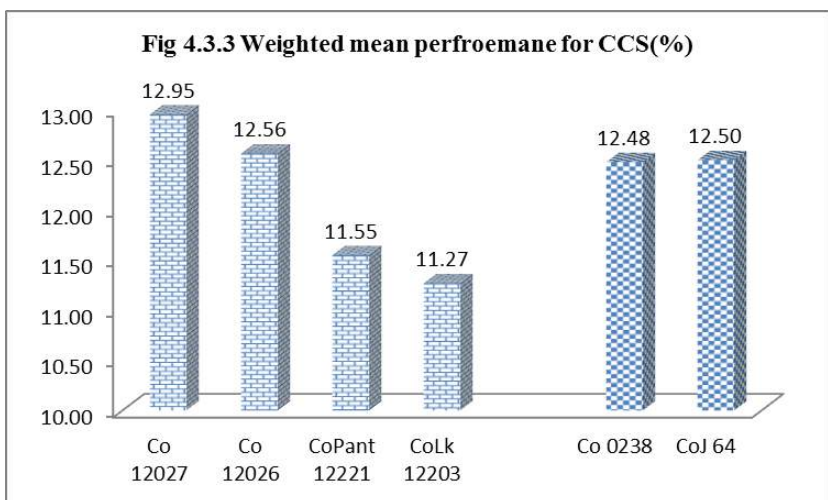
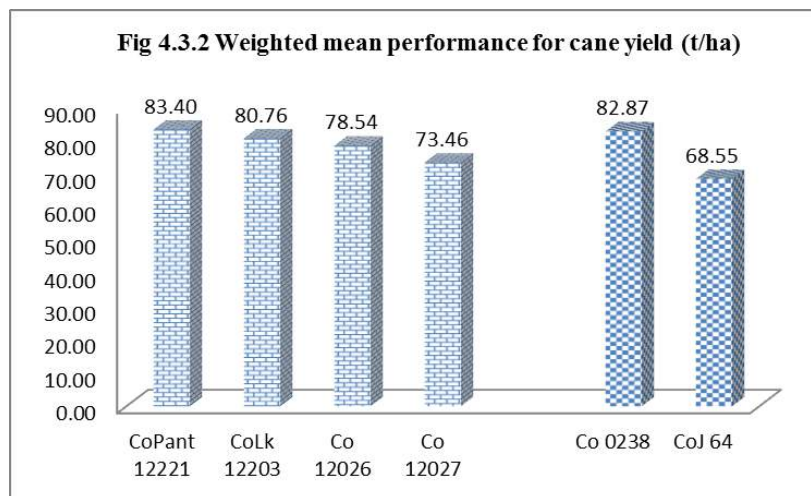
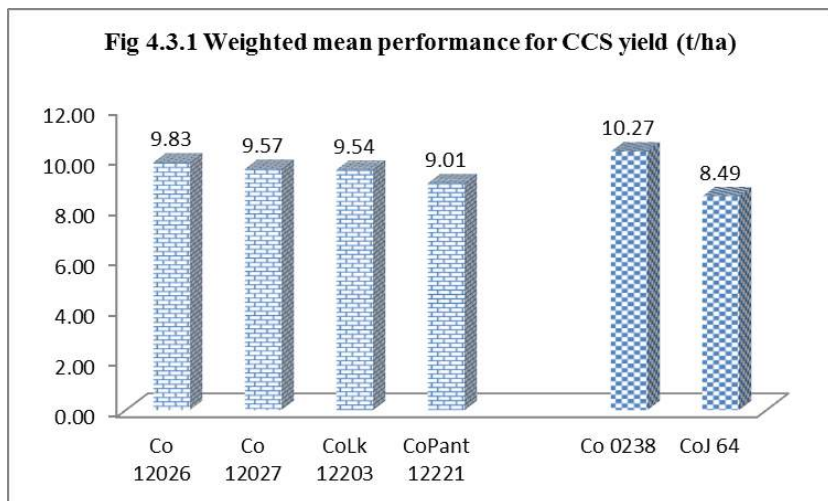
Table 4.3.4 Sucrose % at harvest

Sl No	Entries	Farid kot	Kapur thala	Kota*	Luck now	Muzaffar Nagar	Pant nagar	Shahja hanpur	Sriganga nagar	Uchani	Mean	Rank
1	Co 12026	17.64	18.07	16.84		17.18	19.51	17.59	17.57	19.62	18.06	2
2	Co 12027	18.71	19.34	17.82	17.44	17.61	19.21	18.35	18.40	20.34	18.61	1
3	CoLk 12203	14.54	15.77	14.95	16.72	17.00	17.33	16.45	16.01	17.25	16.27	
4	CoPant 12221	15.98	16.05	15.30	16.88	17.24	18.31	16.37	15.78	17.64	16.67	
	Standards											
1	CoJ 64	17.90	18.16	15.53	18.49	17.66	18.33	17.64	18.15	18.71	17.93	
2	Co 0238	17.12	17.67	16.60	18.28	17.82	18.60	17.91	17.46	19.52	17.94	3
	Mean	16.98	17.51	16.17	17.56	17.42	18.55	17.39	17.23	18.85	17.58	
Top three entries showing five percent improvement over the better standard at each location												
Rank 1		Co 12027 (6.52%)	Co 12027 (7.35%)							Co 12027 (6.52%)		

* Kota centre did not conduct ratoon trial. Hence mean of 2 plant crop is given.

Number of locations where an entry recorded five percent improvement over the better standard: Co 12027 (4)

Performance across locations: The mean sucrose content of the better standard Co 0238 in the zone was 17.94 %. Test clone Co 12027 recorded numerically higher sucrose content (18.61 %) than the better standard but its percent improvement over Co 0238 was less than 5%. Co 12027 recorded 6.52, 7.35 and 6.52 percent improvement over the better standard at Faridkot, Kapurthala and Uchani respectively. The overall mean sucrose content in the zone indicated that none of the test entries recorded >5% improvement over the best standard.



Simultaneous selection of high yielding and stable genotypes in Advance Varietal Trial (Early)- Plant I, II and Ratoon

Four entries, Co 12026, Co 12027, CoLk 12203 and CoPant 12221 and two standards, CoJ 64 and Co 0238 were evaluated during three crop cycles (I and II Plant crop and ratoon crop) at 9 locations in North West Zone. The data on CCS (t/ha), cane yield (t/ha) and sucrose (%) were subjected to stability analysis using AMMI model. Simultaneous selection of high yielding and stable genotypes was done by estimated index value based ranking. Estimated index values, CCS (t/ha), cane yield (t/ha) and sucrose (%) values and stability values of different genotypes along with their ranks are presented in Tables 7.1.to7.3.

Results based on index of simultaneous selection of high CCS (t/ha) and stable genotypes revealed that two standards, CoJ 64 and Co 0238 were at first and second rank respectively. None of the entries were better than the both the standards CoJ 64 and Co 0328. Such a ranking differs with the ranking based only on mean data of CCS (t/ha) presented in Table 7.1. Considering top two entries with high CCS (t/ha) and stable genotypes, none of the entries were superior than both the standards, CoJ 64 and Co 0238.

Results based on index of simultaneous selection of high cane yield (t/ha) and stable genotypes revealed that standards, Co 0238, and entry, CoLk 12203, were at first and second rank respectively. Such a ranking differs with the ranking based only on mean data of cane yield (t/ha) presented in Table 7.2. Considering best entries with high cane yield (t/ha) and stable genotypes, only one entry CoLk 12203 was superior than second best standard, CoJ 64. However this entry is inferior than standard, Co 0238.

Results based on index of simultaneous selection of high sucrose (%) and stable genotypes revealed that standards, Co 0238, was found best followed by Co 12026. Such a ranking differs with the ranking based only on mean data of sucrose (%) presented in Table 7.3. Considering best entries with high sucrose (%) and stable genotypes, only one entry Co 12026. was superior than second best standard, CoJ 64. However this entry is inferior than standard, Co 0238.

From the above analysis, it may be concluded that none of the entries were most stable genotypes and high yield for ccs (t/ha), cane yield (t/ha) and sucrose (%) in early maturity group of North West Zone and all the entries were inferior than both the standards, CoJ 64 and Co 0238.

Table 7.1 - Ranking of genotypes of AVT (E) of North West Zone according to their (i) mean performance, (ii) stability and (iii) simultaneous index value in respect of CCS (t/ha)

Variety	Estimated value			Rank based on estimated value		
	Index Value	CCS (t/ha) value	Stability value	Index value based rank	CCS (t/ha) based rank	Stability based rank
Co 12026	1.22	9.79	11.12	3	2	5
Co 12027	1.15	9.45	13.53	6	3	6
CoLk 12203	1.21	8.96	7.51	4	5	3
CoPant 12221	1.20	9.33	9.38	5	4	4
Standards						
CoJ 64	1.27	8.38	5.07	2	6	1
Co 0238	1.46	10.20	5.16	1	1	2

Table 7.2 - Ranking of genotypes of AVT (E) of North West Zone according to their (i) mean performance, (ii) stability and (iii) simultaneous index value in respect of cane yield (t/ha)

Variety	Estimated value			Rank based on estimated value		
	Index Value	Cane Yield (t/ha) value	Stability value	Index value based rank	Cane Yield (t/ha) based rank	Stability based rank
Co 12026	1.18	78.44	700.07	4	4	5
Co 12027	1.16	73.06	540.58	6	5	4
CoLk 12203	1.37	80.39	356.33	2	3	2
CoPant 12221	1.22	81.92	716.22	3	2	6
Standards						
CoJ 64	1.17	67.82	401.62	5	6	3
Co 0238	1.41	82.38	342.17	1	1	1

Table 7.3 - Ranking of genotypes of AVT (E) of North West Zone according to their (i) mean performance, (ii) stability and (iii) simultaneous index value in respect of sucrose (%)

Variety	Estimated value			Rank based on estimated value		
	Index Value	Sucrose (%) value	Stability value	Index value based rank	Sucrose (%) based rank	Stability based rank
Co 12026	1.33	18.00	2.53	2	2	2
Co 12027	1.20	18.58	5.50	4	1	6
CoLk 12203	1.10	16.22	4.39	6	6	5
CoPant 12221	1.18	16.62	3.29	5	5	3
Standards						
CoJ 64	1.25	17.84	3.32	3	4	4
Co 0238	1.43	17.89	1.87	1	3	1

4.4 Advanced Varietal Trial (Early) I Plant

Centres (9)	Faridkot, Kapurthala, Kota, Lucknow, Muzaffarnagar, Pantnagar, Shahjahanpur, Sriganaganagar and Uchani
Entries (3)	Co 13034, CoPb 13181 and CoS 13231
Standards (2)	CoJ 64, Co 0238 and Co 05009
Design	RBD
Replications	4
Plot size	Gross : 8 rows × 6 m × 0.75 m Net : 6 rows × 5 m × 0.75 m
Bud rate	12 buds/metre
Planting time	February/March, 2017
Crop Duration	10 months

Results of the previous year:

In IVT (E) trial, the mean CCS yield of the best standard Co 0238 in the zone was 11.12 t/ha. Among the test entries, Co 13034 alone recorded numerically higher CCS yield (11.73 t/ha) than the best standard. However, none of the entries showed >10 percent improvement for CCS yield at zonal level. The mean cane yield of the best standard Co 0238 was 91.68 t/ha. Test entries CoPant 13222 (95.05 t/ha), CoPant 13221 (94.02 t/ha) and CoPb 13181 (93.47 t/ha) recorded higher cane yield than the best standard but their percent improvement over the best standard was less than 10%. CoJ 64 was the best standard in the zone for CCS% (12.66) as well as sucrose% (17.75). Three clones viz., Co 13034 (13.00%), CoS 13231 (12.99%) and Co 13033 (12.69%) recorded higher CCS% than CoJ 64 but their percent improvement was less than 5%. The entry CoS 13231 showed >5% improvement for CCS% at two locations (Kapurthala and Kota), whereas Co 13033, Co 13034 and CoLk 13201 showed >5% improvement at Kota centre alone. Three clones viz. Co 13033 (18.30 %), Co 13034 (18.25 %) and CoS 13231 (18.24 %) recorded higher sucrose% than CoJ 64 but their percent improvement was less than 5%. Entry CoS 13231 recorded >5% improvement for sucrose % over the best standards at Kapurthala and Kota centres whereas Co 13034, Co 13033 and CoLk 13201 showed >5% improvement at Kota centre alone.

Result of the current years:

In AVT (E) I Plant, three test entries (Co 13034, CoPb 13181 and CoS 13231) and three standards (CoJ 64, Co 0238 and Co 05009) were evaluated in randomized block design with three replications in nine locations. For CCS yield, Co 0238 was identified as the best standard variety with zonal mean of 11.15 t/ha. Among the test entries, Co 13034 was the best entry, which ranked first in zone by recording 11.37 t/ha of CCS yield with 7.34% improvement over best standards. It recorded 22.75, 11.80 and 12.47 percent improvement over the best standard at Faridkot, Kota and Sriganaganagar respectively. Besides, CoPb 13181 recorded 10.86 t/ha of CCS yield with 40.46 and 21.73% improvement for CCS yield over the best standards at Faridkot and Sriganaganagar. With regards to cane yield (t/ha), Co 0238 was the best standard and recorded the zonal mean of 89.45 t/ha for cane yield. Entry CoPb 13181 recorded zonal mean of 89.79 t/ha of cane yield and showed 10 percent improvement over the better standards at Faridkot (34.47%), Muzafarnagar (10.59%) and Sriganaganagar (26.31%), and ranked first based on overall mean performance across the zone. Entry Co 13034 recorded the zonal average cane yield 88.80 t/ha with 10 percent improvement for cane yield at Faridkot (16.50%) and Sriganaganagar (12.09%). For juice quality parameters, Co 13034 and CoS 13231 were recorded improvement of 8.73% and 9.55% for CCS(%), improvement of 5.09% and 6.75% for sucrose content respectively at Kota centre. Though none of the entries qualified based overall mean performance across the zone, Co 13034 showed 7.34 percent improvement for CCS yield (t/ha) and numerically superior to sucrose content in the zone. Further details of the data presented in table 4.4.1 to 4.4.20.

Table 4.4.1. CCS (t/ha) at harvest

S. No.	Entry	Faridkot	Kapurthala	Karnal	Kota	Lucknow	Muzafar nagar	Pantnagar	Shahja hanpur	Sriganga nagar	Mean	Rank
1	Co 13034	13.38	10.41	17.70	12.22	5.26	9.96	11.44	11.12	10.82	11.37	1
2	CoPb 13181	15.31	10.30	13.97	11.19	6.13	10.89	9.51	8.74	11.71	10.86	3
3	CoS 13231	11.30	10.78	9.84	12.61	5.42	9.36	8.91	11.25	9.09	9.84	
Standards												
1	CoJ 64	10.86	9.06	14.10	9.31	5.64	8.45	9.08	9.43	8.43	9.37	
2	Co 0238	10.90	10.29	17.00	10.93	8.45	10.21	12.00	10.93	9.62	11.15	2
3	Co 05009	9.60	10.02	15.91	10.32	3.65	8.99		9.05	8.83	9.55	
	Mean	11.89	10.14	14.75	11.10	5.76	9.64	10.19	10.09	9.75	10.36	
	SEm	0.68		0.40	0.25	0.38	0.56	0.15	0.36	0.35		
	CD 5%	2.05	0.88	1.22	0.62	0.81	1.20	0.47	0.76	1.02		
	CV	11.43	5.73	5.46	9.25	9.34	8.31	3.00	7.11	7.19		
No of entries with 10 percent improvement for CCS (t/ha) at each centre												
	Rank-1	CoPb 13181 (40.46%)			CoS 13231 (15.37%)					CoPb 13181 (21.73%)		
	Rank-2	Co 13034 (22.75%)			Co 13034 (11.80%)					Co 13034 (12.47%)		

Number of locations where an entry recorded 10 percent improvement for CCS (t/ha) over the better standard variety: Co 13034 (3), CoPb 13181 (2), CoS 13231 (1)

Performance across location: Co 0238 was identified as the best standard with zonal mean of 11.15 t/ha. Among the test entries, Co 13034 was identified as the best, ranked first in zone by recording 11.37 CCS yield (t/ha) with 7.34% improvement over best standard. It recorded 22.75, 11.80 and 12.47% improvement over the best standard standards at Faridkot, Kota and Sriganganagar respectively. Besides, CoPb 13181 recorded 10.86 t/ha of CCS yield with 40.46% and 21.73 percent improvement for CCS yield over the best standards at Faridkot and Sriganganagar respectively.

Table 4.4.2. Cane yield (t/ha) at harvest

S. No.	Entry	Faridkot	Kapurthala	Karnal	Kota	Lucknow	Muzafar nagar	Pantnagar	Shahja hanpur	Sriganga nagar	Mean	Rank
1	Co 13034	111.11	85.66	130.15	91.09	44.94	80.56	80.28	85.09	90.28	88.80	3
2	CoPb 13181	128.24	88.92	108.88	89.91	54.02	90.83	73.33	72.04	101.73	89.77	1
3	CoS 13231	91.20	85.82	72.62	96.91	45.88	75.74	64.51	86.48	81.44	77.84	
Standards												
1	CoJ 64	90.05	74.41	105.73	80.84	45.33	68.24	67.50	76.30	72.65	75.67	
2	Co 0238	95.37	88.06	124.76	88.41	73.35	82.13	85.90	86.57	80.54	89.45	2
3	Co 05009	87.04	76.29	119.91	85.14	31.82	72.78		72.59	78.78	78.04	
	Mean	100.50	83.19	110.34	88.72	49.22	78.38	74.30	79.85	84.24	78.04	
	SEm	5.40		3.35	1.63	3.09	4.32	1.03	2.51	2.97		
	CD 5%	16.28	4.60	10.20	3.97	6.59	9.20	3.19	5.35	8.93		
	CV	10.75	3.67	6.08	7.36	8.88	7.79	2.78	6.29	8.25		
No. of entries with 10 percent improvement for cane yield (t/ha) at each centre												
	Rank-1	CoPb 13181 (34.47%)					CoPb 13181 (10.59%)			CoPb 13181 (26.31%)		
	Rank-2	Co 13034 (16.50%)								Co 13034 (12.09%)		

Number of locations where an entry recorded 10 percent improvement for cane yield (t/ha) over the better standard variety: CoPb 13181(3), Co 13034 (2)

Performance across location: Among the standards, Co 0238 recorded the highest cane yield of 89.45 t/ha in the zone. Among the test entries, CoPb 13181 recorded 10 percent improvement over the best standard at Faridkot (34.47%), Muzafarnagar (10.59%) and Sriganganagar (26.31%) and ranked first based on overall mean performance across the zone. Co 13034 ranked second based on the overall mean performance across the zone and recorded 10 percent improvement for cane yield at Faridkot (16.50%) and Sriganganagar (12.09%).

Table 4.4.3. CCS (%) at 10th month

S. No.	Entry	Faridkot	Kapurthala	Karnal	Kota	Lucknow	Muzafar nagar	Pantnagar	Shahjahanpur	Sriganganagar	Mean	Rank
1	Co 13034	12.04	12.15	13.60	13.45	11.71	12.38	14.25	13.07	11.99	12.74	1
2	CoPb 13181	11.92	11.57	12.84	12.42	11.33	11.98	12.97	12.13	11.51	12.07	
3	CoS 13231	12.39	12.56	13.55	13.00	11.82	12.35	13.82	13.01	11.14	12.63	2
Standards												
1	CoJ 64	12.06	12.17	13.34	11.50	12.43	12.37	13.45	12.34	11.61	12.36	
2	Co 0238	11.44	11.69	13.63	12.37	11.53	12.44	13.97	12.62	11.95	12.40	3
3	Co 05009	11.03	13.13	13.27	12.11	11.48	12.34		12.46	11.21	12.13	
	Mean	11.81	12.21	13.37	12.48	11.72	12.31	13.69	12.61	11.57	12.39	
	SEm	0.14		0.11	0.21	0.19	1.52	0.09	0.13	0.14		
	CD 5%	0.41	0.58	0.34	0.46	0.41	3.25	0.29	0.27	0.41		
	CV	2.29	3.15	1.68	4.95	2.30	8.30	1.39	2.04	2.26		
No of entries with five percent improvement for CCS (%) at each centre												
	Rank-1				Co 13034 (8.73%)							
	Rank-2				CoS 13231 (5.09%)							

Number of locations where an entry recorded five percent improvement for CCS (%) over the best standard: Co 13034 (1), CoS 13231 (1)

Performance across location: Among the test entries, Co 13034 (8.73%) and CoS 13231 (5.09%) recorded more than five percent improvement for CCS(%) only in Kota centre and numerically superior each in three locations over the best standards.

Table 4.4.4. Sucrose (%) at 10th month

S. No.	Entry	Faridkot	Kapurthala	Karnal	Kota	Lucknow	Muzafar nagar	Pantnagar	Shahjahanpur	Sriganganagar	Mean	Rank
1	Co 13034	17.32	17.60	19.28	19.16	17.18	18.15	20.64	18.86	17.38	18.40	1
2	CoPb 13181	17.13	16.72	18.25	17.88	16.80	17.40	18.73	17.55	16.77	17.47	
3	CoS 13231	17.81	18.00	19.24	18.67	17.42	18.03	20.04	18.77	16.05	18.23	2
Standards												
1	CoJ 64	17.37	17.29	19.10	16.63	17.97	18.00	19.44	17.90	16.82	17.84	
2	Co 0238	16.48	16.81	19.47	17.49	17.06	18.04	20.25	18.27	17.41	17.92	3
3	Co 05009	15.87	18.47	18.86	17.37	17.04	17.93		18.05	16.34	17.49	
	Mean	17.00	17.48	19.03	17.87	17.24	17.93	19.82	18.23	16.80	17.89	
	SEm	0.21		0.13	0.19	0.23	0.28	0.13	0.17	0.26		
	CD 5%	0.57	0.65	0.39	0.41	0.48	NS	0.42	0.37	0.77		
	CV	2.22	2.46	1.36	3.03	1.86	2.28	1.40	1.92	2.78		
No of entries with five percent improvement for sucrose (%) at each centre												
	Rank-1				Co 13034 (9.55%)							
	Rank-2				CoS 13231 (6.75%)							

Number of locations where an entry recorded five percent improvement for sucrose (%) over the best standard: Co 13034 (1), CoS 13231 (1)

Performance across location: For sucrose content, Co 13034 and CoS 13231 recorded 9.55 and 6.75% improvement over the best standards at Kota and recorded numerically superior sucrose content in four and three locations respectively.

Table 4.4.5. Brix (%) at 10th month

S. No.	Entry	Farid kot	Kapur thala	Karnal	Kota	Luck now	Muzafar nagar	Pant nagar	Shahja hanpur	Sriganga nagar	Mean
1	Co 13034	19.38	19.98	20.91	21.01	20.04	21.13	23.43	21.26	19.75	20.77
2	CoPb 13181	19.13	18.88	19.92	20.04	20.00	19.83	21.13	20.05	19.28	19.81
3	CoS 13231	19.88	19.98	20.93	20.84	20.51	20.81	22.80	21.14	18.04	20.55
1	CoJ 64	19.50	18.65	21.16	18.81	20.31	20.76	22.00	20.38	19.12	20.08
2	Co 0238	18.50	18.80	21.45	18.84	20.22	20.66	23.05	20.74	20.02	20.25
3	Co 05009	17.75	19.68	20.56	19.30	20.31	20.48		20.51	18.79	19.67
	Mean	19.02	19.33	20.82	19.81	20.23	20.61	22.48	20.68	19.17	20.19
	SEm	0.25		0.16	0.29	0.28	0.35	0.18	0.17	0.28	
	CD 5%	0.65	0.48	0.51	0.64	ns	0.75	0.56	0.35	0.84	
	CV	2.26	1.65	1.60	4.26	1.92	2.42	1.63	1.60	2.96	

Table 4.4.6. Purity (%) at 10th month

S. No.	Entry	Farid kot	Kapur thala	Karnal	Kota	Luck now	Muzafar nagar	Pant nagar	Shahja hanpur	Sriganga nagar	Mean
1	Co 13034	89.36	88.09	92.22	91.48	85.77	85.90	88.10	78.73	88.71	87.60
2	CoPb 13181	89.56	88.57	91.63	89.45	84.03	87.68	88.66	87.49	87.28	88.26
3	CoS 13231	89.60	90.09	91.95	89.71	84.95	86.65	87.88	88.78	89.34	88.77
1	CoJ 64	89.08	91.71	90.27	88.40	88.48	87.22	88.36	87.84	88.51	88.87
2	Co 0238	89.09	89.43	90.76	92.87	84.35	87.88	87.86	88.10	87.62	88.66
3	Co 05009	89.38	93.88	91.75	89.98	83.89	87.52		87.99	87.33	88.96
	Mean	89.35	90.30	91.43	90.32	85.24	87.14	88.17	86.49	88.13	88.52
	SEm	0.33		NS	1.67	0.96	0.70	0.30	0.15	0.39	
	CD 5%	1.01	2.58		3.56	2.05	NS	0.94	0.31	1.16	
	CV	0.75	1.90		5.24	1.60	1.13	0.69	0.33	2.18	

Table 4.4.7. Extraction (%) at 10th month

S. No.	Entry	Farid kot	Kapur thala	Karnal	Kota	Luck now	Muzafar nagar	Pant nagar	Shahja hanpur	Sriganga nagar	Mean
1	Co 13034	59.13	55.89	49.68	45.25	57.40	51.72		53.68	48.41	52.65
2	CoPb 13181	60.77	56.79	51.26	44.58	50.02	50.00		54.53	55.26	52.90
3	CoS 13231	53.99	52.24	41.27	44.63	46.91	46.43		55.93	53.33	49.34
1	CoJ 64	59.41	52.03	49.36	44.32	55.02	52.63		57.48	51.75	52.75
2	Co 0238	59.85	58.39	54.46	45.74	62.06	48.41		54.81	52.28	54.50
3	Co 05009	58.59	55.03	52.20	42.50	57.42	50.00		56.72	46.44	52.36
	Mean	58.62	55.06	49.71	44.50	54.81	49.87		55.53	51.25	52.42
	SEm	0.49		1.95	0.67	3.84	-		0.82	0.92	
	CD 5%	1.46	NS	5.94	1.42	8.18	-		1.74	2.74	
	CV	1.65	7.36	7.86	4.26	9.90	-		2.94	2.93	

Table 4.4.8. Pol%cane content at 10th month

S. No.	Entry	Farid kot	Kapur thala	Karnal	Kota	Luck now	Muzafar nagar	Pant nagar	Shahja hanpur	Sriganga nagar	Mean
1	Co 13034		14.16	14.83		13.48	13.43		13.79		13.94
2	CoPb 13181		12.35	13.76		12.96	12.82		13.19		13.02
3	CoS 13231		13.43	14.38		13.22	13.29		13.71		13.61
1	CoJ 64		14.97	14.79		13.93	13.32		13.74		14.15
2	Co 0238		14.23	14.93		13.08	13.30		13.96		13.90
3	Co 05009		15.30	14.41		13.21	13.21		13.69		13.96
	Mean		14.07	14.52		13.32	13.23		13.68		13.76
	SEm			0.09		0.19	-		-		
	CD 5%		0.68	0.27		0.40	-		-		
	CV		3.21	1.24		1.97	-		-		

Table 4.4.9. Fibre (%) content at 10th month

S. No.	Entry	Farid kot	Kapur thala	Karnal	Kota	Luck now	Muzafar nagar	Pant nagar	Shahja hanpur	Sriganga nagar	Mean
1	Co 13034		12.70	13.08		11.53	13.13		13.58		12.80
2	CoPb 13181		13.48	14.60		12.89	13.48		13.59		13.61
3	CoS 13231		14.80	15.28		14.10	13.74		13.68		14.32
1	CoJ 64		10.96	12.55		12.45	13.26		13.54		12.55
2	Co 0238		13.00	13.30		13.29	13.65		13.48		13.34
3	Co 05009		12.82	13.60		12.45	13.70		13.51		13.22
	Mean		12.96	13.74		12.78	13.49		13.56		13.31
	SEm			0.11		0.34	-		-		
	CD 5%		1.08	0.35		0.72	-		-		
	CV		5.52	1.67		3.76	-		-		

Table 4.4.10. Number of millable canes (‘000/ha) at 10th month

S. No.	Entry	Farid kot	Kapur thala	Karnal	Kota	Luck now	Muzafar nagar	Pant nagar	Shahja hanpur	Sriganga nagar	Mean
1	Co 13034	107.52	90.44	99.36	84.08	66.44	92.13	51.67	87.13	98.47	86.36
2	CoPb 13181	121.88	98.74	109.72	86.58	76.79	99.81	54.17	74.91	104.26	91.87
3	CoS 13231	115.51	92.41	94.97	89.26	70.25	112.40	57.64	103.52	95.31	92.36
1	CoJ 64	109.61	118.00	102.66	75.67	81.66	110.18	60.63	98.15	91.55	94.23
2	Co 0238	87.85	95.34	94.16	78.67	77.43	90.37	54.51	90.56	89.47	84.26
3	Co 05009	80.21	80.39	93.98	80.51	59.55	102.31		80.37	92.92	83.78
	Mean	103.76	95.89	99.14	82.46	72.02	101.20	55.72	89.11	95.33	88.81
	SEm	2.91		2.15	1.21	2.28	4.91	1.21	3.18	3.01	
	CD 5%	8.78	7.07	6.55	2.58	4.86	10.46	3.74	6.77	9.03	
	CV	5.62	4.90	4.34	4.15	4.48	6.87	4.36	7.13	7.71	

Table 4.4.11 Millable cane height (cm) at 10th month

S. No.	Entry	Farid kot	Kapur thala	Karnal*	Kota*	Luck Now*	Muzafar Nagar*	Pant Nagar*	Shahja hanpur	Sriganga nagar	Mean
1	Co 13034	243.33	300.60	290.00	232.00	183.00	259.00	211.00	222.25	198.24	237.71
2	CoPb 13181	234.42	278.20	281.00	293.00	201.50	235.00	252.00	240.25	210.16	247.28
3	CoS 13231	249.42	278.10	258.00	267.00	219.75	212.00	214.00	248.00	180.78	236.34
1	CoJ 64	215.41	275.70	266.00	244.00	182.50	185.00	197.00	218.25	190.62	219.39
2	Co 0238	209.66	315.60	265.00	247.00	240.00	196.00	222.00	240.00	181.53	235.20
3	Co 05009	205.17	262.70	311.00	267.00	175.75	173.00	0.00	241.75	201.72	204.23
	Mean	226.24	285.15	278.50	258.33	200.42	210.00	182.67	235.08	193.84	230.03
	SEm	5.32							6.83	5.16	
	CD 5%	16.02	26.50						14.55	15.47	
	CV	4.70	6.20	6.01	4.32	3.98	3.92	8.14	5.81	5.56	

* data given meter scale and hence, Sem, CD (5%) not considered

Table 4.4.12 Cane diameter (cm) at 10th month

S. No.	Entry	Farid kot	Kapur thala	Karnal	Kota	Luck now	Muzafar nagar	Pant nagar	Shahja hanpur	Sriganga nagar	Mean
1	Co 13034	2.51	2.17	2.38	2.26	2.29	2.60	2.34	2.49	2.28	2.37
2	CoPb 13181	2.39	2.18	2.08	2.88	2.17	2.08	2.23	2.30	2.35	2.30
3	CoS 13231	2.26	2.02	2.02	2.61	2.01	1.97	2.17	2.15	2.21	2.16
1	CoJ 64	2.55	2.08	2.33	2.48	2.19	2.22	2.20	2.26	2.25	2.28
2	Co 0238	2.92	2.43	2.67	2.51	2.56	2.65	2.56	2.60	2.28	2.58
3	Co 05009	2.63	1.90	2.38	2.46	2.13	2.57		2.42	2.39	2.36
	Mean	2.54	2.13	2.31	2.53	2.22	2.35	2.30	2.37	2.29	2.34
	SEm	0.06		0.06	0.04	0.07	0.10	0.05	0.09	0.03	
	CD 5%	0.18	0.23	0.20	0.10	0.15	0.22	0.17	0.20	0.10	
	CV	4.64	7.05	5.75	5.37	4.35	6.27	4.94	7.74	4.69	

Table 4.4.13 Single cane weight (kg) at 10th month

S. No.	Entry	Farid kot	Kapur thala	Karnal	Kota	Luck now	Muzafar nagar	Pant nagar	Shahja hanpur	Sriganga nagar	Mean
1	Co 13034	1.13	1.21	1.31	0.99	0.68	0.99	1.56	1.18	0.90	1.10
2	CoPb 13181	1.09	1.02	0.99	0.91	0.70	0.95	1.36	0.99	0.98	1.00
3	CoS 13231	0.98	0.83	0.77	1.02	0.65	0.75	1.12	0.81	0.73	0.85
1	CoJ 64	0.95	0.82	1.03	0.86	0.55	0.71	1.12	0.80	0.72	0.84
2	Co 0238	1.13	1.38	1.33	1.00	0.95	1.10	1.58	1.14	0.92	1.17
3	Co 05009	1.14	0.98	1.28	0.91	0.53	0.81		1.07	0.84	0.95
	Mean	1.07	1.04	1.12	0.95	0.68	0.89	1.35	1.00	0.85	0.99
	SEm	0.08		0.03	0.02	0.04	0.04	0.04	0.06	0.03	
	CD 5%	0.24	0.29	0.09	0.04	0.08	0.10	0.12	0.13	0.09	
	CV	14.73	18.23	5.52	6.63	7.48	7.51	6.14	12.58	6.70	

Table 4.4.14 CCS (%) at 8th month

S. No.	Entry	Farid kot	Kapur thala	Karnal	Kota	Luck now	Muzafar nagar	Pant nagar	Shahja hanpur	Sriganga nagar	Mean
1	Co 13034	9.41	10.25	12.13	11.09	12.18	10.77	13.14	12.89	10.06	11.32
2	CoPb 13181	10.09	9.65	11.46	10.20	10.01	10.03	11.43	11.59	10.23	10.52
3	CoS 13231	10.05	11.29	12.27	10.80	11.97	10.29	13.12	12.94	9.13	11.32
1	CoJ 64	9.99	9.87	11.28	9.80	12.37	10.46	12.59	12.21	10.47	11.00
2	Co 0238	9.30	9.48	12.13	10.20	11.30	10.38	12.28	11.93	10.46	10.83
3	Co 05009	9.46	10.70	11.53	9.13	10.99	9.90		11.96	9.04	10.34
	Mean	9.72	10.21	11.80	10.20	11.47	10.31	12.51	12.25	9.90	10.89
	SEm	0.20		0.19	0.28	0.38	0.23	0.13	0.13	0.25	
	CD 5%	0.60	1.17	0.59	0.61	0.81	0.50	0.40	0.27	0.73	
	CV	4.09	7.64	3.27	8.02	4.70	3.26	2.11	2.05	4.42	

Table 4.4.15 Sucrose (%) at 8th month

S. No.	Entry	Farid kot	Kapur thala	Karnal	Kota	Luck now	Muzafar nagar	Pant nagar	Shahja hanpur	Sriganga nagar	Mean
1	Co 13034	14.00	14.98	17.60	16.22	17.04	15.90	19.38	18.62	14.74	16.50
2	CoPb 13181	14.80	14.14	16.55	15.10	14.98	14.91	16.95	16.90	15.17	15.50
3	CoS 13231	14.83	16.28	17.61	15.91	17.94	15.19	19.23	18.68	13.46	16.57
1	CoJ 64	14.84	14.52	16.47	14.26	17.91	15.48	18.47	17.73	15.34	16.11
2	Co 0238	13.75	14.13	17.52	15.05	16.40	15.49	18.12	17.36	15.43	15.92
3	Co 05009	13.83	15.46	16.46	14.15	15.80	14.66		17.40	13.41	15.15
	Mean	14.34	14.92	17.04	15.12	16.68	15.27	18.43	17.78	14.59	15.96
	SEm	0.28		0.24	0.28	0.70	0.30	0.17	0.17	0.27	
	CD 5%	0.83	NS	0.75	0.61	1.48	0.65	0.53	0.36	0.82	
	CV	3.84	6.66	2.88	5.41	5.90	2.83	1.87	1.88	2.81	

Table 4.4.16 Brix (%) at 8th month

S. No.	Entry	Farid kot	Kapur thala	Karnal	Kota	Luck now	Muzafar nagar	Pant nagar	Shahja hanpur	Sriganga nagar	Mean
1	Co 13034	16.75	17.33	20.06	18.80	19.45	18.76	22.85	21.02	17.14	19.13
2	CoPb 13181	17.25	16.43	18.69	17.94	17.44	17.84	20.18	19.46	18.07	18.14
3	CoS 13231	17.50	18.31	19.64	18.69	20.32	17.93	22.38	21.07	15.84	19.08
1	CoJ 64	17.75	17.00	19.04	16.36	20.31	18.35	21.65	20.23	17.84	18.73
2	Co 0238	16.25	16.99	19.81	17.73	18.92	18.21	21.38	19.92	18.16	18.60
3	Co 05009	16.00	17.49	18.10	18.26	17.66	17.41		19.94	15.96	17.60
	Mean	16.92	17.26	19.22	17.96	19.01	18.08	21.69	20.27	17.17	18.55
	SEm	0.40		0.24	0.17	0.67	0.26	0.16	0.15	0.38	
	CD 5%	1.22	NS	0.74	0.37	1.43	0.58	0.51	0.32	1.13	
	CV	4.79	4.92	2.52	2.70	4.98	2.16	1.54	1.49	3.16	

Table 4.4.17 Purity (%) at 8th month

S. No.	Entry	Farid kot	Kapur thala	Karnal	Kota	Luck now	Muzafar nagar	Pant nagar	Shahja hanpur	Sriganga nagar	Mean
1	Co 13034	83.64	86.31	87.75	86.29	85.77	84.72	84.69	88.58	86.71	86.05
2	CoPb 13181	85.75	86.00	88.56	84.20	84.03	83.60	84.01	86.84	84.29	85.25
3	CoS 13231	84.89	88.89	89.67	85.11	84.95	84.71	85.95	88.68	85.47	86.48
1	CoJ 64	83.63	85.40	86.51	87.22	88.48	84.38	85.83	87.64	86.31	86.16
2	Co 0238	84.67	83.13	88.48	84.89	84.35	84.32	84.77	87.19	85.45	85.25
3	Co 05009	86.45	88.46	90.90	77.61	83.89	84.23		87.28	84.08	85.36
	Mean	84.84	86.37	88.65	84.22	85.24	84.33	85.05	87.70	85.39	85.76
	SEm	1.19		0.64	1.64	0.96	0.66	0.36	0.17	0.47	
	CD 5%	3.59	3.07	1.95	3.50	2.05	NS	1.12	0.37	1.41	
	CV	2.81	2.36	1.45	5.51	1.60	1.11	0.85	0.40	2.49	

Table 4.4.18 Number of shoots (‘000/ha) at 8th month

S. No.	Entry	Farid kot	Kapur thala	Karnal	Kota	Luck now	Muzafar nagar	Pant nagar	Shahja hanpur	Sriganga nagar	Mean
1	Co 13034	109.61	96.35		99.5	69.91					93.84
2	CoPb 13181	136.57	102.96		87.39	81.19					102.03
3	CoS 13231	131.60	113.37		81.35	73.61					99.98
1	CoJ 64	124.65	125.05		83.41	86.28					104.85
2	Co 0238	90.51	98.90		85.54	85.24					90.05
3	Co 05009	84.03	85.07		84.5	68.06					80.41
	Mean	112.83	103.62		86.95	77.38					95.19
	SEm	3.04			2.15	2.17					
	CD 5%	9.16	7.73		4.58	4.62					
	CV	5.39	4.95		7.00	3.96					

Table 4.4.19 Number of tillers (‘000/ha) at 120th days

S. No.	Entry	Farid kot	Kapur thala	Karnal	Kota	Luck now	Muzafar nagar	Pant nagar	Shahja hanpur	Sriganga nagar	Mean
1	Co 13034	134.72	100.97	129.75	107.25	76.74	180.09	72.08	180.56	147.98	125.57
2	CoPb 13181	172.45	107.90	148.32	110.25	87.73	171.48	122.36	176.02	153.92	138.94
3	CoS 13231	144.44	118.83	121.76	116.75	83.56	195.74	77.92	198.70	139.24	132.99
1	CoJ 64	142.82	131.08	142.88	98.25	92.88	203.98	114.38	197.96	128.96	139.24
2	Co 0238	116.78	103.65	127.55	100.00	91.61	174.81	86.67	178.61	122.47	122.46
3	Co 05009	106.37	89.20	126.22	101.25	78.24	180.00		163.33	132.26	122.11
	Mean	136.26	108.61	132.75	105.63	85.13	184.35	94.68	182.53	137.47	130.22
	SEm	1.65		4.37	1.22	3.89	3.77	1.91	5.22	4.57	
	CD 5%	4.97	7.70	13.28	2.60	8.29	8.04	5.91	11.13	13.70	
	CV	2.42	4.71	6.58	3.20	6.46	3.01	4.05	5.72	7.13	

Table 4.4.20 Germination (%) at 45th days

S. No.	Entry	Farid kot	Kapur thala	Karnal	Kota	Luck now	Muzafar nagar	Pant nagar	Shahja hanpur	Sriganga nagar	Mean
1	Co 13034	37.42	48.08	58.03	44.00	31.78	39.86	31.46	43.19	33.41	40.80
2	CoPb 13181	45.24	52.34	52.68	45.75	32.26	45.28	38.70	47.22	37.36	44.09
3	CoS 13231	39.06	49.85	61.67	44.50	31.78	37.01	26.93	56.46	34.59	42.43
1	CoJ 64	39.83	52.82	71.79	43.25	35.09	41.25	34.80	50.49	41.12	45.60
2	Co 0238	45.62	48.65	60.20	42.75	32.67	43.75	37.14	44.44	33.92	43.24
3	Co 05009	22.96	52.04	57.64	42.50	25.14	36.39		41.53	35.83	39.25
	Mean	38.36	50.63	60.34	43.79	31.45	40.59	33.81	47.22	36.04	42.57
	SEm	0.91		3.28	0.82	1.51	2.72	0.98	2.91	1.26	
	CD 5%	2.73	NS	9.97	1.75	3.22	5.80	3.03	6.19	3.80	
	CV	4.73	7.11	10.87	5.32	6.80	9.49	5.81	12.31	7.03	

Table 4.4.21 Assessment of performance of entries by monitoring team

S. No.	Entries	Luck now	Shahja hanpur	Pantnagar	Muzaffargarh	Karnal	Uchani	Kapur thala	Farid kot	Sriganganagar	Kota
1	Co 13034	Poor	Good	On par	Good	On par	Not allotted	Good	Good	On par	Better
2	CoPb 13181	Poor	Good	Better	On par	Good		Good	On par	Better	On par
3	CoS 13231	Good	Good	Poor	Poor	Poor		Good	Poor	On par	Good
Standards											
1	CoJ 64	Good	Good	Good	Good	On par		On par	Good	Best	Good
2	Co 0238	Best	Best	Best	Best	Best		Best	Best	Good	Best
3	Co 05009	Good	Poor	Not planted	Poor	Good		Good	Good	Good	Good

4.5 Initial Varietal Trial (Early)

Centres (8)	Faridkot, Kapurthala, Karnal, Kota, Lucknow, Muzaffarnagar, Shahjahanpur, Sriganaganagar
Entries (7)	1. Co 14034 (Co 0241 x Co 8347) 2. CoLk 14201 (Co 0238 GC) 3. CoLk 14202 (CoS 96268 GC) 4. CoPant 14222 (CoH 114 GC) 5. CoPb 14181 (Co 0238 GC) 6. CoPb 14182 (Co 89003 x CoSe 92423) 7. CoPb 14211 (CoJ 83 GC)
Standards (3)	CoJ 64, Co 0238 and Co 05009
Design	RBD
Replications	3
Plot size	Gross : 6 rows × 6 m × 0.75 m Net : 4 rows × 5 m × 0.75 m
Bud rate	12 buds/metre
Planting time	February/March, 2017
Crop Duration	10 months

Results of the previous year:

The entries were under multiplication in the respective centres

Results of the current years:

Seven test entries and three standards (CoJ 64, Co 0238 and Co 05009) were evaluated in randomized block design with three replications in eight locations. Pantnagar centre did not conduct the trial. For CCS yield (t/ha), Co 0238 was the best standard with zonal mean of 10.97 t/ha. Among the test entries, Co 14034 recorded the highest zonal mean of 11.49 t/ha and showed more than 17.04 and 19.76 percent improvement at Karnal and Kota respectively. Another entry CoPb 14181 recorded the zonal mean of 10.92 t/ha and recorded more than 10 percent improvement for CCS yield at Muzaffarnagar (12.31%) and Sriganaganagar (29.04%). With regards to cane yield, Co 0238 was the best standard with zonal mean cane yield of 90.50 t/ha. Among test entries, Co 14034 recorded the highest cane yield of 95.20 t/ha and showed 10 percent improvement over the best standards at Karnal (15.35%), Kota (15.65%) and Sriganaganagar (11.50%). For CCS(%), both standards *viz.*, Co 0238 and CoJ 64 performed equally and recorded equal zonal mean of 12.05%. Among test entries, Co 14034 and CoPb 14181 recorded 11.96 and 11.95% of CCS(%) with 5.98% and 5.39% improvement over the standards at Kota centre. With regards to sucrose content, Co 0238 was identified as the best entry with zonal mean of 17.48%. Among the test entries, Co 14034 recorded 17.31% of sucrose at zonal level with 5.07 percent improvement for sucrose content at Kota and numerically superior at Kapurthala and Karnal. Based on overall mean, none of the entries was qualified by showed 10% improvement for CCS yield and cane yield and numerically superior to sucrose content or five percent improvement for sucrose and CCS (%) with numerically superior to cane yield. Further details of data presented in table 4.5.1 to 4.5.19.

Varietal Improvement Programme – AICRP (Sugarcane)
Principal Investigator's Report (2017-18), North West Zone – IVT (Early)

Table 4.5.1. CCS (t/ha) at harvest

S. No.	Entry	Faridkot	Kapurthala	Karnal	Kota	Lucknow	Muzafarnagar	Shahjahanpur	Sriganganagar	Mean	Rank
1	Co 14034	12.09	9.77	20.26	10.06	9.98	9.82	10.08	9.90	11.49	1
2	CoLk 14201	11.04	9.17	12.09	7.75	10.09	10.84	9.19	10.92	10.14	5
3	CoLk 14202	11.50	7.65	12.74	8.21	7.63	8.90	9.70	11.40	9.72	
4	CoPant 14222	10.52	7.71	11.72	8.45	5.69	7.62	10.03	7.48	8.65	
5	CoPb 14181	13.49	9.48	13.83	8.53	8.53	10.95	10.23	12.31	10.92	3
6	CoPb 14182	13.22	8.23	12.93	7.82	7.30	8.18	10.43	6.54	9.33	
7	CoPb 14211	13.23	9.79	16.43	7.92	6.80	11.67	11.56	9.48	10.86	4
Standards											
1	CoJ 64	12.40	9.16	12.11	7.78	5.65	8.22	9.23	8.02	9.07	
2	Co 0238	11.76	9.98	17.31	8.21	9.77	9.75	11.43	9.54	10.97	2
3	Co 05009	12.48	9.27	14.93	8.40	5.25	8.78	8.33	8.45	9.49	
	Mean	12.17	9.02	14.44	8.31	7.67	9.47	10.02	9.40	10.06	
	SE (m)	0.57		0.65	0.09	0.60	0.82	0.37	0.42		
	CD	1.69	0.48	1.95	0.20	1.26	1.70	0.77	1.27		
	CV	8.11	3.10	7.80	2.45	9.59	10.51	6.37	6.28		
Top entries with 10 percent improvement for CCS (t/ha) over the best standards at each centre											
	Rank-1			Co 14034 (17.04%)	Co 14034 (19.76%)		CoPb 14211 (19.69%)		CoPb 14181 (29.04%)		
	Rank-2						CoLk 14201 (11.18%)		CoLk 14202 (19.50)		
	Rank-3						CoPb 14181 (12.31%)		CoLk 14201 (14.47%)		

Number of locations where an entry showing more than 10% improvement: Co 14034 (2), CoPb 14181 (2), CoLk 14201 (2), CoLk 14202 (1), CoPb 14211 (1),

Performance of the entries across locations: For CCS yield (t/ha), Co 0238 was the best standard variety with zonal mean of 10.97 t/ha. Among the test entries, Co 14034 recorded the highest zonal mean for CCS yield (11.49 t/ha) and showed more than 10 percent improvement at Karnal (17.04%) and Kota (19.76%). Another entry CoPb 14181 recorded the zonal mean of 10.92 t/ha and recorded more than 10 percent improvement for CCS yield at Muzafarnagar (12.31%) and Sriganganagar (29.04%).

Table 4.5.2. Cane yield (t/ha) at harvest

S. No.	Entry	Faridkot	Kapurthala	Karnal	Kota	Lucknow	Muzafarnagar	Shahjahanpur	Sriganganagar	Mean	Rank
1	Co 14034	108.64	80.90	144.85	88.70	78.13	87.59	83.89	88.88	95.20	1
2	CoLk 14201	114.20	86.86	109.92	79.60	78.56	93.33	84.07	100.74	93.41	2
3	CoLk 14202	119.44	75.15	110.64	77.60	66.63	78.40	85.00	101.85	89.34	
4	CoPant 14222	99.07	74.94	91.69	78.60	47.91	70.55	84.44	64.80	76.50	
5	CoPb 14181	127.16	82.87	105.17	75.40	67.99	90.92	85.19	99.99	91.84	4
6	CoPb 14182	128.70	81.43	99.11	79.90	59.16	75.18	88.52	58.26	83.78	
7	CoPb 14211	122.22	81.37	121.96	74.50	57.52	103.89	92.78	83.43	92.21	3
Standards											
1	CoJ 64	105.86	75.37	88.57	73.80	45.04	68.52	74.26	70.28	75.21	
2	Co 0238	106.17	88.43	125.57	76.70	74.67	82.59	90.19	79.71	90.50	5
3	Co 05009	112.65	76.30	113.53	77.50	44.20	73.15	72.22	75.69	80.66	
	Mean	114.41	80.36	111.10	78.23	61.98	82.41	84.06	82.36	86.86	
	SE (m)	4.52		4.46	1.57	4.62	6.63	2.78	3.05		
	CD	13.44	4.58	13.35	3.30	9.72	13.37	5.80	9.16		
	CV	6.85	3.33	6.95	4.25	9.14	9.45	5.73	7.12		
Top entries with 10 percent improvement for cane yield (t/ha) over the best standards at each centre											
		CoPb 14182 (14.25%)		Co 14034 (15.35%)	Co 14034 (15.65%)		CoPb 14211 (25.79%)		CoLk 14202 (27.78%)		
		CoPb 14181 (12.88%)							CoLk 14201 (26.38%)		
									CoPb 14181 (25.44%)		
									Co 14034 (11.50%)		

Number of locations where an entry showing more than 10% improvement over the best standards: Co 14034 (3), CoPb 14181 (2), CoPb 14182 (1), CoLk 14201 (1), CoLk 14202 (1), CoPb 14211 (1)

Performance of the entries across locations: Co 0238 was the best standard with zonal mean cane yield of 90.50 t/ha. Among test entries, Co 14034 recorded the highest cane yield of 95.20 t/ha and showed more than 10 percent improvement over the best standards at Karnal (15.35%), Kota (15.65%) and Sriganganagar (11.50%).

Table 4.5.3. CCS (%) at 10th month

S. No.	Entry	Faridkot	Kapurthala	Karnal	Kota	Lucknow	Muzafarnagar	Shahjahanpur	Sriganganagar	Mean	Rank
1	Co 14034	11.10	12.07	13.99	11.34	12.78	11.23	12.02	11.14	11.96	2
2	CoLk 14201	9.67	10.56	10.99	9.74	12.84	11.60	10.91	10.84	10.89	
3	CoLk 14202	9.63	10.18	11.52	10.57	11.48	11.32	11.43	11.20	10.92	
4	CoPant 14222	10.62	10.30	12.80	10.75	11.90	11.29	11.89	11.54	11.39	
5	CoPb 14181	10.61	11.44	13.14	11.31	12.55	12.05	12.17	12.32	11.95	3
6	CoPb 14182	10.27	10.13	13.04	9.78	12.34	10.87	11.79	11.23	11.18	
7	CoPb 14211	10.82	12.03	13.46	10.63	11.84	11.20	12.83	11.36	11.77	4
Standards											
1	CoJ 64	11.71	12.15	13.68	10.54	12.52	11.99	12.38	11.41	12.05	1
2	Co 0238	11.08	11.28	13.78	10.70	13.11	11.82	12.65	11.97	12.05	1
3	Co 05009	11.08	12.14	13.16	10.60	11.94	11.96	11.54	11.16	11.70	
	Mean	10.66	11.23	12.96	10.60	12.33	11.53	11.96	11.42		
	SE (m)	0.17		0.20	0.09	0.45	0.28	0.16	0.27		
	CD	0.51	0.32	0.61	0.19	0.94	0.59	0.33	0.81		
	CV	2.77	1.66	2.70	1.83	4.45	3.02	2.31	3.04		
Top entries with five percent improvement for CCS (%) over the best standards at each centre											
					Co 14034 (5.98%)						
					CoPb 14181 (5.39%)						

Number of locations where an entry showing more than five percent improvement over the best standards: Co 14034 (1), CoPb 14181 (1)
Performance of the entries across locations: Both the standards (Co 0238 and CoJ 64 equally performed with zonal mean of 12.05%. Among test entries, Co 14034 and CoPb 14181 recorded 11.96 and 11.95 percent CCS with 5.98% and 5.39% improvement over the best standard at Kota.

Table 4.5.4. Sucrose (%) at 10th month

S. No.	Entry	Faridkot	Kapurthala	Karnal	Kota	Lucknow	Muzafarnagar	Shahjahanpur	Sriganganagar	Mean	Rank
1	Co 14034	16.19	17.30	19.82	16.57	18.56	16.33	17.46	16.21	17.31	3
2	CoLk 14201	13.94	15.13	15.80	14.40	18.40	16.93	16.00	15.77	15.80	
3	CoLk 14202	13.80	14.62	16.65	15.53	16.77	16.53	16.90	16.43	15.90	
4	CoPant 14222	15.25	14.74	18.20	15.77	17.06	16.44	17.29	16.87	16.45	
5	CoPb 14181	15.52	16.26	18.87	16.53	18.06	17.47	17.65	17.81	17.27	4
6	CoPb 14182	14.91	14.66	18.66	14.46	17.85	16.63	17.15	16.43	16.34	
7	CoPb 14211	15.73	16.97	19.26	15.60	17.09	16.35	18.62	16.58	17.03	5
Standards											
1	CoJ 64	16.98	17.05	19.44	15.43	18.00	17.34	17.94	16.64	17.35	2
2	Co 0238	16.27	16.01	19.68	15.77	18.93	17.42	18.30	17.46	17.48	1
3	Co 05009	15.98	17.11	18.83	15.57	17.32	17.37	16.82	16.35	16.92	
	Mean	15.46	15.99	18.52	15.56	17.80	16.88	17.41	16.66		
	SE (m)	0.21		0.27	0.12	0.57	0.33	0.19	0.28		
	CD	0.63	0.45	0.81	0.25	1.20	0.70	0.40	0.84		
	CV	2.36	1.63	2.54	1.68	3.92	2.43	1.89	2.76		
Top entries with five percent improvement for sucrose (%) over the best standards at each centre											
					Co 14034 (5.07%)						

Number of locations where an entry showing more than five percent improvement over the best standards: Co 14034 (1),

Performance of the entries across locations: Co 0238 was the best entry for sucrose content with zonal mean of 17.48%. Among the test entries, Co 14034 recorded 17.31% of sucrose at zonal level with 5.07 percent improvement for sucrose content at Kota centres and numerically superior at Kapurthala and Karnal centres.

Varietal Improvement Programme – AICRP (Sugarcane)
Principal Investigator's Report (2017-18), North West Zone – IVT (Early)

Table 4.5.5. Brix (%) at 10th month

S. No.	Entry	Farid kot	Kapur thala	Kar nal	Kota	Luck now	Muzafar nagar	Shahja hanpur	Sriganga nagar	Mean
1	Co 14034	18.67	19.20	21.48	19.13	21.23	18.71	19.97	18.57	19.62
2	CoLk 14201	15.67	16.80	17.65	17.03	20.45	19.51	18.61	18.06	17.97
3	CoLk 14202	15.33	16.30	18.83	18.13	19.32	19.08	19.45	19.16	18.20
4	CoPant 14222	17.00	16.33	19.88	18.37	19.04	18.88	19.80	19.51	18.60
5	CoPb 14181	18.00	17.73	21.03	19.10	20.20	19.88	20.14	20.13	19.53
6	CoPb 14182	17.00	16.63	20.66	17.10	20.10	19.15	19.68	19.03	18.67
7	CoPb 14211	18.00	18.20	21.28	18.20	19.23	18.88	21.02	19.12	19.24
1	CoJ 64	19.33	18.07	21.20	17.90	20.07	19.61	20.40	19.16	19.47
2	Co 0238	19.00	17.40	21.70	18.57	21.28	19.91	20.73	20.12	19.84
3	Co 05009	18.00	18.30	20.85	18.17	19.61	19.81	19.38	19.02	19.14
	Mean	17.60	17.50	20.46	18.17	20.05	19.34	19.92	19.19	19.03
	SE (m)	0.21		0.29	0.13	0.62	0.36	0.17	0.31	
	CD	0.64	0.64	0.87	0.29	1.30	0.76	0.36	0.91	
	CV	2.10	2.13	2.47	1.61	3.77	2.29	1.52	2.94	

Table 4.5.6. Purity (%) at 10th month

S. No.	Entry	Farid kot	Kapur thala	Kar nal	Kota	Luck now	Muzafar nagar	Shahja hanpur	Sriganga nagar	Mean
1	Co 14034	86.73	90.12	92.30	86.58	87.70	87.26	87.45	87.61	88.22
2	CoLk 14201	89.01	90.06	89.47	84.51	89.99	86.75	85.96	87.96	87.96
3	CoLk 14202	90.00	89.71	88.41	85.62	86.72	86.63	86.89	86.47	87.56
4	CoPant 14222	89.69	90.24	91.59	85.86	89.72	87.08	87.31	86.51	88.50
5	CoPb 14181	86.24	91.69	89.73	86.53	89.34	87.88	87.64	89.00	88.51
6	CoPb 14182	87.69	88.12	90.32	84.56	88.46	86.85	87.15	86.47	87.45
7	CoPb 14211	87.41	93.26	90.48	85.69	88.85	86.70	88.60	86.47	88.43
1	CoJ 64	87.85	94.41	91.70	86.19	89.61	88.41	87.94	87.57	89.21
2	Co 0238	85.65	92.04	90.70	84.95	88.81	87.47	88.30	86.81	88.09
3	Co 05009	88.78	93.51	90.35	85.68	88.12	87.66	86.89	86.01	88.37
	Mean	87.81	91.07	90.52	85.61	88.80	87.23	87.47	87.21	88.21
	SE (m)	0.74		0.54	0.29	1.64	0.43	0.19	0.49	
	CD	2.2	1.88	1.61	0.61	ns	0.92	0.39	1.49	
	CV	1.46	1.2	1.03	0.73	2.27	0.61	0.37	1.52	

Table 4.5.7. Extraction (%) at 10th month

S. No.	Entry	Farid kot	Kapur thala	Kar nal	Kota	Luck now	Muzafar nagar	Shahja hanpur	Sriganga nagar	Mean
1	Co 14034	57.72	57.80	52.74	49.10	53.91	49.24	54.62	47.28	52.80
2	CoLk 14201	58.19	54.83	43.48	47.40	57.58	49.06	53.10	50.73	51.80
3	CoLk 14202	58.51	54.52	45.20	46.80	51.88	50.30	55.88	51.26	51.79
4	CoPant 14222	56.93	52.62	41.08	45.10	57.17	44.79	55.23	48.55	50.18
5	CoPb 14181	53.69	53.28	43.64	42.30	46.82	49.26	54.00	51.47	49.31
6	CoPb 14182	50.09	52.73	51.83	42.30	52.92	45.95	53.22	52.91	50.24
7	CoPb 14211	54.87	56.26	47.87	44.20	54.16	47.06	54.72	53.28	51.55
1	CoJ 64	58.81	49.00	44.75	45.20	54.47	52.08	54.31	51.26	51.24
2	Co 0238	59.79	55.84	52.29	44.10	57.49	51.35	57.26	52.10	53.78
3	Co 05009	61.36	55.03	48.88	44.00	58.88	49.12	54.54	49.38	52.65
	Mean	57.00	54.19	47.18	45.05	54.53	48.82	54.69	50.82	51.53
	SE (m)	1.19		0.70	0.83	3.53	-	0.74	0.79	
	CD	3.55	3.81	2.10	1.75	ns	-	1.54	2.36	
	CV	3.63	4.10	2.57	3.92	7.94	-	2.34	2.99	

Table 4.5.8. Pol%cane and Fibre (%) content at 10th month

S. No.	Entry	Pol%cane					Fibre (%)				
		Kar nal	Luck now	Muzafar nagar	Shahja hanpur	Mean	Kar nal	Luck now	Muzafar nagar	Shahja hanpur	Mean
1	Co 14034	15.39	14.17	12.10	13.16	13.71	12.37	13.65	12.96	13.51	13.12
2	CoLk 14201	11.41	14.16	12.73	12.37	12.67	17.73	13.05	13.15	13.62	14.39
3	CoLk 14202	12.27	12.82	12.10	13.12	12.58	16.33	13.51	13.19	13.50	14.13
4	CoPant 14222	13.94	13.16	12.08	13.04	13.06	13.40	12.85	14.06	13.52	13.46
5	CoPb 14181	13.89	13.79	12.82	13.24	13.44	16.40	13.64	13.36	13.54	14.24
6	CoPb 14182	14.33	13.78	12.45	13.10	13.41	13.20	12.81	13.21	13.57	13.20
7	CoPb 14211	14.90	12.99	12.03	13.73	13.41	12.60	14.01	13.42	13.59	13.41
1	CoJ 64	15.07	13.87	12.92	13.90	13.94	12.47	12.94	13.16	13.49	13.02
2	Co 0238	15.09	14.53	13.02	13.90	14.13	13.33	13.25	13.23	13.44	13.31
3	Co 05009	14.58	13.34	12.76	13.01	13.42	12.60	12.98	13.20	13.58	13.09
	Mean	14.09	13.66	12.50	13.26	13.38	14.04	13.27	13.29	13.54	13.54
	SE (m)	2.00	0.45	-	-		0.24	0.36	-	-	
	CD	0.59	0.95	-	-		0.71	0.75	-	-	
	CV	2.43	4.05	-	-		2.94	3.31	-	-	

Varietal Improvement Programme – AICRP (Sugarcane)
Principal Investigator's Report (2017-18), North West Zone – IVT (Early)

Table 4.5.9. Number of millable canes (‘000/ha) at 10th month

S. No.	Entry	Farid kot	Kapur thala	Kar nal	Kota	Luck now	Muzafar nagar	Shahja hanpur	Sriganga nagar	Mean
1	Co 14034	91.82	74.30	103.70	92.90	71.41	94.62	87.41	86.45	87.83
2	CoLk 14201	108.64	68.48	112.96	92.20	92.93	122.59	100.19	107.37	100.67
3	CoLk 14202	105.86	70.55	99.85	90.80	86.30	101.30	91.85	112.43	94.87
4	CoPant 14222	105.25	64.92	96.30	85.50	84.40	103.88	92.04	81.69	89.25
5	CoPb 14181	110.49	77.32	103.86	83.40	84.20	120.74	98.52	108.84	98.42
6	CoPb 14182	114.20	69.79	97.22	85.70	79.06	108.14	98.89	74.90	90.99
7	CoPb 14211	103.55	67.27	109.72	85.30	73.46	120.18	103.89	99.33	95.34
1	CoJ 64	105.25	92.25	104.17	87.90	97.25	111.48	102.78	91.56	99.08
2	Co 0238	90.74	74.39	93.21	85.10	85.29	94.07	90.19	93.18	88.27
3	Co 05009	94.75	80.39	97.38	84.00	73.71	102.03	79.07	98.28	88.70
	Mean	103.06	73.97	101.84	87.28	82.80	107.90	94.48	95.40	93.34
	SE (m)	1.85			1.39	3.69	10.22	4.01	3.52	
	CD	5.49	10.68	NS	2.92	7.75	21.48	8.36	10.57	
	CV	3.11	8.42		3.38	5.46	11.73	7.35	6.28	

Table 4.5.10 Millable cane height (cm) at 10th month

S. No.	Entry	Farid kot	Kapur thala	Kar nal	Kota	Luck now	Muzafar nagar	Shahja hanpur	Sriganga nagar	Mean
1	Co 14034	230.55	230.80	268.00	230.00	239.33	252.00	208.67	218.29	234.71
2	CoLk 14201	209.44	296.00	253.00	220.00	196.67	281.00	209.00	215.63	235.09
3	CoLk 14202	226.66	278.90	273.00	220.00	176.00	282.00	200.00	245.71	237.78
4	CoPant 14222	192.78	244.20	232.00	220.00	181.33	236.00	199.67	212.54	214.82
5	CoPb 14181	225.33	279.20	273.00	230.00	245.25	233.00	184.33	180.36	231.31
6	CoPb 14182	281.44	280.00	213.00	190.00	193.33	279.00	210.33	205.29	231.55
7	CoPb 14211	229.00	269.20	258.00	190.00	200.47	272.00	219.00	196.17	229.23
1	CoJ 64	222.22	274.50	233.00	210.00	189.27	214.00	195.00	170.46	213.56
2	Co 0238	218.78	282.50	275.00	220.00	231.33	250.00	239.67	166.26	235.44
3	Co 05009	265.22	260.70	283.00	210.00	161.67	238.00	233.00	162.34	226.74
	Mean	230.14	269.60	256.10	214.00	201.47	253.70	209.87	197.31	229.02
	SE (m)	2.91		0.10	0.06	0.11	0.11	6.89	5.74	
	CD	8.66	18.16					14.38	17.21	
	CV	2.19	3.93	6.54	6.64	6.44	5.61	5.69	7.14	

Varietal Improvement Programme – AICRP (Sugarcane)
Principal Investigator's Report (2017-18), North West Zone – IVT (Early)

Table 4.5.11 Cane diameter (cm) at 10th month

S. No.	Entry	Farid kot	Kapur thala	Kar nal	Kota	Luck now	Muzafar nagar	Shahja hanpur	Sriganga nagar	Mean
1	Co 14034	2.72	2.31	2.56	2.30	2.34	2.50	2.47	2.48	2.46
2	CoLk 14201	2.73	2.18	2.30	2.20	2.32	2.20	2.25	2.38	2.32
3	CoLk 14202	2.61	2.30	2.53	2.20	2.42	2.46	2.27	2.28	2.38
4	CoPant 14222	2.79	2.43	2.32	2.20	2.34	2.10	2.27	2.29	2.34
5	CoPb 14181	2.61	2.27	2.16	2.30	2.23	2.00	2.22	2.31	2.26
6	CoPb 14182	2.40	2.30	2.63	1.90	2.36	2.23	2.34	2.29	2.31
7	CoPb 14211	2.78	2.20	2.36	1.90	2.36	2.33	2.33	2.41	2.33
1	CoJ 64	2.62	2.00	2.40	2.10	1.95	2.13	2.07	2.26	2.19
2	Co 0238	3.10	2.33	2.70	2.20	2.75	2.73	2.57	2.63	2.63
3	Co 05009	2.52	1.90	2.29	2.10	2.18	2.26	2.27	2.38	2.24
	Mean	2.69	2.22	2.43	2.14	2.32	2.29	2.31	2.37	2.35
	SE (m)	0.05		0.05	0.06	0.11	0.08	0.05	0.05	
	CD	0.13	0.24	0.15	0.14	0.23	0.17	0.11	0.14	
	CV	2.91	6.26	3.66	6.64	5.65	4.53	3.86	3.17	

Table 4.5.12 Single cane weight (kg) at 10th month

S. No.	Entry	Farid kot	Kapur thala	Kar nal	Kota	Luck now	Muzafar nagar	Shahja hanpur	Sriganga nagar	Mean
1	Co 14034	1.32	1.10	1.40	1.10	1.09	0.91	1.11	1.04	1.13
2	CoLk 14201	1.16	1.21	0.97	0.97	0.85	0.78	0.87	0.92	0.97
3	CoLk 14202	1.22	1.22	1.11	1.08	0.77	0.81	0.99	0.89	1.01
4	CoPant 14222	1.09	1.08	0.95	1.11	0.57	0.71	0.86	0.81	0.90
5	CoPb 14181	1.20	1.17	1.01	0.97	0.81	0.73	1.07	0.88	0.98
6	CoPb 14182	1.19	1.13	1.02	0.98	0.75	0.71	1.03	0.79	0.95
7	CoPb 14211	1.33	1.19	1.11	1.07	0.78	0.88	1.12	0.82	1.04
1	CoJ 64	1.12	0.83	0.85	1.00	0.46	0.69	0.80	0.78	0.82
2	Co 0238	1.29	1.28	1.35	0.97	0.88	0.94	1.09	0.86	1.08
3	Co 05009	1.28	1.06	1.17	0.91	0.60	0.75	0.92	0.74	0.93
	Mean	1.22	1.13	1.09	1.02	0.76	0.79	0.99	0.85	0.98
	SE (m)	0.05		0.03	0.04	0.06	0.78	0.07	0.03	
	CD	0.16	0.16	0.10	0.08	0.12	0.11	0.15	0.09	
	CV	7.59	8.15	5.36	8.35	9.60	8.27	12.46	6.31	

Varietal Improvement Programme – AICRP (Sugarcane)
Principal Investigator's Report (2017-18), North West Zone – IVT (Early)

Table 4.5.13 CCS (%) at 8th month

S. No.	Entry	Farid kot	Kapur thala	Kar nal	Kota	Luck now	Muzafar nagar	Shahja hanpur	Sriganga nagar	Mean
1	Co 14034	7.67	8.89	11.25	8.82	11.33	9.52	11.05	9.58	9.76
2	CoLk 14201	7.07	8.34	7.46	7.23	12.27	9.25	10.10	9.24	8.87
3	CoLk 14202	7.21	7.06	8.18	7.94	11.00	8.71	10.32	9.72	8.77
4	CoPant 14222	7.96	6.92	9.93	7.86	9.53	9.37	10.31	9.16	8.88
5	CoPb 14181	8.53	10.78	10.93	8.59	11.63	10.06	10.96	10.78	10.28
6	CoPb 14182	7.22	6.98	11.53	8.09	10.27	9.17	9.25	9.35	8.98
7	CoPb 14211	7.56	8.93	10.64	8.01	11.00	9.61	11.24	10.01	9.63
1	CoJ 64	8.93	10.26	10.68	8.04	11.67	9.99	11.29	10.58	10.18
2	Co 0238	8.45	7.43	11.50	8.27	11.93	9.77	11.45	10.69	9.94
3	Co 05009	7.93	10.18	10.91	8.14	10.70	9.54	11.19	9.35	9.74
	Mean	7.85	8.58	10.30	8.10	11.13	9.50	10.72	9.85	9.50
	SE (m)	0.13		0.24	0.08	0.32	0.22	0.17	0.24	
	CD	0.40	1.63	0.71	0.11	0.67	0.47	0.35	0.71	
	CV	2.95	11.11	3.97	2.11	3.49	2.95	2.69	3.72	

Table 4.5.14 Sucrose (%) at 8th month

S. No.	Entry	Farid kot	Kapur thala	Kar nal	Kota	Luck now	Muzafar nagar	Shahja hanpur	Sriganga nagar	Mean
1	Co 14034	11.60	13.20	16.61	13.16	16.47	14.28	16.18	14.12	14.45
2	CoLk 14201	10.72	12.32	11.47	10.99	17.80	14.05	14.89	13.54	13.22
3	CoLk 14202	10.86	10.75	12.66	11.96	16.27	13.44	15.19	14.41	13.19
4	CoPant 14222	11.98	10.48	14.64	11.85	13.80	14.04	15.19	13.62	13.20
5	CoPb 14181	12.82	15.66	16.09	12.85	16.90	14.84	16.06	15.81	15.13
6	CoPb 14182	10.78	10.62	16.80	12.16	15.07	13.81	13.74	13.87	13.36
7	CoPb 14211	11.50	13.16	15.72	12.06	16.03	14.27	16.44	14.89	14.26
1	CoJ 64	13.50	15.01	15.81	12.09	17.00	14.75	16.54	15.43	15.02
2	Co 0238	12.74	11.36	16.79	12.40	17.43	14.44	16.67	15.67	14.69
3	Co 05009	11.76	14.68	15.83	12.23	15.40	14.13	16.38	13.84	14.28
	Mean	11.83	12.72	15.24	12.18	16.22	14.21	15.73	14.52	14.08
	SE (m)	0.25		0.27	0.11	0.40	0.26	0.14	0.32	
	CD	0.75	2.15	0.82	0.23	0.84	0.55	0.30	0.91	
	CV	3.71	9.85	3.11	1.90	3.01	2.29	1.58	3.62	

Varietal Improvement Programme – AICRP (Sugarcane)
Principal Investigator's Report (2017-18), North West Zone – IVT (Early)

Table 4.5.15 Brix (%) at 8th month

S. No.	Entry	Farid kot	Kapur thala	Kar nal	Kota	Luck now	Muzafar nagar	Shahja hanpur	Sriganga nagar	Mean
1	Co 14034	14.33	15.73	19.59	15.83	18.83	17.37	18.80	16.62	17.14
2	CoLk 14201	13.33	14.57	14.61	13.73	20.33	17.51	17.55	15.75	15.92
3	CoLk 14202	13.33	13.48	16.30	14.67	19.23	17.81	17.84	17.16	16.23
4	CoPant 14222	14.67	12.99	17.23	14.57	15.77	17.07	17.84	16.29	15.80
5	CoPb 14181	15.67	17.89	18.90	15.53	19.20	17.51	18.68	18.43	17.73
6	CoPb 14182	13.00	13.27	19.30	14.87	17.37	16.92	16.42	16.51	15.96
7	CoPb 14211	14.33	15.47	18.59	14.77	18.33	17.65	19.04	17.82	17.00
1	CoJ 64	16.67	17.38	18.78	14.80	19.53	17.42	19.13	17.76	17.68
2	Co 0238	15.67	14.30	19.40	15.10	20.27	17.07	19.14	18.25	17.40
3	Co 05009	14.00	16.50	18.03	14.93	17.23	16.77	19.00	16.43	16.61
	Mean	14.50	15.16	18.07	14.88	18.61	17.31	18.34	17.10	16.75
	SE (m)	0.31		0.25	0.11	0.40	0.26	0.14	0.35	
	CD	0.92	1.96	0.74	0.29	0.84	0.54	0.30	1.05	
	CV	3.68	7.55	2.36	1.50	2.62	1.85	1.34	3.34	

Table 4.5.16 Purity (%) at 8th month

S. No.	Entry	Farid kot	Kapur thala	Kar nal	Kota	Luck now	Muzafar nagar	Shahja hanpur	Sriganga nagar	Mean
1	Co 14034	80.92	83.67	84.77	83.09	87.70	82.16	86.08	85.36	84.22
2	CoLk 14201	80.41	84.54	78.51	80.04	89.99	80.25	84.87	86.29	83.11
3	CoLk 14202	81.45	79.43	77.60	81.52	86.72	75.52	85.15	84.18	81.45
4	CoPant 14222	81.69	79.91	84.91	81.34	89.72	82.26	85.14	83.67	83.58
5	CoPb 14181	81.85	87.52	85.16	82.70	89.34	84.76	85.97	86.34	85.46
6	CoPb 14182	82.92	79.98	87.03	81.81	88.46	81.62	83.69	84.58	83.76
7	CoPb 14211	80.21	85.09	84.59	81.67	88.85	83.74	86.34	83.46	84.24
1	CoJ 64	81.02	86.32	84.19	81.71	89.61	84.65	86.30	86.91	85.09
2	Co 0238	81.35	79.39	86.59	82.14	88.81	84.56	86.31	85.87	84.38
3	Co 05009	83.98	88.96	87.78	81.92	88.12	84.25	86.20	84.29	85.69
	Mean	81.58	83.48	84.11	81.79	88.73	82.38	85.61	85.10	84.10
	SE (m)	0.55		1.08	0.15	1.64	1.06	0.14	0.59	
	CD	1.62	4.60	3.24	0.33	ns	2.24	0.30	1.77	
	CV	1.16	3.21	2.24	0.40	2.27	1.59	0.29	1.33	

Varietal Improvement Programme – AICRP (Sugarcane)
Principal Investigator's Report (2017-18), North West Zone – IVT (Early)

Table 4.5.17 Number of shoots (ˆ000/ha) at 8th month

S. No.	Entry	Farid kot	Kapur thala	Kar nal	Kota	Luck now	Muzafar nagar	Shahja hanpur	Sriganga nagar	Mean
1	Co 14034	105.25	78.17			77.00				86.81
2	CoLk 14201	118.83	72.04			96.79				95.89
3	CoLk 14202	114.66	74.22			91.68				93.52
4	CoPant 14222	120.06	68.30			94.23				94.20
5	CoPb 14181	112.96	81.34			90.75				95.02
6	CoPb 14182	115.59	73.41			86.27				91.76
7	CoPb 14211	115.12	70.76			76.45				87.44
1	CoJ 64	120.83	97.04			100.29				106.05
2	Co 0238	109.26	78.25			92.80				93.44
3	Co 05009	105.25	84.57			81.79				90.54
	Mean	113.78	77.81			88.80				93.47
	SE (m)	2.21				4.39				
	CD	6.58	8.42			9.23				
	CV	3.37	11.23			6.06				

Table 4.5.18 Number of tillers (ˆ000/ha) at 120th days

S. No.	Entry	Farid kot	Kapur thala	Kar nal	Kota	Luck now	Muzafar nagar	Shahja hanpur	Sriganga nagar	Mean
1	Co 14034	111.57	83.84	116.98	112.10	95.77	155.18	156.30	137.28	121.13
2	CoLk 14201	130.25	77.26	143.21	111.20	104.65	176.85	177.96	155.15	134.57
3	CoLk 14202	119.60	79.60	126.70	108.40	96.26	149.44	166.67	164.64	126.41
4	CoPant 14222	128.70	73.25	108.18	108.60	98.23	157.03	168.33	128.12	121.30
5	CoPb 14181	121.30	87.24	124.23	106.10	109.05	198.14	179.44	151.20	134.59
6	CoPb 14182	119.91	78.74	130.40	115.60	97.29	162.77	175.74	114.71	124.39
7	CoPb 14211	121.14	75.89	129.32	104.60	89.12	174.81	169.63	146.52	126.38
1	CoJ 64	132.25	104.08	145.06	101.00	104.93	189.07	173.15	133.77	135.41
2	Co 0238	115.90	83.93	124.69	102.40	108.99	149.62	163.52	138.26	123.41
3	Co 05009	111.57	90.70	127.31	106.20	93.84	159.62	156.11	143.08	123.55
	Mean	121.22	83.45	127.61	107.62	99.81	167.25	168.69	141.27	127.12
	SE (m)	3.30		4.56	2.10	4.35	8.48	5.18	5.12	
	CD	9.82	12.05	13.67	4.42	9.13	17.82	10.80	15.36	
	CV	4.72	8.45	6.20	4.15	5.33	6.21	5.31	6.76	

Varietal Improvement Programme – AICRP (Sugarcane)
Principal Investigator's Report (2017-18), North West Zone – IVT (Early)

Table 4.5.19 Germination (%) at 45th days

S. No.	Entry	Farid kot	Kapur thala	Kar nal	Kota	Luck now	Muzafar nagar	Shahja hanpur	Sriganga nagar	Mean
1	Co 14034	29.45	48.54	49.88	42.67	31.79	50.83	45.56	35.29	41.75
2	CoLk 14201	37.42	47.15	60.07	42.33	33.26	52.50	49.44	45.76	45.99
3	CoLk 14202	46.81	51.08	60.21	44.00	30.61	45.83	50.28	34.37	45.40
4	CoPant 14222	38.71	52.01	50.69	45.00	28.40	52.64	50.97	36.21	44.33
5	CoPb 14181	39.22	45.45	50.11	42.00	33.41	48.61	50.14	39.55	43.56
6	CoPb 14182	35.37	48.69	48.84	43.00	31.05	38.33	52.78	37.47	41.94
7	CoPb 14211	43.47	51.78	54.74	44.00	32.20	45.42	55.97	34.28	45.23
1	CoJ 64	40.12	54.63	61.11	42.33	36.54	47.50	51.11	38.56	46.49
2	Co 0238	37.42	56.79	51.96	44.00	40.82	45.28	49.86	33.64	44.97
3	Co 05009	34.72	51.54	52.89	43.00	28.45	41.11	41.67	35.34	41.09
	Mean	38.27	50.77	54.05	43.23	32.65	46.81	49.78	37.05	44.08
	SE (m)	0.93			1.15	1.98	3.18	2.45	1.32	
	CD	2.77	NS	NS	2.42	4.15	6.69	5.11	3.98	
	CV	4.22	9.19		5.65	7.42	8.30	8.52	6.49	

Table 4.5.20 Assessment of performance of entries by monitoring team

S. No	Entries	Lucknow	Shahjahanpur	Pantnagar	Muzaffarnagar	Karnal	Uchani	Kapurthala	Faridkot	Sriganganagar	Kota	
1	Co 14034	Good	On par	N O T C O N D U T E D	Good	Good	N O T A L L O T E D	Good	Good	Good	On par	
2	CoLk 14201	Good	On par		Good	Good		Good	On par	Better	Good	
3	CoLk 14202	Good	Good		Good	Good		Good	On par	Good	Good	
4	CoPant 14222	Better	Good		Good	Good		Good	On par	On par	Better	On par
5	CoPb 14181	On par	On par		Good	Good		Good	Good	On par	Good	On par
6	CoPb 14182	Good	Better		Better	Good		Good	On par	Better	Better	Better
7	CoPb 14211	Poor	Good		Good	Good		Good	On par	On par	Good	Better
	Standards											
1	CoJ 64	Good	Good	Good	Good	Good	Good	Best	Best	Good		
2	Co 0238	Best	Best	Best	Best	Best	Best	On par	Good	Best		
3	Co 05009	Poor	Poor	Good	Good	Good	Good	Good	Good	Good		

4.6 ADVANCED VARIETAL TRIAL (MIDLATE) - II PLANT

Centres (9)	Faridkot, Kapurthala, Karnal, Kota, Lucknow, Muzaffarnagar, Pantnagar, Shahjahanpur and Sriganaganagar.
Entries (6)	Co 12029, CoH 12263, CoLk 12205, CoPant 12226, CoPb 12211 and CoS 12232
Standards (3)	CoPant 97222, CoS 767 and CoS 8436
Design	RBD
Replications	3
Plot size	Gross : 8 Rows x 6 m x 0.75 m Net : 6 Rows x 5 m x 0.75 m
Bud rate	12 buds/ metre
Planting time	February / March, 2017
Crop duration	12 months

Results of the previous year

In the AVT (ML)-I plant trial of 2016-17 season, the mean cane yield of the best standard CoPant 97222 in the zone was 82.27 t/ha. Two entries *viz.* CoPant 12226 (99.07 t/ha) and Co 12029 (94.21 t/ha) showed >10 % improvement for cane yield over the best standard CoPant 97222. The mean CCS yield of the best standard CoPant 97222 was 10.37 t/ha. The two test entries that showed higher cane yield (CoPant 12226 and Co 12029) also showed >10 % improvement for CCS yield over CoPant 97222. The mean CCS yield of CoPant 12226 was 12.60 t/ha while that of Co 12029 was 11.84 t/ha. The highest CCS % (13.03) and the highest sucrose % (18.74) at harvest was recorded by the standard CoS 8436. None of the test entries recorded >5 % improvement over in CCS % or sucrose % over the best standard in the zone.

Results of the current year

In the AVT-II Plant trial, the mean cane yield of all entries across 9 locations was 88.66 t/ha. Three entries *viz.* CoPant 12226 (105.99 t/ha), Co 12029 (102.43 t/ha) and CoS 12232 (95.56 t/ha) showed > 10 % improvement for cane yield over the best standard CoPant 97222 (85.95 t/ha). These entries also showed >10 % improvement for CCS yield over the best standard CoPant 97222 (10.92 t/ha). The CCS yield of these top ranked entries were CoPant 12226 (13.30 t/ha), Co 12029 (13.24 t/ha) and CoS 12232 (12.30 t/ha). For juice quality (sucrose % and CCS %), CoS 12232 was the top ranked entry followed by Co 12029. In the trial, although no test entries showed >5% improvement for CCS % or sucrose % over the best standard CoS 8436, the CCS % of CoS 12232 (12.89) and Co 12029 (12.85) were numerically higher than CoS 8436 (12.77) and sucrose % of CoS 12232 (18.58) and Co 12029 (18.54) were numerically higher than CoS 8436 (18.37). On the basis of pooled data, two entries namely Co 12029 and CoS 12232 were selected as qualifying entries as they showed >10 % improvement for cane yield and numerically higher sucrose %. Further details are presented in Tables 4.6.1 to 4.6.18.

Table 4.6.1 CCS yield (t/ha) at harvest

Sl No	Entries	Faridkot	Kapurthala	Karnal	Kota	Lucknow	Muzaffar nagar	Pantnagar	Shahjahanpur	Sriganganagar	Mean	Rank
1	Co 12029	13.62	9.87	21.28	11.11	10.19	12.30	16.08	12.64	12.08	13.24	2
2	CoH 12263	12.73	9.20	12.45	10.43	9.26	10.34	9.32	10.24	11.09	10.56	
3	CoLk 12205	11.78	8.98	14.32	10.35	11.03	9.90	7.76	11.65	9.97	10.64	
4	CoPant 12226	15.28	9.95	16.26	11.49	10.39	12.48	18.58	12.72	12.59	13.30	1
5	CoPb 12211	13.23	8.97	9.48	10.28	8.14	10.13	7.85	10.17	8.65	9.66	
6	CoS 12232	13.95	8.90	19.96	10.56	9.62	13.49	11.02	12.38	10.85	12.30	3
	Standards											
1	CoPant 97222	13.31	7.88	16.77	9.40	10.39	9.32	11.31	9.77	10.13	10.92	
2	CoS 767	12.08	7.36	9.70	9.55	8.68	9.54	10.28	9.25	10.46	9.66	
3	CoS 8436	11.91	7.25	13.11	9.94	7.29	10.45	8.36	9.28	8.93	9.61	
	Mean	13.10	8.71	14.81	10.35	9.44	10.88	11.17	10.90	10.53	11.10	
	SE (m)	0.76		1.03	0.55	0.65		0.24	0.43	0.39		
	CD	2.27	0.59	2.20	1.17	1.39	1.30	0.73	0.90	1.18		
	CV	10.00	3.90	8.50	11.38	8.48	6.94	3.70	6.75	6.65		
Top three entries showing >10 % improvement over the best standard at each location												
Rank 1		CoPant 12226	CoPant 12226	Co 12029	CoPant 12226		CoS 12232	CoPant 12226	CoPant 12226	CoPant 12226	CoPant 12226	
Rank 2			Co 12029	CoS 12232	Co 12029		CoPant 12226	Co 12029	Co 12029	Co 12029	Co 12029	
Rank 3			CoH 12263				Co 12029		CoS 12232		CoS 12232	

No. of locations where an entry is showing >10 % improvement: CoPant 12226 (7), Co 12029 (7), CoS 12232 (3) and CoH 12263 (1).

Performance across locations: There entries which showed >10 % improvement for CCS yield over the best standard CoPant 97222 (10.92 t/ha) were CoPant 12226 (13.30 t/ha), Co 12029 (13.24 t/ha) and CoS 12232 (12.30 t/ha).

Table 4.6.2 Cane yield (t/ha) at harvest

SI No	Entries	Faridkot	Kapurthala	Karnal	Kota	Lucknow	Muzaffar nagar	Pantnagar	Shahja hanpur	Sriganga nagar	Mean	Rank
1	Co 12029	112.04	84.03	151.27	90.90	77.00	92.35	118.24	95.31	100.74	102.43	2
2	CoH 12263	105.86	77.70	98.67	85.00	80.45	86.17	73.06	80.25	95.78	86.99	
3	CoLk 12205	106.48	81.25	106.48	86.70	88.32	77.65	60.65	91.85	87.42	87.42	
4	CoPant 12226	133.64	80.33	122.20	91.50	76.15	105.68	139.72	95.80	108.88	105.99	1
5	CoPb 12211	119.14	77.08	78.83	83.20	63.86	80.12	61.67	78.77	73.89	79.62	
6	CoS 12232	117.90	70.45	148.77	87.00	72.94	102.47	80.19	92.10	88.25	95.56	3
	Standards											
1	CoPant 97222	109.57	65.43	126.76	79.10	78.83	70.25	82.41	75.06	86.11	85.95	
2	CoS 767	99.38	60.26	80.06	78.90	73.12	74.32	78.15	75.56	88.26	78.67	
3	CoS 8436	99.07	63.20	95.75	79.80	55.36	78.39	61.20	68.64	76.17	75.29	
	Mean	111.45	73.30	112.09	84.68	74.00	85.27	83.92	83.70	89.50	88.66	
	SE (m)	6.44		5.06	3.27	4.99		1.25	2.75	3.29		
	CD at 5%	19.32	3.84	15.31	6.94	10.59	10.05	3.75	5.84	9.89		
	CV	10.01	3.03	7.80	8.21	8.27	6.81	2.58	5.70	8.93		
Top three entries showing >10 % improvement over the best standard at each location												
Rank 1		CoPant 12226	Co 12029	Co 12029	CoPant 12226	CoLk 12205	CoPant 12226	CoPant 12226	CoPant 12226	CoPant 12226	CoPant 12226	
Rank 2			CoLk 12205	CoS 12232	Co 12029		CoS 12232	Co 12029	Co 12029	Co 12029	Co 12029	
Rank 3			CoPant 12226				Co 12029		CoS 12232		CoS 12232	

No. of locations where an entry is showing >10 % improvement: CoPant 12226 (7), Co 12029 (7), CoS 12232 (3) and CoLk 12205 (2).

Performance across locations: Three entries namely, CoPant 12226 (105.99 t/ha), Co 12029 (102.43 t/ha) and CoS 12232 (95.56 t/ha).showed > 10 % improvement for cane yield over the best standard CoPant 97222 (85.95 t/ha).

Table 4.6.3 CCS % at harvest

Sl No	Entries	Faridkot	Kapurthala	Karnal	Kota	Lucknow	Muzaffar nagar	Pantnagar	Shahjahanpur	Sriganganagar	Mean	Rank
1	Co 12029	12.17	11.75	14.08	12.23	13.25	13.32	13.60	13.27	11.99	12.85	2
2	CoH 12263	12.03	11.85	12.57	12.28	11.52	12.00	12.76	12.78	11.58	12.15	
3	CoLk 12205	11.06	11.06	13.44	11.91	12.49	12.75	12.80	12.69	11.40	12.18	
4	CoPant 12226	11.43	12.38	13.31	12.50	13.66	11.81	13.30	13.28	11.56	12.58	
5	CoPb 12211	11.10	11.63	12.04	12.37	12.77	12.65	12.71	12.91	11.71	12.21	
6	CoS 12232	11.83	12.64	13.41	12.14	13.17	13.37	13.75	13.44	12.30	12.89	1
Standards												
1	CoPant 97222	12.14	12.03	13.24	11.90	13.18	13.28	13.72	13.00	11.76	12.69	
2	CoS 767	12.17	12.22	12.10	12.09	11.88	12.84	13.16	12.24	11.85	12.28	
3	CoS 8436	12.03	11.46	13.49	12.44	13.18	13.34	13.65	13.65	11.73	12.77	3
	Mean	11.77	11.89	13.08	12.21	12.79	12.80	13.27	13.05	11.76	12.51	
	SE(m)	0.11		0.16	0.39	0.28		0.20	0.17	0.13		
	CD at 5%	0.32	0.37	0.49	0.84	0.60	0.73	0.61	0.37	0.39		
	CV	1.57	1.79	2.16	6.92	2.73	3.30	2.66	2.31	2.04		
Top three entries showing >5 % improvement over the best standard at each location												
Rank 1	No test entries showed 5 % and above improvement over the best standard											
Rank 2												
Rank 3												

No. of locations where an entry is showing >5 % improvement: No entries in the zone showed >5 % improvement for CCS % over the best standard CoS 8436.

Performance across locations: In this trial, although no entries showed >5 % improvement for CCS % over CoS 8436, the CCS % of CoS 12232 (12.87) and Co 12029 (12.85) were numerically higher than CoS 8436 (12.82).

Table 4.6.4 Sucrose % at harvest

Sl No	Entries	Faridkot	Kapurthala	Karnal	Kota	Lucknow	Muzaffar nagar	Pantnagar	Shahja hanpur	Sriganga nagar	Mean	Rank
1	Co 12029	17.62	16.78	20.11	17.90	18.98	19.37	19.69	19.11	17.31	18.54	2
2	CoH 12263	17.44	17.00	18.12	17.80	16.76	17.32	18.52	18.47	16.82	17.58	
3	CoLk 12205	15.96	16.13	19.22	17.50	18.12	18.44	18.52	18.35	16.55	17.64	
4	CoPant 12226	16.52	17.82	19.08	18.30	19.55	17.18	19.32	19.13	16.73	18.18	
5	CoPb 12211	16.00	17.10	17.38	17.70	18.35	18.30	18.44	18.65	17.12	17.67	
6	CoS 12232	17.00	18.15	19.03	17.80	18.84	19.27	19.98	19.34	17.86	18.57	1
	Standards											
1	CoPant 97222	17.41	17.79	18.77	17.40	18.83	19.23	19.97	18.76	17.12	18.36	
2	CoS 767	17.71	17.61	17.42	17.70	17.09	18.62	19.03	17.74	17.00	17.77	
3	CoS 8436	17.51	16.56	19.14	18.00	18.90	19.34	19.89	19.02	17.04	18.37	3
	Mean	17.02	17.22	18.73	17.79	18.38	18.55	19.26	18.83	17.06	18.07	
	SE(m)	0.13		0.22	0.32	0.41		0.28	0.23	0.19		
	CD at 5%	0.40	0.59	0.68	0.68	0.86	0.97	0.84	0.49	0.59		
	CV	1.37	1.97	2.07	3.84	2.71	3.49	2.52	2.11	1.88		
Top three entries showing >5 % improvement over the best standard at each location												
Rank 1	No test entries showed 5 % and above improvement over the best standard											
Rank 2												
Rank 3												

No. of locations where an entry is showing >5 % improvement: No entries showed >5 % improvement over the best standard for sucrose % at any of the Centre.

Performance across locations: Although no entries showed >5 % improvement for sucrose % over the best standard CoS 8436, the sucrose % of CoS 12232 (18.57) and Co 12029 (18.54) were numerically higher than CoS 8436 (18.52).

Table 4.6.5 Brix % at harvest

Sl No	Entries	Faridkot	Kapurthala	Karnal	Kota	Lucknow	Muzaffar nagar	Pantnagar	Shahjahanpur	Sriganga nagar	Mean
1	Co 12029	20.00	18.50	22.18	20.63	21.07	22.10	22.33	21.45	19.51	20.86
2	CoH 12263	19.83	18.93	20.36	20.33	19.22	19.50	21.13	20.87	19.22	19.93
3	CoLk 12205	18.00	18.60	21.25	20.54	20.65	20.87	21.00	20.78	18.87	20.06
4	CoPant 12226	18.67	19.97	21.19	21.34	21.66	19.64	22.07	21.48	18.98	20.56
5	CoPb 12211	18.00	20.03	19.61	19.70	20.49	20.67	21.00	21.04	19.81	20.04
6	CoS 12232	19.00	20.23	20.67	20.78	20.84	21.97	22.87	21.67	20.38	20.93
	Standards										
1	CoPant 97222	19.33	21.07	20.35	20.30	20.74	21.90	22.90	21.14	19.64	20.82
2	CoS 767	20.33	19.80	19.53	20.56	19.13	21.17	21.53	20.19	18.93	20.13
3	CoS 8436	20.10	18.70	21.38	20.40	21.02	22.44	22.87	22.27	19.47	20.96
	Mean	19.25	19.54	20.77	20.51	20.54	21.14	21.96	21.21	19.42	20.48
	SE (m)	0.15		0.28	0.48	0.47		0.31	0.21	0.20	
	CD at 5%	0.45	1.00	0.85	1.02	1.00	1.07	0.92	0.44	0.60	
	CV	1.34	2.95	2.34	5.01	2.80	2.29	2.44	1.69	1.87	

Table 4.6.6 Purity % at harvest

Sl No	Entries	Faridkot	Kapurthala	Karnal	Kota	Lucknow	Muzaffar nagar	Pantnagar	Shahjahanpur	Sriganga nagar	Mean
1	Co 12029	88.10	90.72	90.68	86.63	90.15	87.61	88.19	89.06	88.87	88.89
2	CoH 12263	87.94	89.78	88.99	87.87	88.40	87.27	87.62	88.48	87.64	88.22
3	CoLk 12205	88.69	86.76	90.45	85.48	88.39	88.31	88.20	88.33	87.91	88.06
4	CoPant 12226	88.50	89.26	90.07	86.42	90.30	87.47	87.56	89.06	88.12	88.53
5	CoPb 12211	88.91	85.39	88.63	90.17	89.55	88.51	87.80	88.63	86.42	88.22
6	CoS 12232	89.47	89.79	92.07	85.75	90.43	87.23	87.40	89.28	87.63	88.78
	Standards										
1	CoPant 97222	90.04	84.51	92.23	86.03	88.55	87.82	87.19	88.73	87.21	88.03
2	CoS 767	87.11	88.98	89.21	86.27	89.37	87.95	88.37	87.88	89.84	88.33
3	CoS 8436	87.14	88.53	91.26	88.28	89.96	87.49	86.97	89.43	87.56	88.51
	Mean	88.43	88.19	90.40	86.99	89.45	87.74	87.70	88.76	87.91	88.40
	SE(m)	0.76		1.03	0.85	0.65		0.24	0.43	0.39	
	CD at 5%	2.27	2.28	2.20	6.05	1.39	1.30	0.73	0.90	1.18	
	CV	10.00	1.50	8.50	6.96	8.48	6.94	3.70	6.75	6.65	

Table 4.6.7 Pol % in cane and Fibre % at harvest

SI No	Entries	Pol % in cane						Fibre % at harvest					
		Kapurthala	Karnal	Lucknow	Muzaffarnagar	Shahjahanpur	Mean	Kapurthala	Karnal	Lucknow	Muzaffarnagar	Shahjahanpur	Mean
1	Co 12029	13.96	15.62	14.65	13.92	14.05	14.44	11.29	12.31	12.83	13.97	14.96	13.07
2	CoH 12263	12.89	14.06	12.97	12.80	14.01	13.35	13.45	12.40	12.60	14.42	14.98	13.57
3	CoLk 12205	12.47	14.75	14.01	13.32	13.83	13.68	13.82	13.27	12.70	14.17	14.89	13.77
4	CoPant 12226	11.72	14.73	15.26	12.55	14.03	13.66	15.37	12.80	11.93	14.52	14.96	13.92
5	CoPb 12211	11.93	13.36	14.21	13.26	13.99	13.35	12.92	13.13	12.57	14.62	15.00	13.65
6	CoS 12232	14.07	14.71	14.44	13.88	14.07	14.23	13.92	12.67	13.37	14.55	15.10	13.92
	Standards												
1	CoPant 97222	14.88	14.39	14.56	13.81	13.93	14.31	16.29	13.33	12.67	14.05	14.82	14.23
2	CoS 767	12.33	13.37	13.03	13.42	13.71	13.17	12.71	13.27	13.80	14.13	15.09	13.80
3	CoS 8436	12.32	15.00	14.70	13.83	14.18	14.01	14.84	13.13	12.23	13.90	14.70	13.76
	Mean	12.95	14.44	14.20	13.42	13.98	13.80	13.85	12.92	12.74	14.26	14.94	13.73
	SE(m)		0.17	0.30					0.15	0.43			
	CD at 5%	1.19	0.51	0.63				1.82	0.45	0.92			
	CV	5.32	2.03	2.57				7.58	2.01	4.17			

Table 4.6.8 Juice extraction % at 12th month

Sl No	Entries	Faridkot	Kapurthala	Karnal	Kota	Lucknow	Muzaffar nagar	Pantnagar	Shahjahanpur	Sriganga nagar	Mean
1	Co 12029	52.86	56.54	45.90	39.57	54.25	53.89		54.88	48.71	50.83
2	CoH 12263	50.54	53.37	51.53	42.51	52.46	47.86		53.22	49.28	50.10
3	CoLk 12205	55.87	56.61	51.85	43.29	54.30	48.05		53.44	51.74	51.89
4	CoPant 12226	51.20	52.27	53.58	41.25	48.44	44.48		52.54	50.34	49.26
5	CoPb 12211	58.03	55.54	45.84	43.35	47.63	42.50		53.25	49.48	49.45
6	CoS 12232	53.24	58.23	56.20	44.36	50.97	48.28		53.19	52.70	52.15
	Standards										
1	CoPant 97222	60.73	54.30	52.29	42.63	55.36	47.51		52.52	50.26	51.95
2	CoS 767	58.22	54.33	44.29	45.49	50.61	49.45		53.14	50.19	50.72
3	CoS 8436	56.10	55.50	53.53	41.82	51.98	50.00		51.71	47.37	51.00
	Mean	55.20	55.19	50.34	42.70	51.78	48.00		53.10	50.01	50.79
	SE(m)	0.48		3.17	0.94	4.19			0.94	0.66	
	CD at 5%	1.42	NS	NS	2.00	NS			NS	1.99	
	CV	1.49	5.32	10.87	4.69	9.91			3.08	2.88	

Table 4.6.9 Brix % at 10th month

Sl No	Entries	Faridkot	Kapurthala	Karnal	Kota	Lucknow	Muzaffar nagar	Pantnagar	Shahjahanpur	Sriganga nagar	Mean
1	Co 12029	17.67	18.13	19.23	18.91	18.15	19.19	18.10	20.00	17.13	18.50
2	CoH 12263	15.67	17.40	19.48	19.37	16.44	17.88	19.23	19.36	16.98	17.98
3	CoLk 12205	15.33	16.67	19.14	19.44	17.89	17.72	19.07	19.22	16.20	17.85
4	CoPant 12226	16.33	17.63	18.45	18.11	18.10	18.52	19.00	20.05	16.46	18.07
5	CoPb 12211	13.67	16.90	17.82	19.47	15.07	18.92	18.00	19.44	17.24	17.39
6	CoS 12232	16.00	17.70	18.67	19.53	18.54	17.92	18.53	19.59	18.11	18.29
	Standards										
1	CoPant 97222	16.67	19.50	18.94	19.29	17.82	18.15	19.73	19.46	16.89	18.49
2	CoS 767	17.13	18.17	19.51	19.98	18.04	17.80	19.20	19.62	16.44	18.43
3	CoS 8436	17.00	17.33	20.09	19.21	18.32	18.88	18.83	20.49	17.04	18.58
	Mean	16.16	17.71	19.05	19.26	17.60	18.33	18.85	19.69	16.94	18.18
	SE (m)	0.25		0.30	0.14	0.75		0.44	0.15	0.23	
	CD at 5%	0.76	1.07	0.91	0.31	1.59	0.83	1.33	0.33	0.67	
	CV	2.71	3.50	2.75	1.64	5.24	2.63	4.10	1.36	2.18	

Table 4.6.10 Sucrose % at 10th month

Sl No	Entries	Faridkot	Kapurthala	Karnal	Kota	Lucknow	Muzaffar nagar	Pantnagar	Shahjahanpur	Sriganganagar	Mean
1	Co 12029	15.34	16.20	17.02	16.46	15.57	16.60	15.27	17.50	14.76	16.08
2	CoH 12263	13.44	15.57	17.40	17.16	13.83	15.28	16.49	16.80	14.44	15.60
3	CoLk 12205	13.34	14.46	17.41	16.82	14.83	15.05	16.18	16.65	13.92	15.41
4	CoPant 12226	14.31	15.57	16.61	15.98	15.54	16.03	16.26	17.56	14.15	15.78
5	CoPb 12211	11.63	15.54	15.44	16.82	12.27	16.38	15.28	16.89	14.49	14.97
6	CoS 12232	14.25	16.34	17.15	17.08	15.82	15.41	15.81	17.06	15.44	16.04
	Standards										
1	CoPant 97222	14.85	17.55	16.71	17.41	15.44	15.53	16.92	16.90	14.35	16.18
2	CoS 767	14.83	16.66	17.18	17.36	14.84	15.27	16.48	17.10	14.32	16.00
3	CoS 8436	14.78	15.76	17.32	16.83	15.84	16.33	16.03	18.02	14.60	16.17
	Mean	14.09	15.96	16.94	16.88	14.89	15.76	16.07	17.16	14.50	15.81
	SE(m)	0.20		0.23	1.22	0.83		0.50	0.17	0.21	
	CD at 5%	0.59	1.19	0.71	0.25	1.76	0.80	1.50	0.36	0.62	
	CV	2.41	4.31	2.39	1.53	6.85	2.95	5.40	1.70	1.98	

Table 4.6.11 Purity % at 10th month

Sl No	Entries	Faridkot	Kapurthala	Karnal	Kota	Lucknow	Muzaffar nagar	Pantnagar	Shahjahanpur	Sriganga nagar	Mean
1	Co 12029	86.82	89.29	88.49	87.05	90.15	86.51	85.02	87.50	86.21	87.45
2	CoH 12263	85.81	89.34	89.32	88.61	88.40	85.47	85.74	86.76	85.08	87.17
3	CoLk 12205	87.02	86.77	91.00	86.56	88.39	84.91	84.83	86.59	85.93	86.89
4	CoPant 12226	87.61	88.30	90.03	88.25	90.30	86.52	85.52	87.56	86.02	87.79
5	CoPb 12211	85.14	91.94	86.65	86.41	89.55	86.59	84.85	86.87	84.10	86.90
6	CoS 12232	89.08	92.31	92.03	87.49	90.43	86.01	85.31	87.05	85.26	88.33
	Standards										
1	CoPant 97222	89.13	89.99	88.22	90.25	88.55	85.54	85.74	86.85	84.96	87.69
2	CoS 767	86.56	91.71	88.15	86.89	89.37	85.75	85.83	87.12	87.13	87.61
3	CoS 8436	86.94	90.93	86.21	87.65	89.96	86.47	85.06	87.98	85.71	87.43
	Mean	87.12	90.06	88.99	87.68	89.45	85.97	85.32	87.14	85.60	87.48
	SE(m)	0.33		1.43	0.67	0.48		0.84	0.17	0.61	
	CD at 5%	1.00	NS	NS	1.43	1.03	1.06	2.53	0.36	1.84	
	CV	0.66	2.21	2.78	1.63	0.66	0.71	1.71	0.34	1.57	

Table 4.6.12 CCS % at 10th month

Sl No	Entries	Faridkot	Kapurthala	Karnal	Kota	Lucknow	Muzaffar nagar	Pantnagar	Shahjahanpur	Sriganga nagar	Mean
1	Co 12029	10.52	11.26	11.77	11.30	10.61	11.35	10.32	12.05	10.08	11.03
2	CoH 12263	9.16	10.83	12.09	11.88	9.33	10.39	11.24	11.52	9.80	10.69
3	CoLk 12205	9.16	9.91	12.21	11.52	9.93	10.20	10.97	11.40	9.50	10.53
4	CoPant 12226	9.85	10.76	11.59	11.05	10.59	10.96	11.00	12.09	9.65	10.84
5	CoPb 12211	7.90	10.95	10.58	11.51	8.14	11.22	10.36	11.58	9.77	10.22
6	CoS 12232	9.89	11.53	12.07	11.76	10.75	10.51	10.75	11.75	10.49	11.06
Standards											
1	CoPant 97222	10.31	12.24	11.55	12.16	10.58	10.56	11.53	11.59	9.71	11.14
2	CoS 767	10.15	11.72	11.87	11.91	9.90	10.40	11.24	11.74	9.83	10.97
3	CoS 8436	10.14	11.05	11.83	11.59	10.84	11.17	10.88	12.43	9.94	11.10
	Mean	9.68	11.14	11.75	11.63	10.07	10.75	10.92	11.79	9.86	10.84
	SE(m)	0.13		0.22	0.11	0.65		0.39	0.13	0.16	
	CD at 5%	0.39	0.96	0.66	0.23	1.39	0.58	1.19	0.27	0.47	
	CV	2.32	4.96	3.21	2.02	7.95	3.13	6.31	1.87	2.16	

Table 4.6.13 NMC at harvest ('000/ha)

Sl No	Entries	Faridkot	Kapurthala	Karnal	Kota	Lucknow	Muzaffar nagar	Pantnagar	Shahjahanpur	Sriganga nagar	Mean
1	Co 12029	104.32	94.84	116.67	81.03	98.10	102.34	67.32	114.81	94.26	97.08
2	CoH 12263	98.77	84.08	94.06	82.70	92.16	106.79	59.17	87.16	104.29	89.91
3	CoLk 12205	119.91	90.81	116.51	76.09	102.62	115.43	54.17	114.57	98.98	98.79
4	CoPant 12226	91.51	90.28	109.03	80.83	96.40	111.35	77.69	105.31	108.26	96.74
5	CoPb 12211	108.64	80.30	88.97	75.19	96.80	101.60	57.96	94.07	80.59	87.12
6	CoS 12232	118.67	94.58	115.05	80.62	96.86	106.17	55.37	106.54	96.87	96.75
	Standards										
1	CoPant 97222	100.00	92.74	104.24	80.64	99.79	105.55	53.52	107.16	89.21	92.54
2	CoS 767	108.95	87.12	93.06	81.17	106.46	109.87	68.80	104.20	101.14	95.64
3	CoS 8436	114.81	77.37	91.59	76.77	91.17	90.12	48.80	81.48	94.16	85.14
	Mean	107.29	88.01	103.12	79.45	97.82	105.47	60.30	101.70	96.42	93.29
	SE(m)	3.00		2.64	1.37	3.74		1.67	4.14	3.29	
	CD at 5%	9.00	10.14	7.97	2.92	7.94	10.37	5.02	8.79	9.88	
	CV	4.85	6.66	4.42	3.68	4.69	5.68	4.81	7.06	8.48	

Table 4.6.14 Stalk length (cm)

Sl No	Entries	Faridkot	Kapurthala	Karnal	Kota	Lucknow	Muzaffar nagar	Pantnagar	Shahjahanpur	Sriganga nagar	Mean
1	Co 12029	254.78	248.40	253.00	242.00	214.07	202.00	252.00	226.67	215.74	234.30
2	CoH 12263	245.00	280.00	230.00	243.00	242.67	273.00	210.00	213.67	202.26	237.73
3	CoLk 12205	297.78	270.20	250.00	286.00	265.67	287.00	225.00	255.67	198.55	259.54
4	CoPant 12226	281.44	254.80	282.00	294.00	214.67	263.00	300.00	249.00	208.17	260.79
5	CoPb 12211	281.66	286.60	260.00	255.00	248.00	260.00	206.00	211.00	195.64	244.88
6	CoS 12232	277.55	261.50	300.00	242.00	260.33	294.00	242.00	252.33	220.36	261.12
	Standards										
1	CoPant 97222	243.33	268.20	263.00	245.00	247.00	221.00	240.00	198.33	209.29	237.24
2	CoS 767	230.33	250.20	263.00	241.00	239.00	265.00	225.00	237.67	210.22	240.16
3	CoS 8436	193.33	211.70	200.00	261.00	167.00	182.00	164.00	172.33	191.57	193.66
	Mean	256.13	259.07	255.00	230.90	233.16	224.70	229.00	224.07	205.76	235.31
	SE(m)	5.76		12.00	8.00	20.00		7.00	7.76	4.15	
	CD at 5%	17.26	27.70	36.00	17.00	42.07	27.00	23.00	16.46	12.47	
	CV	3.89	6.20	8.13	6.90	10.42	6.15	5.88	6.00	7.14	

Table 4.6.15 Stalk diameter (cm)

Sl No	Entries	Faridkot	Kapurthala	Karnal	Kota	Lucknow	Muzaffar nagar	Pantnagar	Shahjahanpur	Sriganga nagar	Mean
1	Co 12029	2.71	2.13	2.37	2.15	2.63	2.43	2.69	2.43	2.39	2.44
2	CoH 12263	2.95	2.48	2.54	2.32	2.76	2.46	2.49	2.39	2.47	2.54
3	CoLk 12205	2.46	2.18	2.23	2.35	2.53	2.39	2.19	2.31	2.28	2.32
4	CoPant 12226	2.99	2.28	2.50	2.01	2.60	2.18	2.48	2.47	2.41	2.44
5	CoPb 12211	2.64	2.15	2.19	2.28	2.43	2.12	2.13	2.17	2.31	2.27
6	CoS 12232	2.46	2.31	2.52	2.25	2.45	2.31	2.40	2.42	2.29	2.38
	Standards										
1	CoPant 97222	2.81	2.01	2.51	1.92	2.56	2.15	2.71	2.19	2.40	2.36
2	CoS 767	2.68	1.98	2.08	2.29	2.54	2.13	2.27	2.25	2.28	2.28
3	CoS 8436	2.71	2.01	2.44	2.17	2.77	2.57	2.67	2.49	2.38	2.47
	Mean	2.71	2.17	2.36	2.19	2.59	2.30	2.44	2.35	2.36	2.39
	SE(m)	0.09		12.32	0.06	0.10		0.07	0.06	0.04	
	CD at 5%	0.26	NS	NS	0.02	0.22	1.32	0.22	0.12	0.12	
	CV	5.45	9.13	8.97	5.83	4.94	3.69	5.36	4.26	3.84	

Table 4.6.16 Single cane weight (kg)

Sl No	Entries	Faridkot	Kapurthala	Karnal	Kota	Lucknow	Muzaffar nagar	Pantnagar	Shahjahanpur	Sriganga nagar	Mean
1	Co 12029	1.26	1.22	1.30	0.96	0.79	0.98	1.72	1.07	1.08	1.15
2	CoH 12263	1.14	1.68	1.05	1.04	0.88	0.87	1.23	0.70	0.91	1.06
3	CoLk 12205	1.06	1.40	0.91	0.91	0.86	0.75	1.09	0.91	0.81	0.97
4	CoPant 12226	1.61	1.19	1.12	1.05	0.79	0.99	1.80	0.94	1.01	1.17
5	CoPb 12211	1.25	1.33	0.89	0.97	0.66	0.84	0.95	0.86	0.92	0.96
6	CoS 12232	1.10	1.13	1.29	0.98	0.75	0.99	1.43	0.98	0.88	1.06
	Standards										
1	CoPant 97222	1.18	1.11	1.22	0.95	0.79	0.68	1.50	0.91	0.97	1.03
2	CoS 767	0.98	1.05	0.86	0.84	0.68	0.78	1.14	0.77	0.91	0.89
3	CoS 8436	0.89	0.96	1.05	0.92	0.61	0.81	1.15	0.83	0.81	0.89
	Mean	1.16	1.23	1.06	0.96	0.76	0.85	1.33	0.88	0.92	1.02
	SE(m)	0.09	-	0.03	0.02	0.04	-	0.05	0.04	0.04	
	CD at 5%	0.26	0.39	0.10	0.04	0.08	0.07	0.15	0.08	0.14	
	CV	13.14	18.13	5.47	4.56	6.25	4.18	6.63	7.70	6.07	

Table 4.6.17 Number of tillers at 120 days ('000/ha)

Sl No	Entries	Faridkot	Kapurthala	Karnal	Kota	Lucknow	Muzaffar nagar	Pantnagar	Shahjahanpur	Sriganga nagar	Mean
1	Co 12029	125.62	143.22	146.91	114.67	162.95	153.95	92.22	194.81	145.84	142.24
2	CoH 12263	125.93	113.67	118.21	117.00	158.05	160.61	85.65	217.65	163.29	140.01
3	CoLk 12205	135.96	122.93	154.32	112.33	158.51	187.16	101.48	215.19	152.78	148.96
4	CoPant 12226	121.91	127.71	142.44	115.67	158.36	180.86	157.69	213.21	161.46	153.26
5	CoPb 12211	127.78	108.27	112.35	116.67	169.07	144.93	102.04	178.77	130.73	132.29
6	CoS 12232	149.07	144.38	142.90	112.67	175.08	186.05	85.37	201.23	140.11	148.54
	Standards										
1	CoPant 97222	110.19	125.86	111.81	109.00	143.79	125.67	93.70	190.00	139.84	127.76
2	CoS 767	141.67	145.92	123.69	113.67	179.47	177.90	119.63	208.77	151.56	151.36
3	CoS 8436	123.46	98.79	118.36	112.67	137.32	152.22	84.26	198.64	144.72	130.05
	Mean	129.06	125.64	132.40	113.82	160.29	163.26	102.45	202.03	147.81	141.86
	SE(m)	3.49		5.86	1.74	9.17		2.05	7.88	5.27	
	CD at 5%	10.46	27.93	17.73	3.69	19.45	11.86	6.16	16.71	15.81	
	CV	4.68	12.85	7.80	3.24	7.01	4.20	3.47	6.76	6.58	

Table 4.6.18 Germination % at 45 days

Sl No	Entries	Faridkot	Kapurthala	Karnal	Kota	Lucknow	Muzaffar nagar	Pantnagar	Shahjahanpur	Sriganga nagar	Mean
1	Co 12029	46.04	57.48	69.32	45.12	44.10	59.17	39.51	50.93	40.74	50.27
2	CoH 12263	50.67	51.34	61.28	41.89	47.73	49.63	34.65	47.59	34.26	46.56
3	CoLk 12205	42.70	48.91	56.01	41.58	34.98	48.15	33.89	48.70	32.36	43.03
4	CoPant 12226	37.94	47.70	57.16	42.10	32.01	48.51	41.18	53.80	36.29	44.08
5	CoPb 12211	36.65	47.64	45.83	41.78	31.86	53.61	40.14	47.13	31.45	41.79
6	CoS 12232	39.35	42.78	57.23	44.77	35.90	42.78	33.61	51.76	37.33	42.83
Standards											
1	CoPant 97222	35.37	44.55	40.78	41.91	28.58	35.37	33.54	46.85	34.22	37.91
2	CoS 767	36.14	44.86	51.44	44.76	38.50	44.26	36.60	48.06	36.68	42.37
3	CoS 8436	46.68	43.37	43.51	44.09	38.06	43.05	34.45	43.24	31.34	40.87
	Mean	41.28	47.63	55.22	43.11	36.86	47.17	36.39	48.67	34.96	43.48
	SE(m)	1.31		2.57	0.97	3.19		1.12	1.47	1.33	
	CD at 5%	3.93	6.24	7.76	2.05	6.76	7.10	3.37	3.13	3.99	
	CV	5.51	7.58	8.30	4.77	10.59	8.71	5.35	5.25	6.68	

Table 4.6.19 Assessment of performance of entries by monitoring team

S. No	Entries	Lucknow	Shahjahanpur	Pantnagar	Muzzaffarnagar	Karnal	Uchani	Kapurthala	Faridkot	Sriganganagar	Kota
1	Co 12029	On par	Better	Better	Better	Better	Not allotted	Better	On par	Better	On par
2	CoH 12263	On par	Good	Poor	Good	Good		Good	Good	On par	Better
3	CoLk 12205	Better	Better	Poor	Good	On par		Good	Better	Good	Better
4	CoPant 12226	Better	Better	Better	Better	Better		On par	Better	Good	Better
5	CoPb 12211	On par	Poor	Poor	Good	Good		Better	Good	On par	Good
6	CoS 12232	Better	Poor	On par	On par	On par		Good	On par	On par	Good
Standards											
1	CoS 767	Best	Best	Good	Good	Good		Best	Good	Good	Poor
2	CoS 8436	Good	Good	Good	Best	Good		Good	Good	Good	Good
3	CoPant 97222	good	Good	Best	Poor	Best		poor	Best	Best	Best

4.7 ADVANCED VARIETAL TRIAL (MIDLATE) – RATOON

Centres (9)	Faridkot, Kapurthala, Karnal, Kota*, Lucknow, Muzaffarnagar, Pantnagar, Shahjahanpur and Sriganagar.
Entries (6)	Co 12029, CoH 12263, CoLk 12205, CoPant 12226, CoPb 12211 and CoS 12232
Standards (3)	CoPant 97222, CoS 767 and CoS 8436
Design	RBD
Replications	3
Plot size	Gross : 8 Rows x 6 m x 0.75 m Net : 6 Rows x 5 m x 0.75 m
Month of Ratooning	February / March, 2017
Crop duration	11 months

*Kota centre did not conduct ratoon trial.

Results of the previous year

These clones were under evaluation in AVT-I Plant. In the AVT (ML)-I plant, two entries namely, CoPant 12226 (99.07 t/ha) and Co 12029 (94.21 t/ha) showed >10 % improvement for cane yield over the best standard CoPant 97222 (82.27 t/ha) in the zone. These two entries also showed >10% improvement for CCS yield (CoPant 12226: 12.60 t/ha and Co 12029: 11.84 t/ha) over the best standard CoPant 97222 (10.37 t/ha). The highest CCS % (13.04) and the highest sucrose % (18.75) at harvest was recorded by the standard CoS 8436. None of the test clones recorded >5 % improvement over in CCS % or sucrose % over the best standard in the zone.

Results of the current year

In the ratoon trial, three entries which recorded more than 10 % improvement for cane yield in the zone over the best standard CoPant 97222 (73.89 t/ha) were CoPant 12226 (90.08 t/ha), Co 12029 (89.38 t/ha) and CoS 12232 (83.81 t/ha). These entries also recorded more than 10 % improvement for CCS yield over the best standard CoPant 97222 (8.81 t/ha). The CCS yield of these entries were Co 12029 (11.01 t/ha), CoPant 12226 (10.59 t/ha) and CoS 12232 (10.23 t/ha). None of the test entries showed >5 % improvement for sucrose % over the best standard CoS 8436 (17.25) in the zone although two test entries CoS 12232 (17.57) and Co 12029 (17.56) recorded numerically higher sucrose % than CoS 8436. Similarly, none of the test entries showed >5 % improvement for CCS % over the best standard CoS 8436 (11.92) in the zone. However, the entries Co 12029 (12.21) and CoS 12232 (12.10) recorded numerically higher CCS % than CoS 8436. As per the criteria, Co 12029 and CoS 12232 were chosen as qualifying entries as they showed >10 % improvement for cane yield and numerically higher sucrose % over the best standard. Further details are presented in Tables 4.7.1 to 4.7.14.

Table 4.7.1 CCS yield (t/ha) at harvest

SI No	Entries	Faridkot	Kapurthala	Karnal	Lucknow	Muzaffarnagar	Pantnagar	Shahjahanpur	Sriganganagar	Mean	Rank
1	Co 12029	11.81	8.63	20.38	7.67	8.83	7.73	10.10	12.91	11.01	1
2	CoH 12263	5.61	7.06	5.55	6.24	6.63	8.20	8.36	8.86	7.06	
3	CoLk 12205	9.00	6.58	9.34	8.19	5.83	9.76	8.82	12.40	8.74	
4	CoPant 12226	11.96	7.22	16.21	8.42	6.81	15.10	9.99	8.98	10.59	2
5	CoPb 12211	10.83	5.30	11.05	7.42	7.59	7.46	8.59	6.90	8.14	
6	CoS 12232	12.65	6.51	18.19	7.15	9.23	7.37	10.06	10.66	10.23	3
	Standards										
1	CoPant 97222	11.39	6.08	10.73	7.88	5.13	10.40	8.68	10.17	8.81	
2	CoS 767	10.16	5.70	13.50	7.21	6.35	8.89	8.38	10.04	8.78	
3	CoS 8436	5.44	5.71	8.31	6.37	6.17	7.85	7.82	8.81	7.06	
	Mean	9.87	6.53	12.59	7.39	6.96	9.19	8.99	9.97	8.94	
	SE (m)	0.68	-	0.61	0.55	0.45	0.27	0.29	0.63	0.50	
	CD at 5%	2.05	1.20	1.85	1.16	0.10	0.81	0.61	1.87	1.21	
	CV	12.01	10.64	8.45	9.05	8.06	5.14	5.51	7.46	8.29	
Top three entries showing >10 % improvement over the best standard at each location											
Rank 1		CoS 12232	Co 12029	Co 12029		CoS 12232	CoPant 12226	Co 12029	Co 12029	Co 12029	
Rank 2			CoPant 12226	CoS 12232		Co 12029		CoS 12232	CoLk 12205	CoPant 12226	
Rank 3			CoH 12263	CoPant 12226		CoPb 12211		CoPant 12226		CoS 12232	

No. of locations where an entry is showing >10 % improvement: Co 12029 (5), CoPant 12226 (4), CoS 12232 (4), CoH 12263 (1), CoLk 12205 (1) and CoPb 12211 (1).

Performance of the entries across locations: Three entries which recorded >10 % improvement for CCS yield over the best standard CoPant 97222 (8.81 t/ha) were Co 12029 (11.01 t/ha), CoPant 12226 (10.59 t/ha) and CoS 12232 (10.23 t/ha).

Table 4.7.2 Cane yield (t/ha) at harvest

Sl No	Entries	Faridkot	Kapurthala	Karnal	Lucknow	Muzaffar nagar	Pantnagar	Shahjahan pur	Sriganga nagar	Mean	Rank
1	Co 12029	101.11	72.09	144.85	66.12	78.76	60.09	78.52	113.47	89.38	2
2	CoH 12263	51.48	66.72	42.31	62.48	56.30	67.41	66.42	78.29	61.43	
3	CoLk 12205	92.96	69.72	68.45	73.14	50.62	78.15	75.80	108.61	77.18	
4	CoPant 12226	112.59	68.94	134.76	69.31	62.84	116.85	77.78	77.55	90.08	1
5	CoPb 12211	111.85	66.14	90.72	69.35	68.52	59.82	68.15	64.72	74.91	
6	CoS 12232	114.44	60.44	133.83	57.78	79.51	57.50	76.17	90.84	83.81	3
	Standards										
1	CoPant 97222	106.30	56.22	79.41	67.53	46.91	80.56	68.02	86.18	73.89	
2	CoS 767	89.26	51.75	102.21	68.30	59.14	71.85	68.40	92.36	75.41	
3	CoS 8436	47.41	54.28	60.44	56.96	55.80	59.54	59.63	79.28	59.17	
	Mean	91.93	62.92	95.22	65.66	62.04	72.41	70.99	87.92	76.14	
	SE(m)	6.18	-	4.40	3.73	3.30	1.55	2.13	3.44	3.53	
	CD at 5%	18.54	3.10	13.31	7.90	7.01	4.67	4.51	10.34	8.67	
	CV	11.65	2.85	8.01	6.95	6.53	3.72	5.19	9.42	6.79	
Top three entries showing >10 % improvement over the best standard at each location											
Rank 1			Co 12029	Co 12029		CoS 12232	CoPant 12226	Co 12029	Co 12029	CoPant 12226	
Rank 2			CoLk 12205	CoPant 12226		Co 12029		CoPant 12226	CoLk 12205	Co 12029	
Rank 3			CoPant 12226	CoS 12232		CoPb 12211		CoS 12232	CoS 12232	CoS 12232	

No. of locations where an entry is showing >10 % improvement: Co 12029 (5), CoPant 12226 (4), CoS 12232 (4), CoLk 12205 (2) and CoPb 12211 (1).

Performance of the entries across locations: Three entries recorded >10 % improvement for cane yield over the best standard CoPant 97222 (73.89 t/ha). They were CoPant 12226 (90.08 t/ha), Co 12029 (89.38 t/ha) and CoS 12232 (83.81 t/ha).

Table 4.7.3 CCS % at harvest

Sl No	Entries	Faridkot	Kapurthala	Karnal	Lucknow	Muzaffar nagar	Pantnagar	Shahjahan pur	Sriganga nagar	Mean	Rank
1	Co 12029	11.69	11.97	14.07	11.62	11.22	12.86	12.86	11.38	12.21	1
2	CoH 12263	10.91	10.55	13.11	10.00	11.78	12.17	12.58	11.32	11.55	
3	CoLk 12205	9.65	9.44	13.62	11.19	11.53	12.49	11.64	11.42	11.37	
4	CoPant 12226	10.62	10.44	12.03	12.17	10.85	12.92	12.84	11.58	11.68	
5	CoPb 12211	9.68	8.02	12.18	10.69	11.08	12.46	12.75	10.66	10.94	
6	CoS 12232	11.05	10.79	13.60	12.39	11.61	12.80	12.83	11.74	12.10	2
	Standards										
1	CoPant 97222	10.72	10.81	13.53	11.62	10.95	12.92	12.76	11.80	11.89	
2	CoS 767	11.38	11.06	13.22	10.54	10.75	12.37	12.26	10.87	11.56	
3	CoS 8436	11.48	10.49	13.76	11.18	11.06	13.18	13.10	11.11	11.92	3
	Mean	10.80	10.40	13.23	11.27	11.20	12.68	12.62	11.32	11.69	
	SE(m)	0.12	-	0.21	0.57	0.29	0.21	0.13	0.14	0.24	
	CD AT 5%	0.37	1.61	0.65	1.20	0.62	0.62	0.28	0.42	0.72	
	CV	1.99	8.95	2.79	6.17	3.19	2.81	1.83	1.98	3.71	
Top three entries showing >5 % improvement over the best standard at each location											
Rank 1			Co 12029			CoS 12232	CoH 12263			CoS 12232	
Rank 2							CoS 12232				
Rank 3											

No. of locations where an entry is showing >5 % improvement: CoS 12232 (3), Co 12029 (1) and CoH 12263 (1).

Performance of the entries across locations: None of the test entries showed >5 % improvement for CCS % over the best standard CoS 8436 (11.92). However, the entries Co 12029 (12.21) and CoS 12232 (12.10) recorded numerically higher CCS % than CoS 8436.

Table 4.7.4 Sucrose % at harvest

Sl No	Entries	Faridkot	Kapurthala	Karnal	Lucknow	Muzaffar nagar	Pantnagar	Shahjahan pur	Sriganga nagar	Mean	Rank
1	Co 12029	16.68	17.23	19.93	16.69	16.31	18.60	18.57	16.43	17.56	2
2	CoH 12263	15.65	15.49	18.54	14.75	17.09	17.69	18.22	16.67	16.76	
3	CoLk 12205	13.82	14.16	19.38	16.15	16.92	18.08	16.96	17.02	16.56	
4	CoPant 12226	15.25	15.10	17.36	17.46	15.91	18.67	18.55	16.83	16.89	
5	CoPb 12211	13.94	12.18	17.56	15.60	15.95	18.08	18.42	15.76	15.94	
6	CoS 12232	15.76	15.68	19.42	17.78	16.88	18.52	18.97	17.58	17.57	1
	Standards										
1	CoPant 97222	15.34	15.77	19.12	16.77	16.07	18.67	17.91	17.36	17.13	
2	CoS 767	16.47	16.13	18.71	15.45	15.70	17.93	17.77	16.19	16.79	
3	CoS 8436	16.38	15.26	19.54	16.14	16.12	19.16	18.78	16.65	17.25	3
	Mean	15.48	15.22	18.84	16.31	16.33	18.38	18.24	16.72	16.94	
	SE(m)	0.19	-	0.29	0.74	0.38	0.26	0.25	0.22	0.33	
	CD at 5%	0.56	2.03	0.88	1.56	0.80	0.77	0.52	0.64	0.97	
	CV	2.09	7.71	2.68	5.52	2.83	2.42	2.33	2.22	3.48	
Top three entries showing >5 % improvement over the best standard at each location											
Rank 1			Co 12029			CoS 12232				CoS 12232	
Rank 2											
Rank 3											

No. of locations where an entry is showing >5 % improvement: CoS 12232 (2), Co 12029 (1) and CoH 12263 (1).

Performance of the entries across locations: None of the test entries showed >5 % improvement for sucrose % over the best standard CoS 8436 (17.25). However, the entries CoS 12232 (17.57) and Co 12029 (17.56) recorded numerically higher sucrose % than CoS 8436.

Table 4.7.5 Brix % at harvest

Sl No	Entries	Faridkot	Kapurthala	Karnal	Lucknow	Muzaffar nagar	Pantnagar	Shahjahan pur	Sriganga nagar	Mean
1	Co 12029	18.33	19.33	21.59	18.63	18.65	21.07	20.98	18.54	19.64
2	CoH 12263	17.40	18.09	20.00	17.37	19.45	20.27	20.66	19.57	19.10
3	CoLk 12205	15.33	17.21	21.19	18.20	19.51	20.50	19.50	20.48	18.99
4	CoPant 12226	17.00	17.11	19.56	19.45	18.55	21.10	20.95	19.24	19.12
5	CoPb 12211	15.67	15.17	19.77	18.01	19.05	20.63	20.84	18.64	18.47
6	CoS 12232	17.33	17.94	21.41	19.78	19.35	21.00	21.32	21.31	19.93
	Standards									
1	CoPant 97222	17.00	18.16	20.61	18.92	18.75	21.10	20.83	20.34	19.46
2	CoS 767	18.67	18.58	20.23	17.97	18.15	20.40	20.23	19.43	19.21
3	CoS 8436	18.00	17.47	21.26	18.20	18.55	21.93	21.26	20.24	19.61
	Mean	17.19	17.67	20.63	18.50	18.89	20.89	20.73	19.75	19.28
	SE(m)	0.24	-	0.34	0.68	0.39	0.22	0.16	0.32	
	CD at 5%	0.73	1.65	1.04	ns	0.84	0.66	0.33	0.96	
	CV	2.46	5.39	2.89	4.48	2.56	1.82	1.33	2.49	

Table 4.7.6 Purity % at harvest

Sl No	Entries	Faridkot	Kapurthala	Karnal	Lucknow	Muzaffar nagar	Pantnagar	Shahjahan pur	Sriganga nagar	Mean
1	Co 12029	90.99	89.29	92.31	89.57	87.44	88.30	88.51	88.62	89.38
2	CoH 12263	89.93	85.59	92.73	84.72	87.86	87.30	88.18	85.18	87.69
3	CoLk 12205	90.15	82.20	91.45	88.75	86.69	88.19	86.97	83.14	87.19
4	CoPant 12226	89.73	88.12	88.82	89.78	85.79	88.20	88.55	87.47	88.31
5	CoPb 12211	89.02	80.25	88.83	86.63	85.51	87.63	88.42	84.55	86.36
6	CoS 12232	90.94	87.34	90.69	89.64	87.27	88.17	88.99	82.50	88.19
	Standards									
1	CoPant 97222	90.25	86.82	92.81	88.64	85.72	88.46	88.49	85.36	88.32
2	CoS 767	88.22	86.75	92.49	86.03	86.51	87.91	87.85	83.32	87.38
3	CoS 8436	91.00	87.30	91.91	88.49	86.90	87.36	88.85	82.29	88.01
	Mean	90.03	85.96	91.34	88.03	86.63	87.95	88.31	84.71	87.87
	SE(m)	0.39	-	0.71	1.42	0.77	0.53	0.17	0.67	
	CD at 5%	1.16	3.84	2.14	3.01	NS	1.59	0.37	2.01	
	CV	0.74	2.58	1.34	1.98	1.09	1.04	0.34	1.39	

Table 4.7.7 Pol % in cane

Sl No	Entries	Faridkot	Kapurthala	Karnal	Lucknow	Muzaffar nagar	Pantnagar	Shahjahan pur	Sriganga nagar	Mean
1	Co 12029		14.83	15.45	12.87	12.10		14.38		13.93
2	CoH 12263		14.07	14.50	11.43	12.54		13.87		13.28
3	CoLk 12205		12.32	14.94	12.40	12.42		13.29		13.07
4	CoPant 12226		12.68	13.42	13.36	11.56		14.01		13.01
5	CoPb 12211		10.54	13.52	12.10	11.75		14.08		12.40
6	CoS 12232		14.10	15.01	13.67	12.47		14.64		13.98
	Standards									
1	CoPant 97222		12.64	14.60	12.88	12.02		13.93		13.21
2	CoS 767		13.57	14.42	11.81	11.93		13.76		13.10
3	CoS 8436		13.19	14.99	12.47	12.05		14.11		13.36
	Mean		13.10	14.54	12.55	12.09		14.01		13.26
	SE(m)		-	0.23	0.57	-		-		
	CD at 5%		1.12	0.69	1.21	-		-		
	CV		4.96	2.71	5.58	-		-		

Table 4.7.8 Fibre % at harvest

Sl No	Entries	Faridkot	Kapurthala	Karnal	Lucknow	Muzaffar nagar	Pantnagar	Shahjahan pur	Sriganga nagar	Mean
1	Co 12029		12.58	12.50	12.88	13.82		14.16		13.19
2	CoH 12263		13.96	11.83	12.51	13.90		14.22		13.28
3	CoLk 12205		13.48	12.90	13.25	14.11		14.12		13.57
4	CoPant 12226		12.67	12.70	13.52	13.82		14.10		13.36
5	CoPb 12211		12.31	13.03	12.41	14.10		14.26		13.22
6	CoS 12232		12.46	12.70	13.11	13.92		14.19		13.28
	Standards									
1	CoPant 97222		13.85	13.63	13.26	13.96		14.96		13.93
2	CoS 767		11.92	12.94	13.56	13.95		14.31		13.34
3	CoS 8436		13.00	13.30	12.72	13.66		13.96		13.33
	Mean		12.91	12.84	13.03	13.92		14.25		13.39
	SE(m)		-	0.07	0.46	-		-		
	CD at 5%		1.03	0.21	NS	-		-		
	CV		4.61	0.92	4.34	-		-		

Table 4.7.9 Juice extraction % at 12th month

Sl No	Entries	Faridkot	Kapurthala	Karnal	Lucknow	Muzaffar nagar	Pantnagar	Shahjahan pur	Sriganga nagar	Mean
1	Co 12029	56.19	55.10	63.59	54.05	49.43		55.56	47.24	54.45
2	CoH 12263	53.72	51.93	63.69	55.48	50.13		53.50	49.72	54.02
3	CoLk 12205	59.55	55.18	58.02	54.66	48.22		54.27	48.64	54.08
4	CoPant 12226	53.25	50.83	58.99	50.03	49.26		52.64	52.18	52.45
5	CoPb 12211	60.08	54.10	54.88	48.11	45.58		54.33	53.53	52.94
6	CoS 12232	55.85	56.80	60.92	54.15	49.61		55.96	48.79	54.58
	Standards									
1	CoPant 97222	55.69	52.87	62.83	56.59	47.63		56.53	49.39	54.50
2	CoS 767	56.44	52.89	61.43	57.79	50.12		52.47	49.43	54.37
3	CoS 8436	55.78	54.06	57.17	51.83	51.49		56.44	48.28	53.58
	Mean	56.28	53.75	60.17	53.63	49.05		54.63	49.69	53.89
	SE(m)	0.54	-	1.29	2.98	-		1.12	0.74	
	CD at 5%	1.61	NS	3.90	NS	-		NS	2.21	
	CV	1.65	5.46	3.78	6.81	-		3.56	2.68	

Table 4.7.10 NMC at harvest ('000/ha)

Sl No	Entries	Faridkot	Kapurthala	Karnal	Lucknow	Muzaffar nagar	Pantnagar	Shahjahan pur	Sriganga nagar	Mean
1	Co 12029	105.19	77.43	118.14	106.96	110.12	54.82	102.10	138.34	101.64
2	CoH 12263	81.11	68.77	46.06	95.48	104.32	49.17	86.54	107.26	79.84
3	CoLk 12205	106.85	74.27	78.70	103.75	78.39	58.80	105.19	133.71	92.46
4	CoPant 12226	103.15	73.73	109.49	108.96	85.67	83.06	108.52	101.82	96.80
5	CoPb 12211	108.70	65.55	116.28	111.40	98.88	62.78	97.78	86.43	93.48
6	CoS 12232	107.59	77.19	106.79	98.53	112.34	51.30	104.44	111.29	96.18
	Standards									
1	CoPant 97222	107.41	75.86	76.39	108.26	103.95	54.82	99.68	97.35	90.46
2	CoS 767	112.96	71.10	97.61	104.27	108.39	65.83	108.89	108.57	97.20
3	CoS 8436	82.78	63.22	50.70	96.08	94.56	58.24	92.10	91.18	78.61
	Mean	101.75	71.90	88.91	103.74	99.63	59.87	100.55	108.44	91.85
	SE(m)	7.19	-	2.98	4.91	8.91	1.49	3.79	3.98	
	CD at 5%	21.56	8.32	9.03	10.41	18.21	4.46	8.03	11.96	
	CV	12.24	6.69	5.83	5.80	10.69	4.30	6.52	8.47	

Table 4.7.11 Stalk length (cm)

Sl No	Entries	Faridkot	Kapurthala	Karnal	Lucknow	Muzaffar nagar	Pantnagar	Shahjahan pur	Sriganga nagar	Mean
1	Co 12029	231.66	227.80	278.00	190.33	130.00	207.00	212.67	208.24	210.71
2	CoH 12263	188.22	259.40	173.00	195.00	141.00	232.00	189.00	198.76	197.05
3	CoLk 12205	278.55	249.50	227.00	200.67	195.00	246.30	203.67	204.81	225.69
4	CoPant 12226	259.11	234.10	283.00	193.67	196.00	256.00	209.00	184.54	226.93
5	CoPb 12211	280.00	266.00	253.00	224.00	209.00	234.00	187.00	178.33	228.92
6	CoS 12232	265.00	240.90	297.00	188.67	197.00	200.70	213.33	189.63	224.03
	Standards									
1	CoPant 97222	240.77	247.50	242.00	210.00	156.00	259.70	185.00	186.36	215.92
2	CoS 767	216.33	229.60	240.00	208.67	140.00	240.00	203.00	209.28	210.86
3	CoS 8436	144.54	191.00	180.00	110.00	133.00	157.70	169.33	172.55	157.27
	Mean	233.80	238.42	241.00	191.22	166.00	225.90	196.89	192.50	210.72
	SE(m)	3.42		0.24	0.16	0.07	0.08	8.52	6.08	
	CD at 5%	10.24	25.70	24.20	35.00	15.00	23.00	18.07	18.24	
	CV	2.53	6.70	5.81	10.48	5.26	5.98	7.50	6.66	

Table 4.7.12 Stalk diameter (cm)

Sl No	Entries	Faridkot	Kapurthala	Karnal	Lucknow	Muzaffar nagar	Pantnagar	Shahjahan pur	Sriganga nagar	Mean
1	Co 12029	2.50	1.96	2.58	1.88	2.19	2.33	2.34	2.41	2.27
2	CoH 12263	2.51	2.31	2.49	2.07	2.28	2.42	2.30	2.42	2.35
3	CoLk 12205	2.30	2.01	2.22	1.78	2.65	2.54	2.15	2.31	2.24
4	CoPant 12226	2.57	2.11	2.23	2.10	2.43	2.29	2.29	2.39	2.30
5	CoPb 12211	2.40	1.98	2.21	1.76	2.00	2.09	2.21	2.32	2.12
6	CoS 12232	2.56	2.15	2.36	1.90	2.09	2.26	2.19	2.28	2.22
	Standards									
1	CoPant 97222	2.53	1.85	2.31	2.04	2.01	2.54	2.29	2.41	2.25
2	CoS 767	2.21	1.81	2.26	2.03	2.13	2.24	2.19	2.31	2.15
3	CoS 8436	2.64	1.85	2.72	2.31	2.54	2.74	2.61	2.37	2.47
	Mean	2.47	2.00	2.38	1.99	2.26	2.38	2.29	2.36	2.27
	SE(m)	0.06	-	0.05	0.08	0.09	0.08	0.06	0.02	
	CD at 5%	0.19	NS	0.17	0.17	0.19	0.24	0.13	0.04	
	CV	4.55	10.53	4.05	5.01	4.77	5.89	4.81	2.86	

Table 4.7.13 Single cane weight (kg)

Sl No	Entries	Faridkot	Kapurthala	Karnal	Lucknow	Muzaffar nagar	Pantnagar	Shahjahan pur	Sriganga nagar	Mean
1	Co 12029	1.11	0.97	1.23	0.62	0.74	1.10	0.94	0.82	0.94
2	CoH 12263	0.79	1.46	1.00	0.66	0.63	1.37	0.81	0.73	0.93
3	CoLk 12205	1.03	1.14	0.87	0.70	0.76	1.33	0.86	0.81	0.94
4	CoPant 12226	1.24	1.34	1.25	0.64	0.82	1.41	0.70	0.76	1.02
5	CoPb 12211	1.17	1.08	0.79	0.62	0.64	0.95	0.77	0.64	0.83
6	CoS 12232	1.16	0.88	1.43	0.59	0.76	1.11	0.82	0.92	0.96
	Standards									
1	CoPant 97222	1.05	0.85	1.04	0.62	0.52	1.46	0.87	0.81	0.90
2	CoS 767	0.81	0.80	1.01	0.65	0.55	1.20	0.72	0.84	0.82
3	CoS 8436	0.67	0.70	1.19	0.59	0.68	1.03	0.78	0.78	0.80
	Mean	1.00	1.02	1.09	0.63	0.68	1.22	0.81	0.79	0.91
	SE(m)	0.06	-	0.10	0.05	0.02	0.06	0.04	0.04	
	CD at 5%	0.18	0.23	1.04	NS	0.04	0.17	0.09	0.11	
	CV	10.55	23.79	5.61	8.92	3.54	8.16	9.61	7.38	

Table 4.7.14 Number of tillers at 90 days or before earthing up ('000/ha)

Sl No	Entries	Faridkot	Kapurthala	Karnal	Lucknow	Muzaffar nagar	Pantnagar	Shahjahan pur	Sriganga nagar	Mean
1	Co 12029	156.48		184.43	186.71	169.93		196.05		178.72
2	CoH 12263	160.56		72.80	130.63	154.07		169.63		137.54
3	CoLk 12205	146.11		94.14	187.44	146.29		184.69		151.73
4	CoPant 12226	166.30		152.87	167.25	180.24		198.40		173.01
5	CoPb 12211	177.59		181.98	214.37	151.78		168.40		178.82
6	CoS 12232	193.52		125.78	119.80	178.88		180.49		159.69
	Standards									
1	CoPant 97222	167.59		113.17	184.32	164.19		153.83		156.62
2	CoS 767	201.30		150.90	160.49	172.09		171.73		171.30
3	CoS 8436	125.56		73.63	121.37	169.75		161.23		130.31
	Mean	166.11		127.74	163.60	165.25		176.05		159.75
	SE(m)	6.22		6.41	6.71	4.32		9.15		
	CD at 5%	18.65		19.37	8.96	9.15		19.39		
	CV	6.49		8.68	18.04	3.20		9.00		

Table 4.7.15 Assessment of performance of entries by monitoring team

S. No	Entries	Lucknow	Shahjahanpur	Pantnagar	Muzzaffarnagar	Karnal	Uchani	Kapurthala	Faridkot	Sriganganagar	Kota
1	Co 12029	On par	Better	Better	Better	Better	Not allotted	Better	On par	Better	On par
2	CoH 12263	On par	Good	Poor	Good	Good		Good	Good	On par	Better
3	CoLk 12205	Better	Better	Poor	Good	On par		Good	Better	Good	Better
4	CoPant 12226	Better	Better	Better	Better	Better		On par	Better	Good	Better
5	CoPb 12211	On par	Poor	Poor	Good	Good		Better	Good	On par	Good
6	CoS 12232	Better	Poor	On par	On par	On par		Good	On par	On par	Good
Standards											
1	CoS 767	Best	Best	Good	Good	Good		Best	Good	Good	Poor
2	CoS 8436	Good	Good	Good	Best	Good		Good	Good	Good	Good
3	CoPant 97222	good	Good	Best	Poor	Best		poor	Best	Best	Best

4.8 ADVANCED VARIETAL TRIAL (MIDLATE)

Pooled data of 2 Plant crops + 1 Ratoon

Centres (9)	Faridkot, Kapurthala, Karnal, Kota*, Lucknow, Muzaffarnagar, Pantnagar, Shahjahanpur and Sriganaganagar.
Entries (6)	Co 12029, CoH 12263, CoLk 12205, CoPant 12226, CoPb 12211 and CoS 12232
Standards (3)	CoPant 97222, CoS 767 and CoS 8436
Design	RBD
Replications	3
Plot size	Gross : 8 Rows x 6 m x 0.75 m Net : 6 Rows x 5 m x 0.75 m

* Kota centre did not conduct AVT (ML) ratoon trial.

Six midlate clones were evaluated along with three standards during 2016-17 in AVT-I Plant and during 2017-18 in AVT-II Plant as well as AVT-Ratoon at 9 locations in North West Zone. The mean CCS yield, cane yield, CCS % and sucrose % of two plant crops and one ratoon are presented in Tables 4.8.1 to 4.8.4 as well as in Figure 4.8.1 to 4.8.4.

Commercial cane sugar yield (CCS yield): The mean CCS yield of the best standard, CoPant 97222 in the zone was 10.08 t/ha (Table 4.8.1 & Fig 4.8.1). Three test entries namely, CoPant 12226 (12.22 t/ha), Co 12029 (12.07 t/ha) and CoS 12232 (11.21 t/ha) recorded >10% improvement for CCS yield over the best standard in the zone. At 8 out of 9 locations Co 12029 and CoPant 12226, at 3 locations CoS 12232, at 2 locations CoLk 12205 and at 1 location CoH 12263 recorded >10 % improvement for CCS yield.

Cane yield: CoPant 97222 was the best among the standards in the zone for cane yield (80.97 t/ha). Two test entries namely, CoPant 12226 (98.70 t/ha) and Co 12029 (95.57 t/ha) recorded >10% improvement for cane yield over CoPant 97222 (Table 4.8.2 & Fig 4.8.2). Out of 9 locations, at 7 locations CoPant 12226, at 6 locations Co 12029, at 4 locations CoLk 12205, and at 2 locations CoS 12232 recorded >10 % improvement for cane yield.

CCS % at harvest: CoS 8436 was the best standard for CCS % (Table 4.8.3 & Fig 4.8.3). Its zonal mean was 12.60. None of the test entries recorded >5 % improvement in CCS % over CoS 8436.

Sucrose % at harvest: The standard CoS 8436 was the best in the zone for sucrose % (18.15). None of the test entries recorded >5% improvement for sucrose % over the best standard (Table 4.8.4 & Fig 4.8.4), although the entry CoS 12232 recorded numerically higher sucrose % (18.18).

As per the criteria, the test entry CoS 12232 was chosen as qualifying entry since it recorded >10 % improvement in cane yield and numerically higher sucrose % than that of the best standard in the zone.

Table 4.8.1 CCS yield (t/ha) at harvest

Sl No	Entries	Faridkot	Kapurthala	Karnal	Kota*	Lucknow	Muzaffar nagar	Pant nagar	Shahjah anpur	Sriganga nagar	Weighted Mean	Rank
1	Co 12029	13.25	9.48	19.96	10.01	9.53	10.73	11.02	12.33	11.97	12.07	2
2	CoH 12263	10.78	8.25	9.06	9.37	7.55	9.59	8.67	9.77	9.17	9.21	
3	CoLk 12205	11.13	8.24	11.26	9.89	9.38	10.27	8.51	11.55	10.17	10.10	
4	CoPant 12226	14.90	8.81	15.83	10.58	8.61	13.57	14.32	11.04	11.83	12.22	1
5	CoPb 12211	12.95	7.58	10.80	9.33	7.24	8.99	7.40	8.51	8.36	9.05	
6	CoS 12232	13.81	8.00	17.62	9.64	8.29	11.40	9.54	11.47	10.75	11.21	3
	Standards											
1	CoPant 97222	13.19	7.34	14.03	9.00	8.02	9.59	9.64	9.71	9.79	10.08	
2	CoS 767	11.52	7.07	11.10	8.90	7.93	9.29	9.82	9.68	9.70	9.47	
3	CoS 8436	9.82	7.15	11.20	8.62	6.30	9.38	8.11	9.09	8.31	8.73	
	Mean	12.37	7.99	13.43	9.48	8.10	10.31	9.67	10.35	10.01	10.24	
Top three entries showing >10 % improvement over the best standard at each location												
Rank 1		CoPant 12226	Co 12029	Co 12029	CoPant 12226	Co 12029	CoPant 12226	CoPant 12226	Co 12029	Co 12029	CoPant 12226	
Rank 2			CoPant 12226	CoS 12232	Co 12029	CoLk 12205	CoS 12232	Co 12029	CoLk 12205	CoPant 12226	Co 12029	
Rank 3			CoH 12263	CoPant 12226			Co 12029		CoS 12232		CoS 12232	

Note : * Kota centre did not conduct AVT (ML) Ratoon trial hence the value given here are the mean of 2 plant crops alone

Table 4.8.2 Cane yield (t/ha) at harvest

Sl No	Entries	Faridkot	Kapurthala	Karnal	Kota*	Lucknow	Muzaffar nagar	Pant nagar	Shahjah anpur	Sriganga nagar	Weighted Mean	Rank
1	Co 12029	109.45	80.84	140.78	83.25	77.78	81.26	85.03	100.13	99.52	95.57	2
2	CoH 12263	88.87	74.94	69.05	79.62	64.43	77.04	69.49	79.67	79.20	76.36	
3	CoLk 12205	101.17	78.42	84.53	84.17	77.88	80.25	70.05	96.29	86.44	84.63	
4	CoPant 12226	126.52	77.43	122.05	85.19	68.71	107.47	108.67	88.07	101.29	98.70	1
5	CoPb 12211	118.35	74.33	84.53	79.51	61.42	70.80	58.92	71.37	73.88	77.09	
6	CoS 12232	118.06	68.00	128.89	78.96	66.81	87.03	71.84	91.31	87.19	88.86	3
	Standards											
1	CoPant 97222	111.83	63.26	103.95	75.29	65.71	72.78	74.43	78.31	80.76	80.97	
2	CoS 767	95.84	60.55	85.20	75.78	68.61	72.76	78.36	81.57	83.08	78.07	
3	CoS 8436	77.84	63.35	80.75	71.79	51.74	70.38	61.14	72.52	69.56	69.16	
	Mean	105.33	71.23	99.97	79.28	67.01	79.97	75.33	84.36	84.55	83.27	
Top three entries showing >10 % improvement over the best standard at each location												
Rank 1		CoPant 12226	Co 12029	Co 12029	CoPant 12226	CoLk 12205	CoPant 12226	CoPant 12226	Co 12029	CoPant 12226	CoPant 12226	
Rank 2			CoLk 12205	CoS 12232	CoLk 12205	Co 12029	CoS 12232		CoLk 12205	Co 12029	Co 12029	
Rank 3			CoPant 12226	CoPant 12226			Co 12029		CoS 12232			

Note : * Kota centre did not conduct AVT (ML) Ratoon trial hence the value given here are the mean of 2 plant crops alone

Table 4.8.3 CCS % at harvest

Sl No	Entries	Faridkot	Kapurthala	Karnal	Kota*	Lucknow	Muzaffar nagar	Pant nagar	Shahjah anpur	Sriganga nagar	Weighted Mean	Rank
1	Co 12029	12.09	11.89	14.19	12.03	12.27	13.16	12.75	12.38	12.03	12.54	2
2	CoH 12263	11.92	11.57	13.19	11.60	11.73	12.46	12.47	12.25	11.59	12.10	
3	CoLk 12205	10.94	11.07	13.32	11.70	11.97	12.79	12.20	12.03	11.74	12.00	
4	CoPant 12226	11.72	11.90	13.03	12.38	12.46	12.62	13.13	12.47	11.66	12.40	
5	CoPb 12211	10.90	10.55	12.77	11.68	11.81	12.69	12.58	11.84	11.34	11.83	
6	CoS 12232	11.74	11.94	13.71	12.30	12.43	13.15	13.11	12.56	12.29	12.60	1
	Standards											
1	CoPant 97222	11.76	11.71	13.52	11.92	12.04	13.20	12.91	12.42	12.12	12.42	3
2	CoS 767	12.00	12.07	13.02	11.68	11.53	12.77	12.54	11.93	11.64	12.15	
3	CoS 8436	12.47	11.64	13.80	11.92	12.19	13.32	13.26	12.65	11.95	12.60	1
	Mean	11.73	11.59	13.39	11.91	12.05	12.91	12.77	12.28	11.82	12.29	
Top three entries showing >5 % improvement over the best standard at each location												
Rank 1	No test entries showed >5 % improvement over the best standard for CCS %											
Rank 2												
Rank 3												

Note : * Kota centre did not conduct AVT (ML) Ratoon trial hence the value given here are the mean of 2 plant crops alone

Table 4.8.4 Sucrose % at harvest

Sl No	Entries	Faridkot	Kapurthala	Karnal	Kota*	Lucknow	Muzaffar nagar	Pant nagar	Shahjah anpur	Sriganga nagar	Weighted Mean	Rank
1	Co 12029	17.40	17.07	20.21	17.54	17.67	19.07	18.48	17.88	17.44	18.10	3
2	CoH 12263	17.17	16.75	18.77	16.90	16.97	18.04	18.08	17.80	16.77	17.50	
3	CoLk 12205	15.72	16.18	18.99	17.03	17.42	18.59	17.70	17.58	17.05	17.39	
4	CoPant 12226	16.81	17.15	18.58	17.96	17.97	18.28	19.02	18.04	16.94	17.90	
5	CoPb 12211	15.67	15.61	18.25	16.91	17.02	18.36	18.23	17.44	16.55	17.16	
6	CoS 12232	16.77	17.26	19.47	17.79	17.89	19.00	19.14	18.31	17.85	18.18	1
	Standards											
1	CoPant 97222	16.82	17.07	19.13	17.32	17.38	19.09	18.55	18.05	17.54	17.91	
2	CoS 767	17.40	17.43	18.48	17.05	16.64	18.52	18.17	17.42	16.85	17.58	
3	CoS 8436	17.91	16.80	19.59	17.27	17.58	19.30	19.18	18.18	17.31	18.15	2
	Mean	16.85	16.81	19.05	17.31	17.39	18.69	18.51	17.86	17.15	17.76	
Top three entries showing >5 % improvement over the best standard at each location												
Rank 1	No test entries showed >5 % improvement over the best standard for sucrose %											
Rank 2												
Rank 3												

Note : * Kota centre did not conduct AVT (ML) Ratoon trial hence the value given here are the mean of 2 plant crops alone

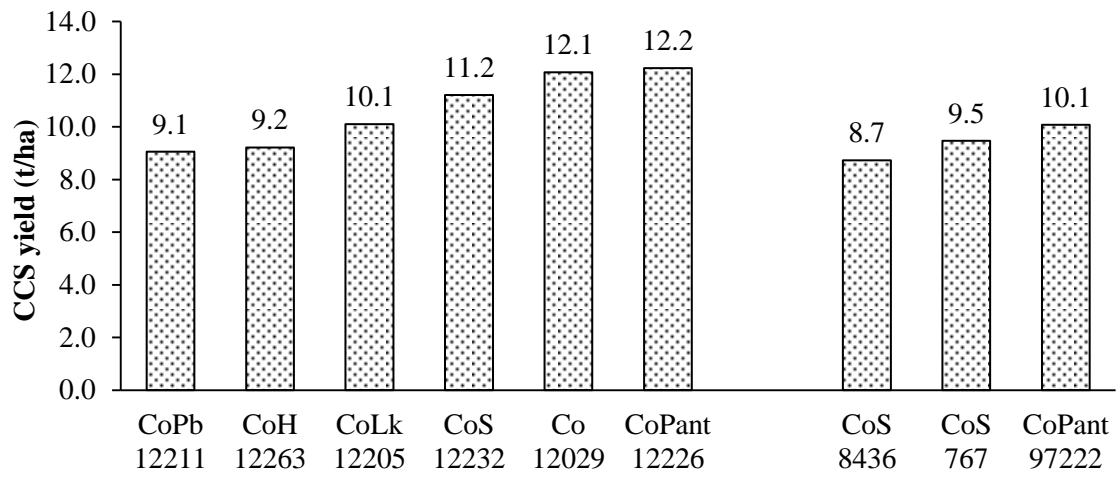


Fig 4.8.1 Mean CCS yield (t/ha) of 2 plant +1 ratoon across locations

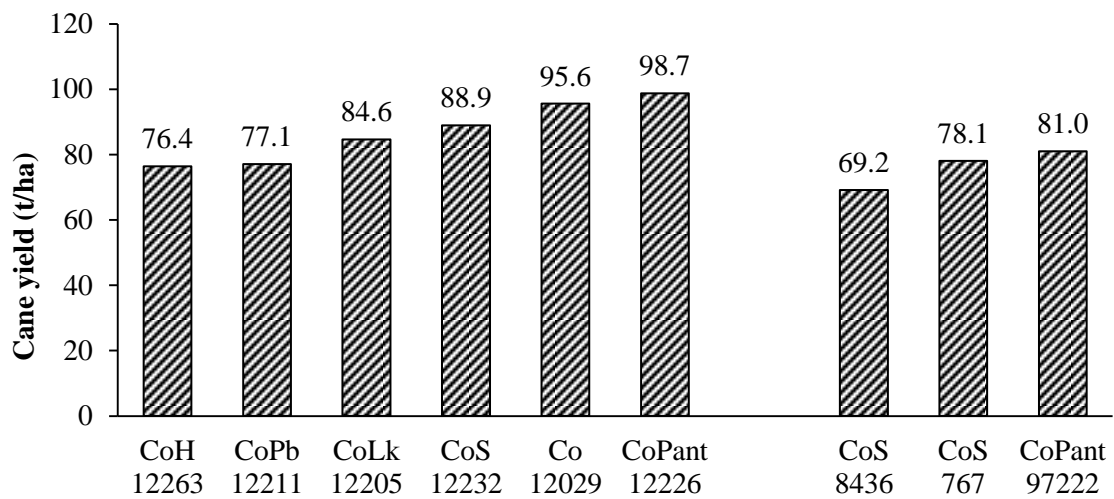
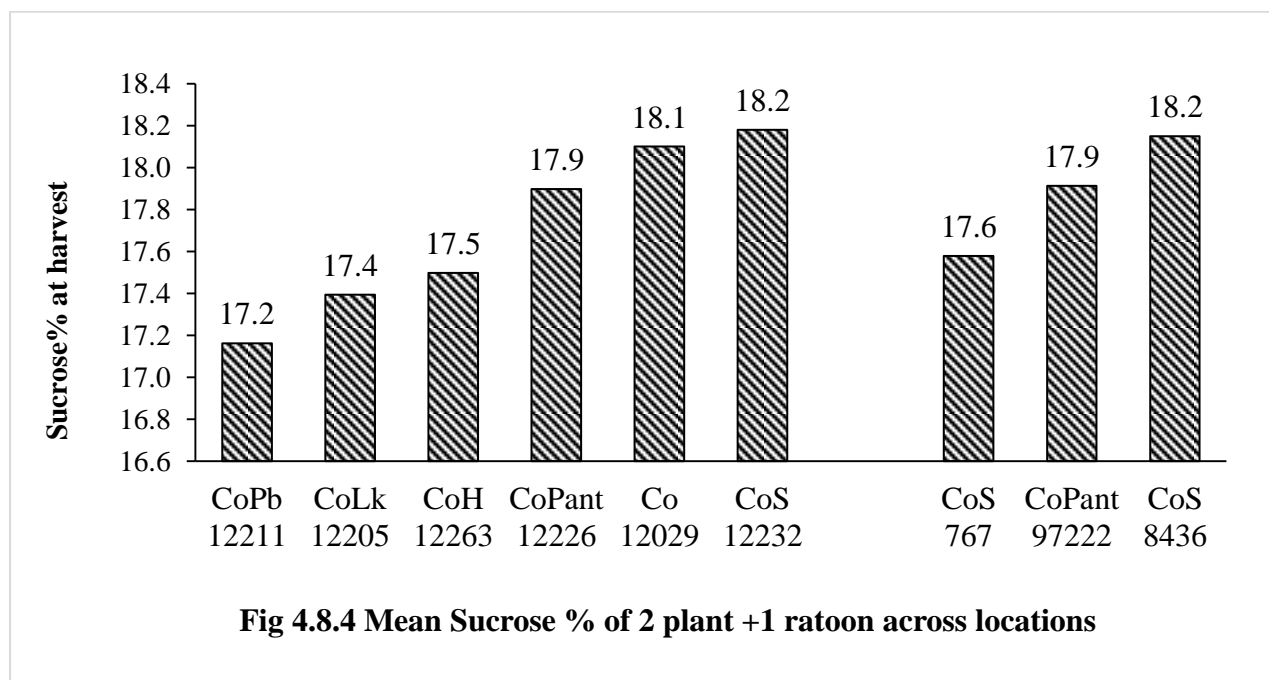
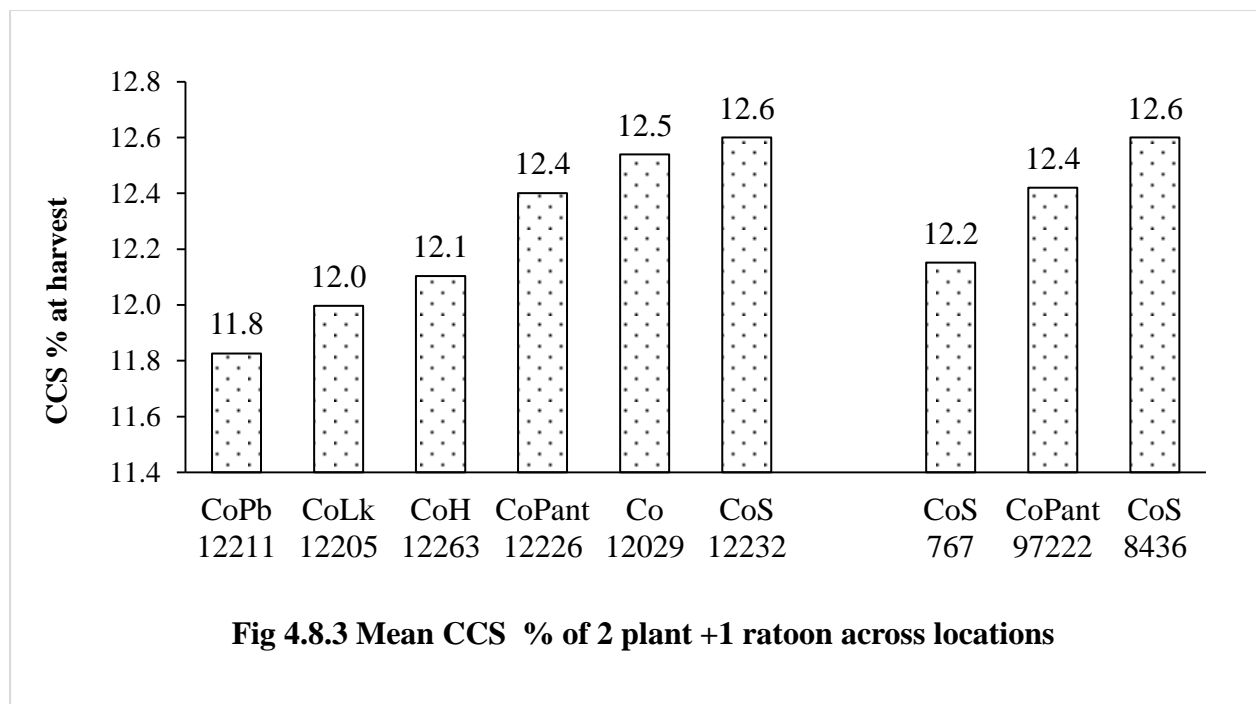


Fig 4.8.2 Mean Cane yield (t/ha) of 2 plant +1 ratoon across locations



Simultaneous selection of high yielding and stable genotypes in Advance Varietal Trial (Midlate) – Plant I, II and Ratoon

Six entries, Co 12029, CoH 12263, CoLk 12205, CoPant 12226, CoPb 12211 and CoS 12232 and three standards, CoS 767, CoS 8436 and CoPant 97222 were evaluated during three crop cycles (I and II Plant crop and ratoon crop) at 9 locations in North West Zone. The data on CCS (t/ha), cane yield (t/ha) and sucrose (%) were subjected to stability analysis using AMMI model. Simultaneous selection of high yielding and stable genotypes was done by estimated index value based ranking. Estimated index values, CCS (t/ha), cane yield (t/ha) and sucrose (%) values and stability values of different genotypes along with their ranks are presented in Tables 7.4 to 7.6.

Results based on index of simultaneous selection for high CCS (t/ha) and stable genotypes revealed that all the three standards, CoS 8436, CoPant 97222 and CoS 767 were at first, second and third rank, respectively. Such a ranking differs with the ranking based only on mean data of CCS (t/ha) presented in Table 7.4. Considering top entries with high CCS (t/ha) and stable genotypes, none of the entries were superior than all the standards.

Results based on index of simultaneous selection for cane yield (t/ha) and stable genotypes revealed that standard, CoPant 97222, CoS 767 and CoS 8436 were at first, second and third rank, respectively. Such a ranking differs with the ranking based only on mean data of yield (t/ha) presented in Table 7.5. Considering top entries with high cane yield (t/ha) and stable genotypes, none of the entries were superior than all the standards.

Results based on index of simultaneous selection for sucrose (%) and stable genotypes revealed that only entry, CoS 12232 and both the standard, CoPant 97222 and CoS 8436, were at first, second and third rank, respectively. Such a ranking differs with the ranking based only on mean data of sucrose content (Table 7.6). Considering top entry with high sucrose and stable genotypes, only CoS 12232 was superior among the entries and better than best standards.

From the above analysis, it may be concluded that none of the entries were most stable genotypes and high yield for CCS (t/ha) and Cane yield (t/ha) in midlate maturity group of North West Zone. However if we consider only the numerical values of the three characters, the entries CoPant 12226 and Co 12029 were found at first and second rank among the entries for CCS (t/ha), cane yield (t/ha) and sucrose (%).

Table 7.4 - Ranking of genotypes of AVT (M) of North West Zone according to their (i) mean performance, (ii) stability and (iii) simultaneous index value in respect of CCS (t/ha)

Variety	Estimated value			Rank based on estimated value		
	Index Value	CCS (t/ha) value	Stability value	Index value based rank	CCS (t/ha) based rank	Stability based rank
Co 12029	1.25	12.03	39.14	5	2	9
CoH 12263	0.99	9.13	29.26	9	7	8
CoLk 12205	1.11	10.04	21.22	7	4	6
CoPant 12226	1.34	12.17	19.14	4	1	5
CoPb 12211	1.06	9.02	15.81	8	8	4
CoS 12232	1.19	11.17	27.56	6	3	7
Standards						
CoPant 97222	1.47	9.88	5.46	2	5	2
CoS 767	1.36	9.25	5.97	3	6	3
CoS 8436	1.48	9.01	4.60	1	9	1

Table 7.5 - Ranking of genotypes of AVT (M) of North West Zone according to their (i) mean performance, (ii) stability and (iii) simultaneous index value in respect of cane yield (t/ha)

Variety	Estimated value			Rank based on estimated value		
	Index Value	Cane Yield (t/ha) value	Stability value	Index value based rank	Cane Yield (t/ha) based rank	Stability based rank
Co 12029	1.23	95.34	1633.68	5	2	9
CoH 12263	1.00	75.81	1587.14	9	7	8
CoLk 12205	1.13	84.36	1249.92	7	4	5
CoPant 12226	1.29	98.38	1345.12	4	1	6
CoPb 12211	1.07	77.01	967.69	8	6	4
CoS 12232	1.16	88.68	1471.19	6	3	7
Standards						
CoPant 97222	1.61	79.89	216.45	1	5	1
CoS 767	1.43	75.32	269.27	2	8	2
CoS 8436	1.31	72.24	319.97	3	9	3

Table 7.6 - Ranking of genotypes of AVT (M) of North West Zone according to their (i) mean performance, (ii) stability and (iii) simultaneous index value in respect of sucrose (%)

Variety	Estimated value			Rank based on estimated value		
	Index Value	Sucrose (%) value	Stability value	Index value based rank	Sucrose (%) based rank	Stability based rank
Co 12029	1.28	18.06	2.67	4	2	4
CoH 12263	1.24	17.47	2.67	5	7	5
CoLk 12205	1.20	17.36	3.11	7	8	8
CoPant 12226	1.24	17.86	2.94	6	4	6
CoPb 12211	1.20	17.12	2.98	8	9	7
CoS 12232	1.31	18.16	2.45	1	1	2
Standards						
CoPant 97222	1.31	17.86	2.31	2	5	1
CoS 767	1.18	17.77	3.93	9	6	9
CoS 8436	1.29	17.98	2.48	3	3	3

4.9 ADVANCED VARIETAL TRIAL (MIDLATE) - I PLANT

Centres (9)	Faridkot, Kapurthala, Kota, Lucknow, Muzaffarnagar, Pantnagar, Shahjahanpur, Sriganganagar and Uchani
Entries (5)	Co 13035, CoH 13263, CoLk 13204, CoPant 13224 and CoPb 13182
Standards (4)	Co 05011, CoPant 97222, CoS 767 and CoS 8436
Design	RBD
Replications	3
Plot size	Gross : 8 Rows x 6 m x 0.75 m Net : 6 Rows x 5 m x 0.75 m
Bud rate	12 buds/ metre
Planting time	February / March, 2017
Crop duration	12 months

Results of the previous year

In the IVT (ML) trial, 13 new entries (Co 13035, Co 13036, CoH 13261, CoH 13262, CoH 13263, CoLk 13204, CoLk 13205, CoPant 13223, CoPant 13224, CoPb 13182, CoPb 13183, CoS 13232 and CoS 13233) were evaluated along with 4 standards. Five entries *viz.* CoPb 13183 (95.76 t/ha), CoLk 13205 (94.46 t/ha), CoH 13263 (93.70 t/ha), CoPb 13182 (91.62 t/ha) and CoPant 13224 (90.11 t/ha) showed > 10 % improvement for cane yield over the best standard CoPant 97222 and two entries *viz.* CoPb 13183 (11.74 t/ha) and CoH 13263 (11.65 t/ha) showed >10 % improvement for CCS yield over CoPant 97222. Three test entries namely, CoH 13261 (18.73), CoH 13262 (18.51) and CoH 13263 (18.48) recorded numerically higher sucrose % than the best standard CoS 8436 (18.24). However, the percent improvement of sucrose % in those entries were not above 5 % over CoS 8436. Similarly, none of the test entries showed 5 % and above improvement for CCS % over the best standard CoS 8436 (12.62). On the basis of yield, quality, red rot resistance and field stand, five entries *viz.* Co 13035, CoH 13263, CoLk 13204, CoPant 13224 and CoPb 13182 were promoted to AVT.

Results of the current year

CoPant 97222 was the best standard in the zone and its mean cane yield was 82.97 t/ha. Two test entries namely, CoPant 13224 (94.74 t/ha) and CoH 13263 (94.04 t/ha) recorded >10% higher cane yield than CoPant 97222. These test entries also showed > 10 % improvement for CCS yield over the best standard CoPant 97222 (10.61 t/ha). The CCS yield of CoPant 13224 and CoH 13263 were 12.03 t/ha and 12.26 t/ha, respectively. CoS 8436 was the best standard in the zone for sucrose % in juice and CCS %. Although no test entries showed >5 % improvement for these quality traits than CoS 8436, the sucrose % (18.86) and CCS % (13.08) of CoH 13263 was numerically higher than that of CoS 8436 (sucrose %: 18.69 and CCS %: 12.97). On the basis of results of this trial, CoH 13263 was chosen as qualifying entry as it recorded >10 % improvement for cane yield and numerically higher sucrose % than the best standard in the zone. Further details are presented in Tables 4.9.1 to 4.9.18.

Table 4.9.1 CCS yield (t/ha) at harvest

Sl No	Entries	Faridkot	Kapurthala	Kota	Lucknow	Muzaffar nagar	Pantnagar	Shahja hanpur	Sriganga nagar	Uchani	Mean	Rank
1	Co 13035	12.63	10.68	11.20	9.41	12.74	9.42	11.75	10.33	13.31	11.27	3
2	CoH 13263	15.62	11.61	11.06	12.33	10.85	13.61	11.18	10.53	13.58	12.26	1
3	CoLk 13204	11.53	10.52	9.58	11.55	11.25	9.48	11.03	9.88	11.35	10.68	
4	CoPant 13224	17.06	11.21	9.96	6.79	13.11	13.59	12.19	11.45	12.91	12.03	2
5	CoPb 13182	16.76	10.35	9.93	7.37	10.14	9.13	10.52	10.15	10.99	10.59	
	Standards											
1	Co 05011	12.63	9.23	9.75	10.23	10.47	10.09	9.46	9.32	11.86	10.34	
2	CoPant 97222	15.68	10.86	9.08	8.42	8.52	11.55	9.72	10.16	11.47	10.61	
3	CoS 767	10.73	10.95	9.56	7.88	8.79	9.20	9.78	10.37	10.57	9.76	
4	CoS 8436	11.81	8.62	8.79	6.86	9.08	8.44	9.26	8.58	9.92	9.04	
	Mean	13.83	10.45	9.88	8.98	10.55	10.50	10.54	10.09	11.77	10.73	
	SE (m)	0.69	0.00	0.36	0.53	0.00	0.26	0.35	0.33	0.43		
	CD at 5%	2.07	0.75	0.76	1.13	1.46	0.80	0.75	0.91	1.29		
	CV	8.66	4.16	7.77	7.25	8.01	4.45	5.81	7.26	6.25		
Top three entries showing >10 % improvement over the best standard at each location												
Rank 1				Co 13035	CoH 13263	CoPant 13224	CoH 13263	CoPant 13224	CoPant 13224	CoH 13263	CoH 13263	
Rank 2				CoH 13263	CoLk 13204	Co 13035	CoPant 13224	Co 13035		Co 13035	CoPant 13224	
Rank 3								CoH 13263				

No. of locations where an entry is showing >10 % improvement: CoH 13263 (5), Co 13035 (4), CoPant 13224 (4) and CoLk 13204 (1).

Performance across locations: Two entries that showed >10 % improvement for CCS yield over the best standard CoPant 97222 (10.61 t/ha) were CoH 13263 (12.26 t/ha) and CoPant 13224 (12.03 t/ha).

Table 4.9.2 Cane yield (t/ha) at harvest

Sl No	Entries	Faridkot	Kapurthala	Kota	Lucknow	Muzaffar nagar	Pantnagar	Shahja hanpur	Sriganga nagar	Uchani	Mean	Rank
1	Co 13035	108.33	83.47	92.10	74.68	96.67	67.87	90.37	89.24	93.89	88.51	3
2	CoH 13263	126.23	90.90	92.30	90.81	80.49	98.24	81.36	91.78	94.24	94.04	2
3	CoLk 13204	99.38	88.18	84.60	92.36	85.80	68.52	84.57	84.65	86.59	86.07	
4	CoPant 13224	133.64	90.36	86.40	51.94	100.62	101.57	90.49	102.63	95.00	94.74	1
5	CoPb 13182	133.33	87.52	86.30	58.12	78.76	68.24	80.86	92.71	81.57	85.27	
	Standards											
1	Co 05011	106.17	73.87	81.00	78.09	76.42	73.15	72.59	85.55	85.01	81.32	
2	CoPant 97222	124.69	87.11	78.50	62.59	63.95	82.32	73.83	87.70	86.07	82.97	
3	CoS 767	88.27	87.85	82.30	65.20	71.85	70.56	76.05	89.29	80.66	79.11	
4	CoS 8436	91.67	71.45	73.00	50.82	68.39	60.19	67.78	76.13	70.98	70.05	
	Mean	112.41	84.52	84.06	69.40	80.33	76.73	79.77	88.85	86.00	84.67	
	SE (m)	5.44		3.01	4.85		1.52	2.59	2.99	2.83		
	CD at 5%	16.30	5.06	6.40	10.27	9.39	4.56	5.49	8.98	8.54		
	CV	8.38	3.46	7.62	8.55	6.75	3.43	5.62	8.16	5.69		
Top three entries showing >10 % improvement over the best standard at each location												
Rank 1		CoPant 13224		CoH 13263	CoLk 13204	CoPant 13224	CoPant 13224	CoPant 13224	CoPant 13224	CoPant 13224	CoPant 13224	
Rank 2		CoPb 13182		Co 13035	CoH 13263	Co 13035	CoH 13263	Co 13035				CoH 13263
Rank 3		CoH 13263				CoLk 13204		CoLk 13204				

No. of locations where an entry is showing >10 % improvement: CoPant 13224 (6), CoH 13263 (4), Co 13035 (3), CoLk 13204 (3) and CoPb 13182 (1).

Performance across locations: Two entries which showed >10 % improvement for cane yield over the best standard CoPant 97222 (82.97 t/ha) were CoPant 13224 (94.74 t/ha) and CoH 13263 (94.04 t/ha).

Table 4.9.3 CCS % at harvest

Sl No	Entries	Faridkot	Kapurthala	Kota	Lucknow	Muzaffar nagar	Pantnagar	Shahjahanpur	Sriganganagar	Uchani	Mean	Rank
1	Co 13035	11.65	12.79	12.15	12.65	13.16	13.89	13.00	11.58	14.17	12.78	
2	CoH 13263	12.37	12.76	12.01	13.61	13.47	13.86	13.75	11.47	14.41	13.08	1
3	CoLk 13204	11.61	11.92	11.32	12.52	13.11	13.82	13.04	11.67	13.11	12.46	
4	CoPant 13224	12.77	12.41	11.54	13.07	13.03	13.78	13.47	11.16	13.57	12.76	
5	CoPb 13182	12.55	11.83	11.52	12.66	12.88	13.55	13.03	10.95	13.48	12.50	
	Standards											
1	Co 05011	11.89	12.50	12.05	13.11	13.70	13.79	13.03	10.89	13.95	12.77	
2	CoPant 97222	12.58	12.46	11.57	13.43	13.32	14.04	13.18	11.59	13.35	12.84	3
3	CoS 767	12.15	12.46	11.62	12.09	12.75	13.03	12.86	11.61	13.12	12.41	
4	CoS 8436	12.89	12.07	12.06	13.51	13.27	14.02	13.65	11.27	13.97	12.97	2
	Mean	12.28	12.36	11.76	12.96	13.19	13.75	13.22	11.35	13.68	12.73	
	SE (m)	0.13		0.18	0.42		0.32	0.11	0.11	0.25		
	CD at 5%	0.40	0.43	0.40	0.90	0.49	0.98	0.24	0.33	0.74		
	CV	1.88	2.01	3.40	4.01	2.15	4.12	1.48	2.16	3.11		
Top three entries showing 5 % improvement over the best standard at each location												
Rank 1	No test entries showed >5 % improvement over the best standard											
Rank 2												
Rank 3												

No. of locations where an entry is showing >5 % improvement: No test entries showed >5 % improvement over the best standard.

Performance across locations: Among the standards, the highest CCS % at harvest was recorded by CoS 8436 (12.97). No test entries recorded > 5% improvement for CCS % over the best standard although the entry CoH 13263 recorded numerically higher CCS % (13.08) over CoS 8436.

Table 4.9.4 Sucrose % at harvest

SI No	Entries	Faridkot	Kapurthala	Kota	Lucknow	Muzaffar nagar	Pantnagar	Shahjahanpur	Sriganganagar	Uchani	Mean	SI No
1	Co 13035	16.64	18.50	17.50	18.24	19.18	20.06	18.73	16.78	20.37	18.44	
2	CoH 13263	17.96	18.46	17.20	19.63	19.49	20.11	19.69	16.80	20.43	18.86	1
3	CoLk 13204	16.98	16.94	16.20	18.15	19.00	19.98	18.81	16.82	18.96	17.98	
4	CoPant 13224	18.21	17.94	16.60	18.71	19.05	19.33	19.37	16.27	19.26	18.30	
5	CoPb 13182	17.90	17.00	16.90	18.30	19.18	19.33	18.79	16.35	18.84	18.07	
	Standards											
1	Co 05011	17.30	18.06	17.20	18.98	19.87	19.98	18.80	16.05	19.88	18.46	
2	CoPant 97222	17.95	18.22	16.60	19.18	19.37	20.34	18.99	17.09	18.88	18.51	3
3	CoS 767	17.46	17.82	16.90	17.40	18.51	18.89	18.57	16.82	18.58	17.88	
4	CoS 8436	18.42	17.35	17.30	19.47	19.24	20.33	19.61	16.51	20.00	18.69	2
	Mean	17.65	17.81	16.93	18.67	19.21	19.81	19.04	16.61	19.47	18.36	
	SE (m)	0.16		0.38	0.49		0.33	0.14	0.16	0.28		
	CD at 5%	0.47	0.45	0.38	1.03	0.54	0.99	0.31	0.45	0.84		
	CV	1.53	1.47	2.29	3.19	1.63	2.90	1.32	2.31	2.46		
Top three entries showing >5 % improvement over the best standard at each location												
Rank 1	No test entries showed >5 % improvement over the best standard											
Rank 2												
Rank 3												

No. of locations where an entry is showing >5 % improvement: No test entries showed >5 % improvement over the best standard for sucrose %.

Performance across locations: Among the standards, CoS 8436 recorded the highest sucrose % (18.69). None of the test entries showed >5% improvement for sucrose % over CoS 8436 although the clone CoH 13263 recorded numerically higher sucrose % (18.86) than CoS 8436.

Table 4.9.5 Brix % at harvest

Sl No	Entries	Faridkot	Kapurthala	Kota	Lucknow	Muzaffar nagar	Pantnagar	Shahja hanpur	Sriganga nagar	Uchani	Mean
1	Co 13035	18.33	20.95	19.61	20.52	22.07	22.58	21.12	19.06	22.77	20.78
2	CoH 13263	20.50	20.90	19.21	22.10	22.10	22.85	21.84	19.53	22.17	21.24
3	CoLk 13204	19.67	18.60	18.02	20.67	21.57	22.60	21.18	18.90	21.47	20.30
4	CoPant 13224	20.00	20.30	18.68	20.72	22.07	21.83	21.67	18.71	20.93	20.55
5	CoPb 13182	19.67	19.00	19.53	20.68	22.20	21.83	21.16	19.71	19.77	20.39
	Standards										
1	Co 05011	19.83	20.40	18.98	21.53	22.63	22.73	21.16	18.89	21.80	20.88
2	CoPant 97222	19.73	21.10	18.58	21.13	22.17	23.10	21.34	20.11	20.37	20.85
3	CoS 767	19.50	19.70	19.28	19.49	21.10	21.40	20.64	19.12	20.10	20.04
4	CoS 8436	20.33	19.40	19.08	21.87	21.90	22.12	21.88	19.20	22.17	20.88
	Mean	19.73	20.04	19.00	20.97	21.98	22.33	21.33	19.25	21.28	20.66
	SE (m)	0.19		0.36	0.35		0.50	0.15	0.18	0.39	
	CD at 5%	0.58	0.50	0.36	0.74	0.59	1.51	0.32	0.53	1.19	
	CV	1.69	1.43	1.90	2.03	1.55	3.92	1.23	2.42	3.21	

Table 4.9.6 Purity % at harvest

Sl No	Entries	Faridkot	Kapurthala	Kota	Lucknow	Muzaffar nagar	Pantnagar	Shahja hanpur	Sriganga nagar	Uchani	Mean
1	Co 13035	90.80	88.31	89.18	88.90	86.95	88.51	88.72	88.15	89.49	88.78
2	CoH 13263	87.63	88.33	89.75	88.80	88.20	87.69	89.55	86.71	92.16	88.76
3	CoLk 13204	86.34	91.74	90.10	89.12	88.08	88.41	88.81	89.26	88.43	88.92
4	CoPant 13224	91.07	88.39	88.99	90.28	86.34	88.54	89.39	87.63	92.08	89.19
5	CoPb 13182	91.03	89.48	86.26	88.49	86.40	88.52	88.89	83.34	95.35	88.64
	Standards										
1	Co 05011	87.26	88.53	90.72	88.09	87.80	87.90	88.83	85.01	91.23	88.37
2	CoPant 97222	90.97	86.35	89.57	90.77	87.38	88.05	89.00	85.34	92.74	88.91
3	CoS 767	89.56	90.47	87.57	88.78	87.72	88.29	88.56	88.29	92.49	89.08
4	CoS 8436	90.59	89.43	90.39	90.54	87.88	87.77	89.64	86.56	90.24	89.23
	Mean	89.47	89.00	89.17	89.31	87.42	88.18	89.03	86.70	91.58	88.87
	SE (m)	0.76		1.18	1.38		0.31	0.14	0.47	1.54	
	CD at 5%	2.27	2.47	2.51	NS	0.86	0.95	0.21	1.41	NS	
	CV	1.47	1.60	2.82	1.90	0.57	0.62	0.28	1.32	2.91	

Table 4.9.7 Pol % in cane and Fibre % at harvest

Sl No	Entries	Pol % in cane					Fibre %				
		Kapurthala	Lucknow	Muzaffar nagar	Shahjahan pur	Mean	Kapurthala	Lucknow	Muzaffar nagar	Shahjahan pur	Mean
1	Co 13035	13.01	14.22	14.30	13.88	13.85	14.49	12.01	14.42	15.14	14.02
2	CoH 13263	12.40	15.23	14.44	13.91	13.99	12.89	12.43	14.16	15.06	13.64
3	CoLk 13204	11.20	14.05	13.97	13.96	13.29	14.78	12.63	14.27	15.12	14.20
4	CoPant 13224	13.37	14.51	13.96	14.02	13.96	14.39	12.46	14.49	14.96	14.08
5	CoPb 13182	13.17	14.09	14.19	13.90	13.84	11.13	13.01	14.13	14.93	13.30
	Standards										
1	Co 05011	13.48	14.75	14.41	13.94	14.14	11.77	12.27	13.87	14.98	13.22
2	CoPant 97222	12.79	14.66	14.18	13.98	13.90	14.53	13.56	14.21	14.92	14.31
3	CoS 767	12.78	13.36	13.76	13.84	13.44	13.8	13.19	13.77	15.19	13.99
4	CoS 8436	12.37	15.14	14.13	14.07	13.93	13.22	12.25	13.68	14.91	13.52
	Mean	12.73	14.44	14.15	13.94	13.82	13.44	12.65	14.11	15.02	13.81
	SE (m)		0.37					0.46			
	CD at 5%	0.62	0.79				1.32	NS			
	CV	2.81	3.18				5.7	4.44			

Table 4.9.8 Juice extraction % at 12th month

Sl No	Entries	Faridkot	Kapurthala	Kota	Lucknow	Muzaffar nagar	Pantnagar	Shahja hanpur	Sriganga nagar	Uchani	Mean
1	Co 13035	58.69	51.89	46.02	56.74	50.32		50.81	53.57	52.49	52.57
2	CoH 13263	61.76	53.66	47.53	57.72	49.25		52.35	50.26	49.76	52.79
3	CoLk 13204	53.00	49.10	42.51	49.87	43.56		51.73	52.43	45.67	48.48
4	CoPant 13224	55.01	50.66	42.24	55.80	43.51		52.85	51.34	50.66	50.26
5	CoPb 13182	59.47	54.57	41.99	54.80	49.78		52.06	48.71	54.19	51.95
	Standards										
1	Co 05011	59.28	51.00	43.43	54.75	46.79		51.08	53.18	51.22	51.34
2	CoPant 97222	61.59	52.49	47.15	57.22	48.67		51.95	51.25	49.94	52.53
3	CoS 767	59.68	54.05	43.05	49.97	45.24		51.46	49.29	48.09	50.10
4	CoS 8436	56.12	52.35	44.67	56.72	50.65		52.80	45.41	46.99	50.71
	Mean	58.29	52.20	44.29	54.84	47.53		51.90	50.60	49.89	51.19
	SE (m)	0.69		1.19	1.80			0.40	0.57	1.31	
	CD at 5%	2.08	2.79	2.52	3.81	-		0.85	1.71	3.95	
	CV	2.06	3.09	5.71	4.02	-		1.34	2.26	4.53	

Table 4.9.9 Brix % at 10th month

Sl No	Entries	Faridkot	Kapurthala	Kota	Lucknow	Muzaffar nagar	Pantnagar	Shahja hanpur	Sriganga nagar	Uchani	Mean
1	Co 13035	16.67	17.33	17.26	18.38	20.12	19.63	19.43	16.91	18.73	18.27
2	CoH 13263	17.13	17.03	17.41	17.54	18.99	18.13	19.96	17.04	19.00	18.03
3	CoLk 13204	14.67	16.43	16.63	17.03	18.15	18.60	18.47	16.58	17.17	17.08
4	CoPant 13224	17.33	17.27	16.56	18.12	18.59	18.83	18.98	16.21	17.87	17.75
5	CoPb 13182	17.33	17.33	17.29	17.56	18.95	20.07	19.72	17.77	18.50	18.28
	Standards										
1	Co 05011	17.03	16.67	17.41	18.95	19.19	19.10	18.97	15.82	18.40	17.95
2	CoPant 97222	17.00	18.67	17.36	18.51	19.35	19.70	19.84	18.51	18.20	18.57
3	CoS 767	17.33	16.70	17.28	17.26	19.09	18.70	19.47	17.42	17.77	17.89
4	CoS 8436	18.00	17.40	17.61	18.17	19.69	18.83	20.17	16.67	18.53	18.34
	Mean	16.94	17.20	17.20	17.95	19.12	19.06	19.45	16.99	18.24	18.02
	SE (m)	0.29		0.15	0.75		0.36	0.15	0.24	0.38	
	CD at 5%	0.86	0.89	0.33	NS	0.86	1.10	0.31	0.72	NS	
	CV	2.94	3.00	1.90	5.10	2.58	3.33	1.29	2.85	3.56	

Table 4.9.10 Sucrose % at 10th month

Sl No	Entries	Faridkot	Kapurthala	Kota	Lucknow	Muzaffar nagar	Pantnagar	Shahja hanpur	Sriganga nagar	Uchani	Mean
1	Co 13035	14.64	15.60	15.55	16.47	17.07	16.46	16.87	14.51	16.61	15.98
2	CoH 13263	14.82	14.86	15.48	15.13	15.89	15.35	17.45	14.35	16.83	15.57
3	CoLk 13204	12.64	14.38	15.17	14.47	15.46	15.72	15.86	14.30	13.20	14.58
4	CoPant 13224	15.40	15.25	15.00	15.88	15.93	16.11	16.40	13.76	15.37	15.45
5	CoPb 13182	15.65	15.93	15.64	15.72	16.10	17.15	17.19	14.25	16.87	16.06
	Standards										
1	Co 05011	14.72	14.78	15.11	16.55	16.43	16.36	16.37	13.28	16.33	15.55
2	CoPant 97222	15.08	16.36	15.12	16.27	16.60	16.85	17.31	15.60	15.72	16.10
3	CoS 767	15.25	15.36	14.89	14.89	16.49	17.15	16.92	15.00	14.82	15.64
4	CoS 8436	15.72	15.79	16.86	15.78	16.75	16.03	17.69	14.29	16.45	16.15
	Mean	14.88	15.37	15.42	15.68	16.30	16.35	16.90	14.37	15.80	15.68
	SE (m)	0.23		0.16	0.79		0.59	0.15	0.18	0.33	
	CD at 5%	0.68	0.94	0.34	NS	0.82	1.79	0.33	0.52	0.98	
	CV	2.62	3.53	2.18	6.13	2.92	6.34	1.59	2.13	3.56	

Table 4.9.11 Purity % at 10th month

Sl No	Entries	Faridkot	Kapurthala	Kota	Lucknow	Muzaffar nagar	Pantnagar	Shahja hanpur	Sriganga nagar	Uchani	Mean
1	Co 13035	87.84	89.98	90.15	89.64	84.86	85.54	86.81	85.84	88.69	87.70
2	CoH 13263	86.50	87.24	88.92	86.27	83.66	84.61	87.44	84.26	88.63	86.39
3	CoLk 13204	86.23	86.63	91.26	86.69	85.17	86.17	85.88	86.27	76.94	85.69
4	CoPant 13224	88.85	88.37	90.54	87.63	85.70	85.53	86.44	84.93	85.99	87.11
5	CoPb 13182	90.31	91.89	90.50	87.62	84.96	85.44	87.15	80.71	91.28	87.76
	Standards										
1	Co 05011	86.42	88.65	86.81	87.32	85.63	84.62	86.63	83.96	88.73	86.53
2	CoPant 97222	88.69	87.63	87.07	87.84	85.77	85.51	87.26	84.29	86.37	86.71
3	CoS 767	88.00	91.98	86.19	86.24	86.39	84.49	86.91	86.13	83.45	86.64
4	CoS 8436	87.35	90.73	95.75	86.85	85.08	85.23	87.67	85.76	88.78	88.13
	Mean	87.80	89.23	89.69	87.34	85.25	85.23	86.91	84.68	86.54	86.96
	SE (m)	0.48		1.23	1.56		0.72	0.22	0.56	1.60	
	CD at 5%	1.43	3.27	2.61	NS	1.19	2.16	0.47	1.68	4.84	
	CV	0.94	2.12	2.91	2.18	0.80	1.46	0.44	1.18	3.21	

Table 4.9.12 CCS % at 10th month

Sl No	Entries	Faridkot	Kapurthala	Kota	Lucknow	Muzaffar nagar	Pantnagar	Shahja hanpur	Sriganga nagar	Uchani	Mean
1	Co 13035	10.10	10.88	10.85	11.47	11.57	11.43	11.57	9.89	11.50	11.03
2	CoH 13263	10.14	10.22	10.73	10.34	10.69	10.39	12.01	9.69	11.65	10.65
3	CoLk 13204	8.64	9.85	10.65	9.81	10.50	10.63	10.82	9.77	8.48	9.91
4	CoPant 13224	10.67	10.54	10.49	10.93	10.85	10.97	11.22	9.33	10.49	10.61
5	CoPb 13182	10.94	11.22	10.93	10.94	10.92	11.67	11.81	9.37	11.84	11.07
	Standards										
1	Co 05011	10.07	10.24	10.36	11.38	11.19	10.95	11.18	8.95	11.31	10.63
2	CoPant 97222	10.44	11.27	10.38	11.23	11.32	11.46	11.90	10.53	10.75	11.03
3	CoS 767	10.53	10.82	10.17	10.17	11.28	10.69	11.61	10.24	9.96	10.61
4	CoS 8436	10.81	11.05	12.09	10.82	11.37	10.88	12.19	9.74	11.40	11.15
	Mean	10.26	10.68	10.74	10.79	11.08	11.00	11.59	9.72	10.82	10.74
	SE (m)	0.15		0.17	0.59		0.30	0.11	0.19	0.28	
	CD at 5%	0.46	0.77	0.36	NS	0.60	0.91	0.24	0.59	0.85	
	CV	2.57	4.17	3.32	6.72	3.15	4.82	1.71	3.06	4.48	

Table 4.9.13 NMC at harvest ('000/ha)

Sl No	Entries	Faridkot	Kapurthala	Kota	Lucknow	Muzaffar nagar	Pantnagar	Shahja hanpur	Sriganga nagar	Uchani	Mean
1	Co 13035	96.30	74.14	81.48	57.95	99.25	42.87	110.37	99.87	122.93	87.24
2	CoH 13263	114.66	79.69	86.67	83.95	111.72	59.91	96.17	101.12	129.63	95.95
3	CoLk 13204	120.37	81.96	86.83	107.18	110.49	62.69	106.05	90.57	146.96	101.46
4	CoPant 13224	86.73	74.70	76.09	61.65	108.02	55.65	105.56	116.92	129.26	90.51
5	CoPb 13182	84.10	72.00	80.83	68.36	97.90	44.54	89.88	104.26	114.43	84.03
	Standards										
1	Co 05011	89.20	66.64	80.14	86.65	108.39	55.74	97.16	88.80	112.22	87.22
2	CoPant 97222	101.85	64.16	80.59	64.43	97.65	58.52	98.44	94.44	127.17	87.47
3	CoS 767	99.23	69.80	79.09	89.51	113.45	54.17	106.54	102.38	117.28	92.38
4	CoS 8436	88.58	75.37	77.79	75.08	104.32	52.22	99.63	97.16	109.29	86.60
	Mean	97.89	73.16	81.06	77.19	105.69	54.03	101.08	99.50	123.24	90.32
	SE (m)	2.96		1.30	4.47		1.41	3.27	3.09	5.91	
	CD at 5%	8.88	4.90	2.79	9.48	11.37	4.23	6.93	9.27	17.88	
	CV	5.24	3.88	3.45	7.09	6.21	4.52	5.60	6.08	8.31	

Table 4.9.14 Stalk length (cm)

Sl No	Entries	Faridkot	Kapurthala	Kota	Lucknow	Muzaffar nagar	Pantnagar	Shahjahanpur	Sriganganagar	Uchani	Mean
1	Co 13035	259.98	266.80	264.00	215.00	272.00	259.00	246.00	190.13	250.75	247.07
2	CoH 13263	242.33	240.90	230.00	201.67	301.00	231.00	212.67	203.26	250.58	234.82
3	CoLk 13204	234.55	239.20	220.00	193.33	182.00	227.00	215.67	163.34	230.83	211.77
4	CoPant 13224	290.55	256.20	232.00	185.00	271.00	299.00	249.67	206.74	275.33	251.72
5	CoPb 13182	298.33	246.90	267.00	203.33	264.00	259.00	247.33	208.62	243.13	248.63
	Standards										
1	Co 05011	246.00	284.90	236.00	181.67	176.00	234.00	222.67	183.48	230.83	221.73
2	CoPant 97222	247.33	268.30	256.00	213.33	170.00	243.00	195.33	209.63	229.08	225.78
3	CoS 767	221.44	255.70	233.00	195.00	197.00	251.00	236.00	201.18	263.33	228.18
4	CoS 8436	211.66	198.70	239.00	143.33	150.00	185.00	167.00	193.52	170.00	184.25
	Mean	250.24	250.84	241.89	192.40	220.33	243.11	221.37	195.54	238.21	228.22
	SE (m)	5.44		0.08	8.37		0.19	6.67	3.38	7.09	
	CD at 5%	16.30	30.10	18.00	17.75	13.00	27.00	14.13	10.16	21.45	
	CV	3.76	6.90	7.83	5.33	3.65	13.70	5.22	6.66	5.16	

Table 4.9.15 Stalk diameter (cm)

Sl No	Entries	Faridkot	Kapurthala	Kota	Lucknow	Muzaffar nagar	Pantnagar	Shahja hanpur	Sriganga nagar	Uchani	Mean
1	Co 13035	2.63	2.48	2.70	2.30	2.78	2.60	2.33	2.58	2.29	2.52
2	CoH 13263	2.59	2.17	2.27	2.55	2.86	2.91	2.19	2.49	2.18	2.47
3	CoLk 13204	2.28	1.77	2.40	2.18	2.33	2.33	2.11	2.20	2.09	2.19
4	CoPant 13224	2.87	2.10	2.62	2.53	2.19	2.47	2.32	2.37	2.31	2.42
5	CoPb 13182	3.01	2.27	2.70	2.02	3.09	2.60	2.42	2.41	2.40	2.55
	Standards										
1	Co 05011	2.70	2.45	2.22	2.34	2.26	2.67	2.54	2.34	2.34	2.43
2	CoPant 97222	2.80	2.00	2.28	2.11	1.99	2.33	2.35	2.43	2.19	2.28
3	CoS 767	2.54	2.27	2.27	2.14	2.22	2.24	2.18	2.23	2.29	2.26
4	CoS 8436	3.06	1.97	2.44	2.72	2.37	2.63	2.49	2.39	2.33	2.49
	Mean	2.72	2.16	2.43	2.32	2.45	2.53	2.33	2.38	2.27	2.40
	SE (m)	0.09		0.05	0.20		0.13	0.04	0.06	0.06	
	CD at 5%	0.26	0.26	0.11	0.43	0.22	0.40	0.09	0.18	0.17	
	CV	5.61	7.01	4.53	10.66	5.31	9.24	3.33	3.24	4.35	

Table 4.9.16 Single cane weight (kg)

Sl No	Entries	Faridkot	Kapurthala	Kota	Lucknow	Muzaffar nagar	Pantnagar	Shahja hanpur	Sriganga nagar	Uchani	Mean
1	Co 13035	1.21	1.64	0.97	1.29	1.00	1.58	0.97	0.88	0.80	1.15
2	CoH 13263	1.12	0.97	0.88	1.08	0.95	1.64	0.75	0.90	0.80	1.01
3	CoLk 13204	0.86	0.75	1.00	0.86	0.76	1.09	0.85	0.54	0.61	0.81
4	CoPant 13224	1.61	1.17	1.03	0.85	0.91	1.83	0.83	0.96	0.81	1.11
5	CoPb 13182	1.73	1.31	0.92	0.85	0.85	1.53	1.00	0.90	0.78	1.10
	Standards										
1	Co 05011	1.23	1.44	1.03	0.91	0.97	1.31	1.06	0.68	0.80	1.05
2	CoPant 97222	1.28	0.99	1.01	0.97	0.66	1.41	0.88	0.96	0.77	0.99
3	CoS 767	0.99	0.94	0.97	0.73	0.71	1.31	0.83	0.84	0.74	0.89
4	CoS 8436	1.07	0.77	0.89	0.68	0.68	1.15	0.87	0.78	0.68	0.84
	Mean	1.23	1.11	0.97	0.91	0.83	1.42	0.89	0.83	0.75	0.99
	SE (m)	0.09		0.03	0.05		0.04	0.04	0.03	0.03	
	CD at 5%	0.28	0.26	0.07	0.10	0.08	0.13	0.09	0.08	0.10	
	CV	13.11	13.29	7.85	6.46	5.78	5.56	8.26	5.62	7.67	

Table 4.9.17 Number of tillers at 120 days (*000/ha)

Sl No	Entries	Faridkot	Kapurthala	Kota	Lucknow	Muzaffar nagar	Pantnagar	Shahja hanpur	Sriganga nagar	Uchani	Mean
1	Co 13035	117.75	88.45	109.81	105.02	169.63	94.35	201.23	155.23	152.72	132.69
2	CoH 13263	146.45	95.00	108.53	184.96	188.02	117.78	188.52	163.45	158.44	150.13
3	CoLk 13204	155.40	97.73	102.00	260.57	190.37	142.59	209.51	144.72	165.72	163.18
4	CoPant 13224	98.15	89.06	93.93	124.92	171.48	114.35	200.62	184.16	150.38	136.34
5	CoPb 13182	97.99	85.89	94.18	159.34	140.74	108.43	154.07	162.26	150.36	128.14
	Standards										
1	Co 05011	97.99	79.49	106.04	149.85	181.11	109.63	189.26	132.56	136.82	131.42
2	CoPant 97222	128.24	76.53	108.33	103.17	145.06	110.74	192.84	139.29	154.44	128.74
3	CoS 767	114.81	83.24	104.58	214.74	182.84	149.45	205.06	153.51	156.13	151.60
4	CoS 8436	91.05	89.90	103.83	117.67	150.74	105.56	208.77	145.63	119.46	125.85
	Mean	116.43	87.25	103.47	157.80	168.89	116.98	194.43	153.42	149.38	138.67
	SE (m)	3.08		2.25	9.34		1.84	8.08	4.55	3.78	
	CD at 5%	9.23	5.72	4.77	19.80	12.59	5.53	17.14	13.64	11.41	
	CV	4.58	3.79	4.61	7.25	4.31	2.73	7.20	7.35	4.38	

Table 4.9.18 Germination % at 45 days

Sl No	Entries	Faridkot	Kapurthala	Kota	Lucknow	Muzaffar nagar	Pantnagar	Shahja hanpur	Sriganga nagar	Uchani	Mean
1	Co 13035	36.39	49.79	41.93	27.49	35.09	29.93	54.72	30.24	47.24	39.20
2	CoH 13263	52.85	51.77	41.96	43.34	42.22	31.80	50.28	39.73	53.56	45.28
3	CoLk 13204	45.52	51.55	39.43	39.12	39.91	38.33	58.89	39.84	49.35	44.66
4	CoPant 13224	33.82	54.29	39.72	30.38	40.18	36.04	48.61	42.64	43.50	41.02
5	CoPb 13182	52.85	57.32	41.49	33.85	38.89	37.43	40.83	36.31	50.26	43.25
	Standards										
1	Co 05011	22.63	52.60	41.69	38.66	39.81	35.07	46.85	31.28	44.41	39.22
2	CoPant 97222	37.55	53.34	42.07	28.99	32.04	33.82	54.63	40.74	49.29	41.39
3	CoS 767	32.54	51.52	42.49	35.94	35.09	36.74	50.37	41.22	45.46	41.26
4	CoS 8436	39.99	49.51	41.78	29.69	36.11	33.33	45.65	35.51	41.06	39.18
	Mean	39.35	52.41	41.40	34.16	37.70	34.72	50.09	37.50	47.13	41.61
	SE (m)	1.03		1.18	2.72		0.84	2.30	1.01	1.49	
	CD at 5%	3.10	4.04	2.50	5.77	5.39	2.52	4.87	3.04	4.50	
	CV	4.55	4.46	6.06	9.75	8.26	4.20	7.95	7.16	5.47	

Table 4.9.19 Assessment of performance of entries by monitoring team

S. No	Entries	Lucknow	Shahjahanpur	Pantnagar	Muzaffarnagar	Karnal	Uchani	Kapurthala	Faridkot	Sriganganagar	Kota
1	Co 13035	Good	Better	On par	On par	Trial was not allotted	On par	Better	On par	Good	Good
2	CoH 13263	Better	Poor	Poor	On par		On par	On par	Better	Good	On par
3	CoPant 13224	Good	On par	Better	Good		On par	Better	On par	Better	Better
4	CoPb 13182	On par	Poor	Poor	Good		Good	Better	Better	On par	Better
5	CoLk 13204	On par	On par	On par	Good		Good	Good	Good	Good	Good
Standards											
1	CoS 767	Best	Best	Good	Good		On par	Best	Good	On par	Good
2	CoS 8436	Good	Good	Good	Good		Good	Good	Good	Good	Best
3	CoPant 97222	Good	Good	On par	Poor		Best	Poor	Best	Best	Poor
4	Co 05011	Good	Good	Best	Best		Good	On par	Good	poor	On par

4.10 INITIAL VARIETAL TRIAL (MIDLATE)

Centres (9)	Faridkot, Kapurthala, Kota, Lucknow, Muzaffarnagar, Pantnagar*, Shahjahanpur, Sriganganagar and Uchani
Entries (13)	1. Co 14035 (Co 0238 x Co 8347) 2. CoH 14261 (CoH 102 GC) 3. CoH 14262 (CoH 112 GC) 4. CoLk 14203 (CoLk 8002 x CoSe 92423) 5. CoLk 14204 (CoLk 8002 x CoSe 92423) 6. CoLk 14205 (28 NG 20 x IK 76-99) 7. CoPb 14183 (Co 89003 x CoSe 92423) 8. CoPb 14184 (Co 84032 x CoSe 92423) 9. CoPb 14185 (CoS 8436 PC) 10. CoPb 14212 (Co 1148 GC) 11. CoS 14231 (CoLk 97050 x CoS 90265) 12. CoS 14232 (CoS 95255 x CoS 510) 13. CoS 14233 (CoS 97261 x Co 775)
Standards (4)	Co 05011, CoPant 97222, CoS 767 and CoS 8436
Design	RBD
Replications	3
Plot size	Gross : 6 Rows x 6 m x 0.75 m Net : 4 Rows x 5 m x 0.75 m
Bud rate	12 buds/ metre
Planting time	February / March, 2017
Crop duration	12 months

* Pantnagar centre did not conduct IVT (ML) trial

** CoLk 14204 was not evaluated at Uchani centre due to unavailability of seed

Results of the previous year: These clones were under multiplication.

Results of the current year

CoPant 97222 was the best among the standards in the zone for cane yield (85.46 t/ha). Only one test entry, CoS 14232 recorded >10 % improvement for cane yield (96.35 t/ha) over the best standard. The entries which recorded numerically higher cane yield than CoPant 97222 were CoS 14233 (90.59 t/ha), CoLk 14203 (90.43 t/ha), CoPb 14183 (90.37 t/ha), CoS 14231 (89.96 t/ha), CoPb 14184 (89.42 t/ha) and CoPb 14185 (88.81 t/ha). The CCS yield of the best standard, Co 05011 was 10.87 t/ha and no test entries recorded >10 % improvement for CCS yield over the best standard although CoS 14232 (11.93 t/ha), CoS 14231 (11.29 t/ha), CoS 14233 (11.20 t/ha), CoPb 14185 (11.19 t/ha), CoLk 14203 (11.11 t/ha) and CoPb 14183 (11.11 t/ha) recorded numerically higher CCS yield than Co 05011. Among the standards, the highest sucrose % at harvest was recorded by Co 05011 (18.43). No test entries recorded > 5% improvement for sucrose % over the best standard although clones such as CoH 14261 (18.76) and CoLk 14204 (18.53) recorded numerically higher sucrose % than Co 05011. As regard to CCS % at harvest, among the standards Co 05011 recorded the highest CCS % (12.80). No test entries recorded > 5% improvement for CCS % over the best standard. However, entries such as CoH 14261 (13.04) and CoLk 14204 (12.79) recorded numerically higher CCS % than Co 05011. None of the entries in the trial was adjudged as qualifying entry as per the criteria. Further details are presented in Tables 4.10.1 to 4.10.18.

Table 4.10.1 CCS yield (t/ha) at harvest

SINo	Entries	Faridkot	Kapurthala	Kota	Lucknow	Muzaffarnagar	Shahjahanpur	Sriganganagar	Uchani	Mean	Rank
1	Co 14035	10.65	11.08	8.77	8.79	11.07	11.19	8.09	12.37	10.25	
2	CoH 14261	14.49	11.16	8.87	8.58	9.76	10.46	11.06	11.31	10.71	
3	CoH 14262	13.54	8.83	9.34	8.42	9.13	10.33	7.12	10.86	9.70	
4	CoLk 14203	14.42	9.84	8.90	12.05	11.68	11.20	10.84	9.95	11.11	
5	CoLk 14204	10.19	10.61	9.70	11.47	10.23	10.63	10.83	-	10.52	
6	CoLk 14205	14.13	8.76	8.51	10.88	14.42	10.13	9.06	9.98	10.73	
7	CoPb 14183	16.27	9.01	8.48	12.59	8.52	10.19	10.94	12.91	11.11	
8	CoPb 14184	17.91	10.04	7.68	9.93	11.06	9.69	10.51	9.99	10.85	
9	CoPb 14185	16.26	10.78	10.28	9.82	11.60	9.69	10.41	10.67	11.19	
10	CoPb 14212	15.33	9.54	11.07	8.42	10.04	11.38	7.93	9.65	10.42	
11	CoS 14231	13.35	8.81	10.03	13.98	12.31	11.51	9.70	10.62	11.29	2
12	CoS 14232	13.16	8.64	9.66	11.94	14.33	12.08	12.67	12.93	11.93	1
13	CoS 14233	13.14	9.83	8.40	10.99	13.67	11.82	10.89	10.85	11.20	3
Standards											
1	Co 05011	15.29	9.94	9.46	10.09	11.54	10.72	8.75	11.20	10.87	
2	CoPant 97222	15.51	10.62	9.36	11.58	8.29	9.39	10.03	10.35	10.64	
3	CoS 767	12.77	10.95	8.59	8.07	9.41	9.93	10.82	10.45	10.12	
4	CoS 8436	13.50	10.31	8.63	6.54	9.25	9.87	8.67	10.67	9.68	
	Mean	14.11	9.93	9.16	10.24	10.96	10.60	9.90	10.92	10.73	
	SE(m)	0.57	-	0.25	0.77	1.01	0.58	0.40	0.48	0.58	
	CD	1.72	0.71	0.51	1.58	2.16	1.23	1.21	1.46	1.32	
	CV	5.75	3.36	5.82	9.23	9.28	5.47	5.83	6.21	6.37	
Top three entries showing >10 % improvement over the best standard at each location											
	Rank 1	CoPb 14184		CoPb 14212	CoS 14231	CoLk 14205	CoS 14232	CoS 14232	CoS 14232		
	Rank 2					CoS 14232	CoS 14233		CoPb 14183		
	Rank 3					CoS 14233			Co 14035		

No. of locations where an entry is showing >10 % improvement: CoS 14232 (4), CoS 14233 (2), Co 14035 (1), CoLk 14205 (1), CoPb 14183 (1), CoPb 14184 (1), CoPb 14212 (1) and CoS 14231 (1).

Performance of the entries across locations: None of the test entries recorded >10 % improvement for CCS yield over the best standard Co 05011 (10.87 t/ha) although test entries such as CoS 14232 (11.93 t/ha), CoS 14231 (11.29 t/ha), CoS 14233 (11.20 t/ha), CoPb 14185 (11.19 t/ha), CoLk 14203 (11.11 t/ha) and CoPb 14183 (11.11 t/ha) recorded numerically higher CCS yield than Co 05011.

Table 4.10.2 Cane yield (t/ha) at harvest

SINo	Entries	Faridkot	Kapurthala	Kota	Lucknow	Muzaffarnagar	Shahjahanpur	Sriganganagar	Uchani	Mean	Rank
1	Co 14035	89.35	82.96	82.70	68.72	80.83	86.39	71.57	88.73	81.41	
2	CoH 14261	117.59	82.13	75.41	65.49	71.39	77.50	90.71	79.79	82.50	
3	CoH 14262	114.35	74.38	79.48	68.05	68.89	76.94	62.29	77.53	77.74	
4	CoLk 14203	118.06	80.83	80.01	92.91	87.22	87.78	98.68	77.92	90.43	3
5	CoLk 14204	80.09	82.13	81.67	94.20	74.44	80.00	84.48	-	82.43	
6	CoLk 14205	110.65	74.75	71.82	86.13	104.72	78.33	76.35	78.86	85.20	
7	CoPb 14183	144.91	75.73	70.46	103.87	64.16	77.78	96.84	89.25	90.37	
8	CoPb 14184	146.30	84.05	76.65	81.72	80.28	75.56	92.29	78.55	89.42	
9	CoPb 14185	125.93	88.20	84.45	90.68	85.00	74.72	87.77	73.69	88.81	
10	CoPb 14212	129.63	79.95	85.16	72.70	73.61	85.83	67.64	76.27	83.85	
11	CoS 14231	116.67	74.08	79.56	106.66	89.17	86.67	82.82	84.04	89.96	
12	CoS 14232	117.13	72.80	82.40	98.77	103.89	91.94	110.18	93.68	96.35	1
13	CoS 14233	110.19	82.96	81.09	86.04	100.56	90.56	95.26	78.08	90.59	2
Standards											
1	Co 05011	126.39	75.46	79.60	77.07	83.61	80.56	79.71	79.60	85.25	
2	CoPant 97222	128.70	80.01	82.40	91.27	60.28	73.89	84.26	82.86	85.46	
3	CoS 767	105.56	81.74	80.53	71.08	71.94	77.50	90.57	80.70	82.45	
4	CoS 8436	107.87	75.02	77.82	51.93	68.06	75.28	78.63	76.81	76.43	
	Mean	117.02	79.25	79.48	82.78	80.47	81.01	85.30	81.02	85.79	
	SE(m)	4.74	-	2.26	5.73	7.55	3.95	3.24	2.82		
	CD	14.20	4.78	4.62	11.70	16.02	8.37	9.74	8.59		
	CV	5.73	2.85	6.05	8.48	9.39	4.87	8.98	4.93		
Top three entries showing 10 % improvement over the best standard at each location											
Rank 1		CoPb 14184			CoS 14231	CoLk 14205	CoS 14232	CoS 14232	CoS 14232	CoS 14232	
Rank 2		CoPb 14183			CoPb 14183	CoS 14232	CoS 14233				
Rank 3						CoS 14233					

No. of locations where an entry is showing >10 % improvement: CoS 14232 (4), CoPb 14183 (2), CoS 14233 (2), CoLk 14205 (1), CoPb 14184 (1) and CoS 14231 (1).

Performance of the entries across locations: Among the standards, CoPant 97222 was the best in the zone for cane yield (85.46 t/ha). Only one test entry namely CoS 14232 recorded >10 % improvement for cane yield (96.35 t/ha) over the best standard. The entries recorded numerically higher cane yield than CoPant 97222 were CoS 14233 (90.59 t/ha), CoLk 14203 (90.43 t/ha), CoPb 14183 (90.37 t/ha), CoS 14231 (89.96 t/ha), CoPb 14184 (89.42 t/ha) and CoPb 14185 (88.81 t/ha).

Table 4.10.3 CCS % at harvest

SINo	Entries	Faridkot	Kapurthala	Kota	Lucknow	Muzaffarnagar	Shahjahanpur	Sriganganagar	Uchani	Mean	Rank
1	Co 14035	11.92	13.36	10.59	12.82	13.69	12.96	11.31	13.94	12.57	
2	CoH 14261	12.33	13.60	11.77	13.11	13.68	13.49	12.19	14.18	13.04	1
3	CoH 14262	11.84	11.87	11.75	12.38	13.25	13.42	11.43	14.00	12.49	
4	CoLk 14203	12.21	12.18	11.13	12.96	13.39	12.76	10.98	12.78	12.30	
5	CoLk 14204	12.74	12.92	11.89	12.16	13.74	13.29	12.82	-	12.79	3
6	CoLk 14205	12.77	11.72	11.86	12.63	13.78	12.93	11.86	12.67	12.53	
7	CoPb 14183	11.24	11.89	12.03	12.20	13.77	13.10	11.30	14.47	12.50	
8	CoPb 14184	12.25	11.94	10.02	12.15	13.77	12.82	11.39	12.74	12.14	
9	CoPb 14185	12.92	12.22	11.93	10.85	13.65	12.98	11.86	14.47	12.61	
10	CoPb 14212	11.83	11.93	13.01	11.59	13.64	13.27	11.72	12.67	12.46	
11	CoS 14231	11.43	11.89	12.61	13.10	13.80	13.29	11.71	12.63	12.56	
12	CoS 14232	11.24	11.86	11.72	12.07	13.80	13.06	11.50	13.80	12.38	
13	CoS 14233	11.94	11.85	10.36	12.77	13.60	13.06	11.43	13.89	12.36	
Standards											
1	Co 05011	12.09	13.17	11.89	13.10	13.81	13.31	10.98	14.07	12.80	2
2	CoPant 97222	12.05	13.27	11.36	12.70	13.76	12.70	11.90	12.50	12.53	
3	CoS 767	12.10	13.40	10.66	11.34	13.10	12.72	11.95	12.93	12.27	
4	CoS 8436	12.52	13.74	11.11	12.64	13.60	13.12	11.02	13.87	12.70	
	Mean	12.08	12.52	11.51	12.39	13.64	13.07	11.61	13.47	12.54	
	SE(m)	0.13	-	0.11	0.54	0.18	0.34	0.16	0.34	0.26	
	CD	0.38	0.43	0.24	1.10	0.39	NS	0.49	1.04	0.58	
	CV	1.48	1.63	2.20	5.33	1.36	2.62	2.91	3.59	2.64	
Top three entries showing >5 % improvement over the best standard at each location											
	Rank 1			CoPb 14212				CoLk 14204			
	Rank 2			CoS 14231							
	Rank 3										

No. of locations where an entry is showing >5 % improvement: CoLk 14204 (1), CoPb 14212 (1) and CoS 14231 (1).

Performance of the entries across locations: Among the standards, the highest CCS % at harvest was recorded by Co 05011 (12.80). No test entries recorded > 5% improvement for CCS % over the best standard although CoH 14261 (13.04) and CoLk 14204 (12.79) recorded numerically higher CCS % than Co 05011.

Table 4.10.4 Sucrose % at harvest

SINo	Entries	Faridkot	Kapurthala	Kota	Lucknow	Muzaffarnagar	Shahjahanpur	Sriganganagar	Uchani	Mean	Rank
1	Co 14035	17.28	19.37	15.74	18.38	19.73	18.70	16.25	19.97	18.18	
2	CoH 14261	17.78	19.82	17.18	18.86	19.81	18.95	17.44	20.22	18.76	1
3	CoH 14262	17.02	17.16	17.58	17.90	19.16	18.86	16.47	19.94	18.01	
4	CoLk 14203	17.68	18.00	16.56	18.64	19.41	18.44	16.18	18.56	17.93	
5	CoLk 14204	18.42	18.91	17.42	17.60	19.89	19.14	18.32	-	18.53	2
6	CoLk 14205	18.42	16.87	17.12	18.12	19.95	18.67	17.01	18.19	18.04	
7	CoPb 14183	16.14	17.05	17.51	17.61	19.46	18.89	16.63	20.20	17.94	
8	CoPb 14184	17.51	17.26	14.90	17.39	19.91	18.52	16.89	18.47	17.61	
9	CoPb 14185	18.71	17.51	17.40	15.73	19.68	18.73	17.19	20.38	18.17	
10	CoPb 14212	17.25	17.14	18.51	16.63	19.76	19.12	16.91	18.42	17.97	
11	CoS 14231	16.47	17.10	18.13	18.72	19.81	19.15	16.97	18.40	18.09	
12	CoS 14232	16.14	17.00	16.91	17.39	19.95	18.83	16.48	19.66	17.80	
13	CoS 14233	17.25	17.00	15.43	18.42	19.70	18.84	16.95	19.88	17.93	
Standards											
1	Co 05011	17.62	19.07	17.03	18.71	19.98	19.19	16.15	19.73	18.43	3
2	CoPant 97222	17.22	18.87	16.40	18.18	19.95	18.46	17.41	18.05	18.07	
3	CoS 767	17.27	17.92	15.74	16.39	18.91	18.39	17.27	19.02	17.61	
4	CoS 8436	18.12	17.81	16.45	18.20	19.62	18.91	16.23	19.65	18.12	
	Mean	17.43	17.87	16.82	17.82	19.69	18.81	16.87	19.29	18.08	
	SE(m)	0.18	-	0.12	0.74	0.36	0.33	0.22	0.30	0.32	
	CD	0.53	0.60	0.25	1.52	NS	NS	0.63	0.91	0.74	
	CV	1.43	1.57	1.60	5.10	1.82	1.74	2.76	2.18	2.28	
Top three entries showing >5 % improvement over the best standard at each location											
	Rank 1			CoPb 14212				CoLk 14204			
	Rank 2			CoS 14231							
	Rank 3										

No. of locations where an entry is showing >5 % improvement: CoLk 14204 (1), CoPb 14212 (1) and CoS 14231 (1).

Performance of the entries across locations: Among the standards, the highest sucrose % at harvest was recorded by Co 05011 (18.43). No test entries recorded > 5% improvement for sucrose % over the best standard although entries such as CoH 14261 (18.76) and CoLk 14204 (18.53) recorded numerically higher sucrose % than Co 05011.

Table 4.10.5 Brix % at harvest

SI No	Entries	Faridkot	Kapurthala	Kota	Lucknow	Muzaffarnagar	Shahjahanpur	Sriganganagar	Uchani	Mean
1	Co 14035	19.65	22.05	18.81	20.44	22.14	21.08	18.12	22.15	20.55
2	CoH 14261	20.00	22.80	19.82	21.12	22.49	21.31	19.31	22.20	21.13
3	CoH 14262	19.00	19.40	19.27	20.26	21.69	21.23	18.51	21.85	20.15
4	CoLk 14203	20.05	21.30	19.86	20.87	22.09	20.84	19.02	21.20	20.65
5	CoLk 14204	20.85	21.95	20.21	19.98	22.54	21.48	20.21	-	21.03
6	CoLk 14205	20.75	18.93	19.31	20.14	22.60	21.06	18.89	20.30	20.25
7	CoPb 14183	18.00	18.94	20.08	19.88	22.70	21.25	19.52	21.15	20.19
8	CoPb 14184	19.35	19.50	17.85	19.25	22.50	20.92	20.11	21.00	20.06
9	CoPb 14185	21.25	19.42	20.05	17.89	22.09	21.11	19.54	21.75	20.39
10	CoPb 14212	19.85	19.13	20.24	18.52	22.45	21.47	19.04	21.10	20.22
11	CoS 14231	18.50	19.13	20.20	20.66	22.05	21.50	19.28	21.15	20.31
12	CoS 14232	18.00	18.89	19.05	19.55	22.55	21.20	18.31	21.55	19.89
13	CoS 14233	19.50	18.90	18.52	20.74	22.35	21.22	20.18	22.00	20.43
	Standards									
1	Co 05011	20.25	21.80	18.89	20.64	22.60	21.58	18.91	20.85	20.69
2	CoPant 97222	19.00	21.64	18.48	20.15	22.69	21.13	20.18	20.35	20.45
3	CoS 767	19.00	20.24	18.58	18.53	21.29	20.80	19.53	22.30	20.03
4	CoS 8436	20.55	20.58	19.54	20.44	22.10	21.27	19.06	21.30	20.60
	Mean	19.62	20.27	19.34	19.94	22.29	21.20	19.28	21.39	20.42
	SE (m)	0.22	-	0.22	0.80	0.35	0.28	0.35	0.49	
	CD at 5%	0.67	0.49	0.46	1.64	NS	NS	1.05	NS	
	CV	1.62	1.15	2.46	4.94	1.58	1.34	3.07	3.23	

Table 4.10.6 Purity % at harvest

SI No	Entries	Faridkot	Kapurthala	Kota	Lucknow	Muzaffarnagar	Shahjahanpur	Sriganganagar	Uchani	Mean
1	Co 14035	87.94	87.85	83.72	89.94	89.11	88.71	90.11	90.28	88.46
2	CoH 14261	88.88	86.91	86.70	90.72	88.15	88.90	90.36	91.11	88.97
3	CoH 14262	89.55	88.46	82.68	88.38	88.36	88.83	88.96	91.29	88.31
4	CoLk 14203	88.19	84.51	83.49	89.32	88.18	88.46	85.17	87.53	86.86
5	CoLk 14204	88.34	86.15	85.97	88.00	88.29	89.11	90.08	-	87.99
6	CoLk 14205	88.77	89.14	88.68	89.93	88.27	88.65	90.16	89.61	89.15
7	CoPb 14183	89.67	90.00	87.23	88.52	87.92	88.87	85.18	95.51	89.11
8	CoPb 14184	90.49	88.52	83.57	90.30	88.51	88.52	84.32	88.25	87.81
9	CoPb 14185	88.06	90.13	86.77	87.93	89.08	88.74	88.04	93.69	89.06
10	CoPb 14212	86.88	89.57	91.51	89.81	88.04	89.03	89.16	87.30	88.91
11	CoS 14231	89.03	89.42	89.43	90.56	89.83	89.06	88.08	87.04	89.06
12	CoS 14232	89.67	90.02	88.77	88.39	88.48	88.84	90.13	91.31	89.45
13	CoS 14233	88.48	89.92	83.33	88.83	88.14	88.79	84.20	90.37	87.76
	Standards									
1	Co 05011	87.02	88.12	90.15	90.64	88.40	89.11	85.41	94.66	89.19
2	CoPant 97222	90.63	91.67	88.75	90.17	87.94	88.79	86.28	88.69	89.12
3	CoS 767	90.89	91.50	84.71	85.82	88.81	88.41	88.46	85.28	87.99
4	CoS 8436	88.18	94.92	84.21	89.22	88.80	88.90	85.17	92.23	88.95
	Mean	88.86	89.22	86.45	89.20	88.49	88.81	87.60	90.26	88.61
	SE (m)	0.48	-	0.94	1.20	0.76	0.29	0.58	2.53	
	CD at 5%	1.43	NS	1.91	2.44	NS	NS	1.73	NS	
	CV	0.76	2.61	2.31	1.64	0.86	0.32	1.46	3.97	

Table 4.10.7 Pol % in cane and Fibre % at harvest

Sl No	Entries	Pol % in cane				Fibre % at harvest			
		Lucknow	Muzaffarnagar	Shahjahanpur	Mean	Lucknow	Muzaffarnagar	Shahjahanpur	Mean
1	Co 14035	14.11	14.26	13.92	14.10	13.26	13.75	15.17	14.06
2	CoH 14261	14.51	14.25	13.96	14.24	13.02	13.90	15.18	14.03
3	CoH 14262	13.68	13.66	13.93	13.76	13.59	13.47	15.26	14.11
4	CoLk 14203	14.36	13.76	14.02	14.05	12.99	14.16	15.20	14.12
5	CoLk 14204	13.50	14.22	14.04	13.92	13.31	13.87	15.06	14.08
6	CoLk 14205	13.81	14.39	13.89	14.03	13.78	14.10	15.26	14.38
7	CoPb 14183	13.52	13.90	13.85	13.76	13.26	14.71	14.90	14.29
8	CoPb 14184	13.31	14.38	14.07	13.92	13.44	14.42	14.96	14.27
9	CoPb 14185	12.08	14.12	14.00	13.40	13.19	13.68	14.90	13.92
10	CoPb 14212	12.67	14.18	13.82	13.56	13.82	13.82	14.87	14.17
11	CoS 14231	14.34	14.34	13.95	14.21	13.37	13.68	14.89	13.98
12	CoS 14232	13.32	14.31	14.02	13.88	13.46	14.71	15.12	14.43
13	CoS 14233	14.20	14.23	13.99	14.14	12.90	13.92	15.10	13.97
	Standards								
1	Co 05011	14.45	14.38	14.10	14.31	12.80	14.14	15.07	14.00
2	CoPant 97222	13.89	14.33	13.97	14.06	13.58	14.15	14.97	14.23
3	CoS 767	12.61	13.82	13.53	13.32	13.11	14.20	15.12	14.14
4	CoS 8436	14.08	14.15	14.01	14.08	12.62	13.82	14.78	13.74
	Mean	13.67	14.16	13.95	13.93	13.26	14.03	15.05	14.11
	SE (m)	0.60				0.43			
	CD at 5%	1.22				NS			
	CV	5.34				3.98			

Table 4.10.8 Juice extraction % at 12th month

Sl No	Entries	Faridkot	Kapurthala	Kota	Lucknow	Muzaffarnagar	Shahjahanpur	Sriganganagar	Uchani	Mean
1	Co 14035	56.56	50.27	44.08	57.53	49.15	52.67	48.31	50.46	50.91
2	CoH 14261	57.39	52.33	42.85	55.72	47.06	52.42	44.66	49.73	50.27
3	CoH 14262	61.14	50.42	49.18	58.87	50.00	52.12	53.42	44.58	52.47
4	CoLk 14203	55.25	51.18	44.66	50.58	45.45	51.93	48.81	52.18	50.00
5	CoLk 14204	58.45	52.09	40.69	49.01	50.00	52.68	50.13	-	50.44
6	CoLk 14205	57.72	55.63	43.30	54.54	50.53	52.56	52.24	48.75	51.91
7	CoPb 14183	57.88	51.92	46.38	50.26	47.73	53.94	51.51	48.78	51.05
8	CoPb 14184	53.30	52.34	43.95	51.01	41.89	51.39	45.36	44.13	47.92
9	CoPb 14185	60.29	52.24	44.49	53.19	50.00	52.03	52.01	46.41	51.33
10	CoPb 14212	51.27	51.55	44.27	42.27	43.08	51.79	44.82	45.45	46.81
11	CoS 14231	57.57	52.48	46.36	55.66	50.00	53.45	53.06	46.03	51.83
12	CoS 14232	54.62	53.87	48.13	45.86	45.16	52.56	48.36	50.03	49.82
13	CoS 14233	55.37	50.51	42.05	50.38	46.87	53.24	51.29	54.14	50.48
	Standards									
1	Co 05011	59.83	50.46	44.45	57.95	42.67	53.17	51.08	51.33	51.37
2	CoPant 97222	61.90	50.19	44.72	53.32	42.50	53.85	50.21	51.09	50.97
3	CoS 767	58.45	53.30	44.95	52.89	44.94	52.93	50.16	47.38	50.62
4	CoS 8436	56.14	51.41	44.41	53.33	45.71	53.75	48.39	50.32	50.43
	Mean	57.24	51.89	44.64	52.49	46.63	52.72	49.64	48.80	50.51
	SE (m)	0.82	-	1.35	3.96	-	1.22	0.81	1.28	
	CD at 5%	2.45	NS	2.75	8.09	-	NS	2.43	3.90	
	CV	2.02	4.82	3.67	9.25	-	2.31	2.79	3.72	

Table 4.10.9 Brix % at 10th month

SI No	Entries	Faridkot	Kapurthala	Kota	Lucknow	Muzaffarnagar	Shahjahanpur	Sriganganagar	Uchani	Mean
1	Co 14035	17.65	18.45	16.38	19.78	19.17	19.76	16.41	19.55	18.39
2	CoH 14261	18.50	18.85	16.62	20.65	19.27	20.00	18.12	19.80	18.98
3	CoH 14262	15.40	17.10	17.25	18.38	17.67	20.45	17.03	18.65	17.74
4	CoLk 14203	18.70	16.85	15.37	19.10	18.02	19.33	17.26	20.75	18.17
5	CoLk 14204	19.10	18.70	15.38	17.55	19.02	20.57	18.93	-	18.46
6	CoLk 14205	17.20	16.15	14.86	17.89	18.72	19.13	17.67	19.55	17.65
7	CoPb 14183	16.30	16.77	18.07	16.05	18.42	18.24	17.12	19.50	17.56
8	CoPb 14184	18.35	16.35	14.82	17.93	18.62	19.56	18.29	19.45	17.92
9	CoPb 14185	18.40	16.75	15.33	18.86	18.52	19.54	17.73	19.80	18.12
10	CoPb 14212	18.25	17.65	16.52	17.10	17.82	19.43	17.46	18.65	17.86
11	CoS 14231	17.00	17.83	16.72	18.96	19.27	19.67	18.06	19.30	18.35
12	CoS 14232	16.70	17.35	14.82	15.79	17.66	19.31	16.99	19.25	17.23
13	CoS 14233	19.00	17.55	14.34	18.44	19.52	20.55	18.48	19.40	18.41
	Standards									
1	Co 05011	16.25	18.95	16.74	18.45	18.52	17.77	17.31	18.55	17.82
2	CoPant 97222	17.50	17.30	16.39	18.94	19.12	19.71	18.21	19.15	18.29
3	CoS 767	17.50	18.50	17.47	18.28	18.22	18.72	18.11	19.30	18.26
4	CoS 8436	18.00	17.05	15.79	17.97	18.82	19.83	17.56	19.30	18.04
	Mean	17.64	17.54	16.05	18.24	18.61	19.50	17.69	19.37	18.08
	SE (m)	0.26	-	0.13	0.94	0.38	0.24	0.37	0.23	0.36
	CD at 5%	0.78	0.56	0.25	1.92	7.99	0.52	1.11	0.68	1.73
	CV	2.09	1.51	1.63	6.33	2.03	1.25	2.92	1.64	2.42

Table 4.10.10 Sucrose % at 10th month

Sl No	Entries	Faridkot	Kapurthala	Kota	Lucknow	Muzaffarnagar	Shahjahanpur	Sriganganagar	Uchani	Mean
1	Co 14035	15.45	16.71	13.59	17.94	16.56	17.23	14.30	17.32	16.14
2	CoH 14261	16.14	16.10	14.13	18.51	16.49	17.50	15.96	18.25	16.63
3	CoH 14262	13.64	15.36	14.66	16.20	15.45	17.99	14.53	16.23	15.51
4	CoLk 14203	16.29	15.15	13.34	16.89	15.66	16.77	14.37	17.60	15.76
5	CoLk 14204	16.78	16.59	13.37	15.49	16.35	18.13	16.64	-	16.19
6	CoLk 14205	14.87	14.07	12.28	15.98	16.24	16.55	15.52	15.79	15.16
7	CoPb 14183	14.34	14.03	15.79	13.66	16.06	15.62	14.25	16.27	15.00
8	CoPb 14184	16.02	14.57	11.91	16.07	15.58	17.02	15.11	18.04	15.54
9	CoPb 14185	16.11	14.65	12.79	17.04	15.90	17.01	15.16	18.59	15.91
10	CoPb 14212	15.80	16.31	13.35	15.14	15.57	16.35	15.10	16.24	15.48
11	CoS 14231	14.99	16.00	13.35	17.02	16.61	17.14	15.42	16.98	15.94
12	CoS 14232	14.48	14.94	12.16	13.75	14.81	16.75	14.83	16.45	14.77
13	CoS 14233	16.56	14.83	11.63	16.14	16.81	18.11	15.24	17.17	15.81
	Standards									
1	Co 05011	14.12	16.68	14.08	16.50	15.77	15.11	14.46	16.26	15.37
2	CoPant 97222	15.45	15.11	13.79	16.90	16.16	17.18	15.33	16.35	15.78
3	CoS 767	15.33	15.91	14.68	16.22	15.69	16.14	15.64	16.56	15.77
4	CoS 8436	15.78	15.25	13.51	15.94	16.27	17.32	14.52	15.44	15.50
	Mean	15.42	15.43	13.44	16.20	16.00	16.93	15.08	16.84	15.67
	SE (m)	0.20	-	1.01	0.95	0.44	0.17	0.27	0.33	
	CD at 5%	0.61	0.62	0.20	1.94	0.93	0.36	0.83	1.00	
	CV	1.86	1.91	1.60	7.20	2.37	0.99	2.59	2.77	

Table 4.10.11 Purity % at 10th month

Sl No	Entries	Faridkot	Kapurthala	Kota	Lucknow	Muzaffarnagar	Shahjahanpur	Sriganganagar	Uchani	Mean
1	Co 14035	87.50	90.57	83.00	90.71	86.41	87.20	87.16	88.61	87.65
2	CoH 14261	87.24	85.38	85.03	89.64	85.59	87.53	88.34	92.18	87.62
3	CoH 14262	88.54	89.79	84.98	88.19	87.48	87.95	85.41	87.02	87.42
4	CoLk 14203	87.11	89.90	86.78	88.89	86.41	86.78	83.28	84.87	86.75
5	CoLk 14204	87.83	88.72	87.01	88.26	85.71	88.16	88.19	-	87.70
6	CoLk 14205	86.42	87.12	82.64	87.61	86.77	86.54	87.91	80.75	85.72
7	CoPb 14183	87.94	83.66	87.42	85.13	87.18	85.61	83.24	83.47	85.46
8	CoPb 14184	87.30	89.07	80.32	89.57	83.69	87.04	82.63	92.74	86.54
9	CoPb 14185	87.53	87.44	83.48	90.32	85.85	87.05	85.51	93.89	87.63
10	CoPb 14212	86.55	92.38	80.83	88.59	87.35	86.37	86.49	87.13	86.96
11	CoS 14231	88.15	89.74	79.82	89.73	86.19	87.14	85.36	88.01	86.77
12	CoS 14232	86.70	86.12	82.03	87.03	83.88	86.72	87.29	85.47	85.66
13	CoS 14233	87.16	84.51	81.09	87.45	86.17	88.13	82.45	88.53	85.69
	Standards									
1	Co 05011	86.86	88.02	84.12	89.47	85.17	85.00	83.55	87.64	86.23
2	CoPant 97222	88.27	87.35	84.11	89.27	85.05	87.16	84.21	85.40	86.35
3	CoS 767	87.61	85.97	84.03	88.66	85.56	86.22	86.36	85.82	86.28
4	CoS 8436	87.67	89.41	85.51	88.66	86.43	87.22	82.73	79.98	85.95
	Mean	87.43	87.95	83.66	88.66	85.93	86.94	85.30	86.97	86.60
	SE (m)	0.54	-	0.77	1.73	1.02	0.18	0.71	1.72	
	CD at 5%	1.62	2.42	1.57	3.54	2.16	0.37	2.12	5.23	
	CV	0.87	1.30	1.95	2.39	1.18	0.20	1.69	2.80	

Table 4.10.12 CCS % at 10th month

SI No	Entries	Faridkot	Kapurthala	Kota	Lucknow	Muzaffarnagar	Shahjahanpur	Sriganganagar	Uchani	Mean
1	Co 14035	10.63	11.69	9.11	12.56	11.33	11.84	9.82	11.99	11.12
2	CoH 14261	11.09	10.95	9.59	12.88	11.23	12.05	11.02	12.87	11.46
3	CoH 14262	9.44	10.70	9.94	11.19	10.63	12.41	9.88	11.14	10.67
4	CoLk 14203	11.19	10.56	9.14	11.68	10.71	11.44	9.65	11.93	10.79
5	CoLk 14204	11.57	11.50	9.17	10.71	11.09	12.53	11.48	-	11.15
6	CoLk 14205	10.17	9.67	8.21	11.10	11.12	11.33	10.70	10.43	10.34
7	CoPb 14183	9.89	9.44	10.86	9.27	11.03	10.60	9.56	10.93	10.20
8	CoPb 14184	11.01	10.11	7.84	11.19	10.49	11.69	10.10	12.76	10.65
9	CoPb 14185	11.09	10.08	8.60	11.91	10.84	11.68	10.32	13.22	10.97
10	CoPb 14212	10.81	11.51	8.82	10.48	11.07	11.19	10.33	11.15	10.67
11	CoS 14231	10.35	11.15	8.76	11.86	11.34	11.77	10.49	11.72	10.93
12	CoS 14232	9.92	10.20	8.10	9.44	10.48	11.48	10.19	11.20	10.13
13	CoS 14233	11.38	10.04	7.70	11.11	11.48	12.51	10.18	11.88	10.79
	Standards									
1	Co 05011	9.68	11.51	9.50	11.48	10.71	10.26	9.72	11.20	10.51
2	CoPant 97222	10.67	10.39	9.31	11.74	10.93	11.80	10.35	11.12	10.79
3	CoS 767	10.55	10.86	9.90	11.24	10.61	11.03	10.70	11.29	10.77
4	CoS 8436	10.87	10.60	9.19	11.05	11.07	11.90	9.71	10.14	10.57
	Mean	10.61	10.64	9.04	11.23	10.95	11.62	10.25	11.56	10.74
	SE (m)	0.14	-	0.10	0.72	0.38	0.14	0.18	0.33	
	CD at 5%	0.42	0.53	0.20	1.47	NS	0.30	0.51	0.99	
	CV	1.88	2.35	2.35	7.85	3.47	1.19	3.46	3.99	

Table 4.10.13 NMC at harvest ('000/ha)

SI No	Entries	Faridkot	Kapurthala	Kota	Lucknow	Muzaffarnagar	Shahjahanpur	Sriganganagar	Uchani	Mean
1	Co 14035	82.18	79.75	82.55	70.78	90.27	94.72	98.54	102.40	87.65
2	CoH 14261	94.44	77.93	79.10	96.71	102.50	98.89	99.36	128.13	97.13
3	CoH 14262	81.71	73.20	77.72	69.75	87.50	85.00	80.18	117.52	84.07
4	CoLk 14203	83.56	84.13	81.99	98.35	107.77	108.33	121.74	93.86	97.47
5	CoLk 14204	79.17	85.63	82.94	101.85	98.33	102.78	94.94	-	92.23
6	CoLk 14205	97.69	77.15	77.22	101.75	114.44	100.28	97.36	102.50	96.05
7	CoPb 14183	105.79	76.98	76.89	112.86	84.16	93.61	112.08	120.36	97.84
8	CoPb 14184	100.23	78.05	75.03	89.81	109.44	99.17	90.57	113.41	94.46
9	CoPb 14185	85.42	84.53	80.28	79.42	101.38	105.56	104.88	110.01	93.93
10	CoPb 14212	113.43	79.08	75.41	104.94	119.72	98.06	78.72	130.95	100.04
11	CoS 14231	105.09	73.84	73.75	118.21	102.50	101.84	92.53	100.69	96.06
12	CoS 14232	102.55	74.50	71.33	105.66	98.88	105.00	117.46	124.18	99.94
13	CoS 14233	112.73	77.78	75.80	111.93	122.50	111.67	103.71	132.57	106.09
	Standards									
1	Co 05011	101.16	66.94	80.62	91.05	112.50	88.89	87.72	100.96	91.23
2	CoPant 97222	104.86	63.66	78.01	99.38	80.27	94.44	98.61	130.42	93.71
3	CoS 767	102.31	71.56	78.50	98.46	101.11	106.11	101.36	112.39	96.47
4	CoS 8436	103.94	75.11	79.54	87.65	99.72	93.89	96.28	106.40	92.82
	Mean	97.43	76.46	78.04	96.39	101.94	99.31	98.59	114.17	95.29
	SE (m)	2.63	-	1.05	6.08	6.91	5.93	3.45	4.31	
	CD at 5%	7.88	7.45	2.14	12.42	14.66	12.58	10.36	13.10	
	CV	3.81	4.60	5.00	7.73	6.78	5.97	7.28	5.34	

Table 4.10.14 Stalk length (cm)

SI No	Entries	Faridkot	Kapurthala	Kota	Lucknow	Muzaffarnagar	Shahjahanpur	Sriganganagar	Uchani	Mean
1	Co 14035	258.17	244.10	191.00	242.33	220.00	266.50	165.16	251.25	229.81
2	CoH 14261	229.50	248.70	213.00	182.00	156.00	188.50	189.21	188.13	199.38
3	CoH 14262	197.50	222.90	216.00	206.67	198.00	188.50	158.62	165.00	194.15
4	CoLk 14203	291.50	254.10	216.00	250.67	212.00	236.50	216.51	249.38	240.83
5	CoLk 14204	205.50	266.30	217.00	245.00	148.00	237.50	195.36	-	216.38
6	CoLk 14205	249.16	262.30	214.00	248.33	209.00	221.50	205.81	240.25	231.29
7	CoPb 14183	285.83	228.90	219.00	266.67	193.00	211.00	226.26	252.38	235.38
8	CoPb 14184	257.00	223.50	226.00	194.67	175.00	212.50	219.81	197.50	213.25
9	CoPb 14185	249.17	268.00	220.00	218.33	190.00	211.00	190.79	202.75	218.76
10	CoPb 14212	283.00	270.80	221.00	233.33	180.00	226.50	181.16	221.88	227.21
11	CoS 14231	260.50	222.90	230.00	226.67	223.00	201.50	172.29	235.63	221.56
12	CoS 14232	264.17	254.10	244.00	241.67	217.00	267.50	220.51	253.63	245.32
13	CoS 14233	230.67	266.30	222.00	224.67	141.00	230.00	203.36	210.50	216.06
	Standards									
1	Co 05011	255.33	288.30	240.00	202.67	169.00	211.50	181.31	190.00	217.26
2	CoPant 97222	241.16	258.30	238.00	211.00	198.00	191.50	213.29	233.50	223.09
3	CoS 767	231.00	253.60	217.00	240.33	171.00	215.00	195.62	245.63	221.15
4	CoS 8436	168.50	198.70	223.00	163.33	136.00	176.50	180.18	169.63	176.98
	Mean	244.57	248.93	209.28	223.43	184.47	217.26	195.01	219.19	217.77
	SE (m)	4.75	-	0.03	0.13	0.89	7.99	6.55	5.22	
	CD at 5%	14.23	20.50	7.10	25.94	19.00	16.94	19.64	15.88	
	CV	2.74	9.80	3.37	6.96	4.82	7.99	8.04	3.37	

Table 4.10.15 Stalk diameter (cm)

SI No	Entries	Faridkot	Kapurthala	Kota	Lucknow	Muzaffarnagar	Shahjahanpur	Sriganganagar	Uchani	Mean
1	Co 14035	2.38	2.18	2.14	2.29	2.47	2.36	2.56	2.26	2.33
2	CoH 14261	2.53	2.16	2.03	2.30	2.11	2.57	2.54	2.22	2.31
3	CoH 14262	2.80	1.88	2.03	2.50	2.97	2.58	2.61	2.32	2.46
4	CoLk 14203	2.48	2.13	2.21	2.07	2.08	2.28	2.21	2.34	2.22
5	CoLk 14204	2.45	2.21	2.31	2.37	2.32	2.33	2.41	-	2.34
6	CoLk 14205	2.40	2.13	2.05	2.04	2.01	2.38	2.36	2.28	2.21
7	CoPb 14183	2.47	1.96	2.24	2.08	2.30	2.33	2.48	2.18	2.25
8	CoPb 14184	2.73	2.23	2.12	2.33	2.13	2.27	2.61	2.29	2.34
9	CoPb 14185	2.75	2.36	1.95	2.56	2.23	2.46	2.56	2.26	2.39
10	CoPb 14212	2.18	2.24	1.93	1.68	2.21	2.37	2.41	1.97	2.12
11	CoS 14231	2.45	1.83	2.06	2.09	2.50	2.48	2.39	2.26	2.26
12	CoS 14232	2.31	2.03	2.11	1.88	2.79	2.30	2.34	2.27	2.25
13	CoS 14233	2.33	2.23	2.14	2.15	2.13	2.34	2.46	2.08	2.23
	Standards									
1	Co 05011	2.55	2.37	2.17	2.41	2.27	2.45	2.32	2.35	2.36
2	CoPant 97222	2.52	1.95	2.24	2.18	2.18	2.39	2.48	2.10	2.26
3	CoS 767	2.45	2.21	2.42	2.13	2.29	2.24	2.31	2.26	2.29
4	CoS 8436	2.85	1.93	2.22	2.13	3.18	2.59	2.40	2.33	2.45
	Mean	2.51	2.12	2.14	2.19	2.36	2.40	2.44	2.23	2.30
	SE (m)	0.06	-	0.04	0.12	0.10	0.07	0.05	0.04	
	CD at 5%	0.17	NS	0.10	0.25	0.22	0.16	0.16	0.13	
	CV	3.18	7.24	4.79	6.83	4.45	3.07	4.12	2.64	

Table 4.10.16 Single cane weight (kg)

SI No	Entries	Faridkot	Kapurthala	Kota	Lucknow	Muzaffarnagar	Shahjahanpur	Sriganganagar	Uchani	Mean
1	Co 14035	1.19	0.98	0.99	0.97	1.01	1.10	0.69	0.95	0.99
2	CoH 14261	1.33	1.11	0.86	0.68	0.84	0.73	0.91	0.67	0.89
3	CoH 14262	1.46	1.02	0.94	0.98	0.83	0.80	0.82	0.74	0.95
4	CoLk 14203	1.43	1.29	1.06	0.94	0.89	0.91	0.71	0.95	1.02
5	CoLk 14204	1.09	1.02	1.05	0.93	0.83	0.97	0.89	-	0.97
6	CoLk 14205	1.21	1.29	0.96	0.85	0.92	0.99	0.78	0.87	0.98
7	CoPb 14183	1.42	1.31	1.03	0.92	0.81	0.87	0.83	0.80	1.00
8	CoPb 14184	1.58	1.22	0.96	0.91	0.77	0.96	1.02	0.76	1.02
9	CoPb 14185	1.60	1.27	0.87	1.15	0.85	0.95	0.83	0.75	1.03
10	CoPb 14212	1.17	1.01	0.90	0.69	0.67	0.83	0.96	0.67	0.86
11	CoS 14231	1.25	1.00	0.93	0.91	0.95	0.88	0.89	0.92	0.97
12	CoS 14232	1.20	0.98	0.95	0.93	1.05	1.05	0.98	0.84	1.00
13	CoS 14233	1.08	1.26	0.90	0.77	0.82	0.89	0.84	0.63	0.90
	Standards									
1	Co 05011	1.34	1.13	0.92	0.85	0.87	0.93	0.71	0.84	0.95
2	CoPant 97222	1.29	1.26	0.81	0.92	0.71	0.85	0.96	0.68	0.93
3	CoS 767	1.12	1.06	0.88	0.72	0.75	0.88	0.87	0.80	0.88
4	CoS 8436	1.13	1.00	0.84	0.59	0.70	0.83	0.76	0.80	0.83
	Mean	1.29	1.13	0.93	0.87	0.84	0.90	0.85	0.79	0.95
	SE (m)	0.07	-	0.01	0.05	0.05	0.08	0.04	0.01	
	CD at 5%	0.20	0.13	0.03	0.10	0.11	0.17	0.11	0.03	
	CV	7.38	5.39	3.56	6.86	6.05	8.92	5.98	1.96	

Table 4.10.17 Number of tillers at 120 days ('000/ha)

Sl No	Entries	Faridkot	Kapurthala	Kota	Lucknow	Muzaffarnagar	Shahjahanpur	Sriganganagar	Uchani	Mean
1	Co 14035	117.82	92.79	101.93	106.58	174.99	188.06	152.28	126.40	132.61
2	CoH 14261	131.48	90.63	105.63	176.75	183.05	196.94	163.16	150.13	149.72
3	CoH 14262	112.27	85.15	109.57	120.16	182.49	157.22	128.26	144.02	129.89
4	CoLk 14203	125.93	97.86	112.60	137.96	178.88	198.89	171.73	131.36	144.40
5	CoLk 14204	95.60	99.63	112.27	174.90	191.38	206.67	142.34	-	146.11
6	CoLk 14205	128.01	89.77	114.33	176.75	203.32	201.39	149.84	152.50	151.99
7	CoPb 14183	125.69	89.53	114.40	175.07	172.49	198.89	157.21	154.86	148.52
8	CoPb 14184	122.22	90.76	114.80	148.46	193.05	198.61	135.57	140.41	142.98
9	CoPb 14185	109.49	98.30	109.57	122.04	158.05	198.89	153.36	136.51	135.78
10	CoPb 14212	152.55	91.99	113.47	227.16	186.10	212.78	117.29	143.95	155.66
11	CoS 14231	122.92	85.91	109.80	205.25	181.10	197.78	143.42	130.69	147.11
12	CoS 14232	116.44	86.69	102.50	172.43	185.27	203.61	182.65	151.68	150.16
13	CoS 14233	137.73	90.46	102.97	192.70	200.82	215.56	161.57	153.07	156.86
	Standards									
1	Co 05011	130.56	77.85	111.63	155.35	191.66	193.06	126.36	120.96	138.43
2	CoPant 97222	126.16	74.04	108.10	162.35	150.82	295.00	137.44	140.92	149.35
3	CoS 767	135.42	83.21	107.67	169.55	191.93	195.83	144.67	132.89	145.15
4	CoS 8436	121.99	87.35	107.67	150.72	156.38	205.28	139.38	141.40	138.77
	Mean	124.25	88.94	109.35	163.19	181.28	197.91	147.44	140.73	144.14
	SE (m)	2.52	-	1.92	12.89	7.68	8.08	5.49	6.30	
	CD at 5%	7.56	8.72	3.92	26.32	16.28	17.13	16.47	19.15	
	CV	2.87	4.63	3.73	9.68	4.27	5.77	7.12	6.33	

Table 4.10.18 Germination % at 45 days

Sl No	Entries	Faridkot	Kapurthala	Kota	Lucknow	Muzaffarnagar	Shahjahanpur	Sriganganagar	Uchani	Mean
1	Co 14035	31.06	50.27	43.02	30.70	29.58	52.29	30.51	40.84	38.53
2	CoH 14261	42.44	52.33	41.40	42.36	37.08	54.17	39.28	47.13	44.52
3	CoH 14262	22.18	50.42	41.52	33.35	40.00	41.46	32.32	40.11	37.67
4	CoLk 14203	40.51	51.18	42.69	39.72	35.00	53.33	40.28	50.08	44.10
5	CoLk 14204	41.86	52.09	42.48	34.64	38.12	53.75	42.22	-	43.59
6	CoLk 14205	37.62	55.63	44.92	36.42	45.41	53.96	39.43	52.54	45.74
7	CoPb 14183	40.90	51.92	40.50	34.99	33.75	52.50	41.51	53.97	43.75
8	CoPb 14184	47.07	52.34	37.66	35.85	37.91	56.25	38.82	54.41	45.04
9	CoPb 14185	48.80	52.24	41.04	38.01	34.37	56.88	42.16	53.23	45.84
10	CoPb 14212	40.12	51.55	44.29	38.97	42.70	53.75	40.20	36.40	43.50
11	CoS 14231	51.50	52.48	45.04	47.69	40.83	51.46	41.22	53.12	47.92
12	CoS 14232	37.81	53.87	41.29	45.29	41.47	56.67	43.10	52.63	46.52
13	CoS 14233	43.60	50.51	37.80	43.75	38.33	57.08	44.08	52.09	45.91
	Standards									
1	Co 05011	34.34	50.46	43.18	42.24	40.83	52.50	34.98	42.30	42.60
2	CoPant 97222	35.49	50.19	42.19	32.25	33.83	52.92	41.12	44.69	41.59
3	CoS 767	34.53	53.30	42.11	32.72	39.37	52.29	40.16	48.50	42.87
4	CoS 8436	52.28	51.41	39.07	33.12	37.91	57.50	36.92	43.33	43.94
	Mean	40.12	51.89	41.78	37.77	38.03	53.46	39.31	47.83	43.77
	SE (m)	1.39	-	1.11	3.19	5.57	3.24	0.87	1.57	
	CD at 5%	4.18	NS	2.27	6.51	NS	6.86	2.61	4.76	
	CV	4.91	4.82	5.66	10.34	14.64	6.05	3.46	4.63	

Table 4.10.19 Assessment of performance of entries by monitoring team

S. No	Entries	Lucknow	Shahjahan pur	Pant nagar *	Muzzaffarnagar	Karnal**	Uchani	Kapurthala	Faridkot	Sriganganagar	Kota
1	Co 14035	Good	Better		Good		On par	Good	Good	good	Good
2	CoH 14261	Poor	On par		Good		Better	Better	On par	better	Good
3	CoH 14262	Good	Poor		Good		On par	Good	Good	Good	On par
4	CoLk 14203	On par	Better		Good		Good	Better	Better	Better	Better
5	CoLk 14204	Better	Better		Good		***	Good	Good	Good	On par
6	CoLk 14205	On par	On par		On par		On par	Good	Good	On par	On par
7	CoPb 14183	On par	Better		Poor		On par	Better	On par	Better	Good
8	CoPb 14184	On par	On par		Better		Good	Better	On par	Better	Good
9	CoPb 14185	Good	Better		Poor		On par	Better	Better	Good	On par
10	CoPb 14212	On par	On par		Better		Good	Good	Better	Poor	On par
11	CoS 14231	On par	On par		Good		On par	Good	Good	On par	Poor
12	CoS 14232	Better	Better		Poor		Good	Good	On par	Better	On par
13	CoS 14233	Better	Better		Good		Better	Poor	On par	Good	On par
Standards											
1	CoS 767	Best	Best		Good		Best	Best	Good	Good	Good
2	CoS 8436	Good	Good		Good		Good	Good	Good	Good	Good
3	CoPant 97222	Good	Good		Good		Good	Poor	Best	Best	Best
4	Co 05011	Poor	Good		Best		Good	Good	Good	Good	On par

*The trial was not conducted by the centres due to less availability of seed materials

** The trail was not allotted to this centre: *** CoLk 14204 was not planted in the trial at Uchani centre

5. NORTH CENTRAL ZONE

North Central and North East zones comprises of the states of Assam, Bihar, Central & Eastern Uttar Pradesh and West Bengal.

State	Centres
Assam	Buralikson
Bihar	Motipur & Pusa
Uttar Pradesh	Seorahi & Gorakhpur
West Bengal	Bethuadahari

Trials conducted during 2016-17:*

S. No.	Location	AVT Early II Plant	AVT Early Ratoon	AVT Early I Plant	IVT Early	AVT Midlate II Plant	AVT Midlate Ratoon	IVT Midlate
1	Bethuadahari	C	C	C	C	C	C	C
2	Buralikson	C	C	C	C	C	C	NC
3	Gorakhpur	NC	NC	NC	NC	NC	NC	NC
4	Motipur	C	C	C	C	C	C	C
5	Pusa	C	C	C	C	C	C	C
6	Seorahi	C	C	C	C	C	C	C

*AVT (Midlate I Plant) Trial was not allotted during 2017-18.

C – Trial conducted, NC– Not conducted

5.1. ADVANCED VARIETAL TRIAL (EARLY) – II PLANT

Centers (5)	Bethuadahari, Buralikson, Motipur, Pusa and Seorahi
Entries (3)	CoLk 12207, CoP 12436 and CoSe 12451
Standards (2)	BO 130 and CoSe 95422
Design	RBD
Replications	Four
Plot size	Gross : 6 m x 8 rows x 0.75 m Net : 5 m x 6 rows x 0.75 m
Seed rate	12 buds per meter
Date of planting	February - March, 2017
Crop duration	10 months

Results of the previous year:

Three test entries and two standards were evaluated in AVT (Early) I plant at six centers of North Central and North East zones. BO 130 (8.93 t/ha) was the better standard for CCS yield (t/ha). CoP 12436 (9.39 t/ha) was the top ranking entry and performed better than BO 130 and showed more than 10% improvement at two centers. CoLk 12207 (9.32 t/ha) was the second best entry when compared with the better standard BO 130. CoLk 12207 and CoSe 12451 recorded more than 10% improvement at Seorahi and Gorakhpur. BO 130 (75.77 t/ha) was the better standard for cane yield across the locations. CoP 12436 (82.27 t/ha) ranked first and CoLk 12207 (80.11 t/ha) was the second best entry for cane yield (t/ha). All the three test entries recorded more than 10% improvement for cane yield (t/ha) and significantly superior compared with the better standard BO 130 at Seorahi and Gorakhpur. CoP12436 showed more than 10% improvement for cane yield (t/ha) and significantly superior over BO 130 at Pusa, also BO 130 was the better standard for CCS and sucrose with 11.64% and 17.04% respectively. None of the test entries performed better than the standards for both characters, among the test entries, CoLk 12207 ranked third with 11.56% & 16.65% for CCS and sucrose respectively.

Results of the current year:

Three entries and two standards were evaluated in AVT (Early) II Plant at five locations of North Central and North East zones during 2017-18 for cane and juice parameters. CoLk 12207(9.30 t/ha) ranked top for mean CCS yield and also recorded 16.78% improvement over best standard across five locations. It also recorded 39.49% and 44.17% improvement over better standard at Pusa and Bethuadari centers. CoSe 12451 recorded 12.34% and 33.13% over better standards at Seorahi and Bethuadari. For cane yield, the entry CoLk 12207 ranked top with 78.58 t/ha and recorded 15.11% mean improvement over the better standards across five locations. It also recorded >10% improvement over better standards at three locations, followed by CoSe 12451 at two and CoP 12436 at one location. For CCS%, none of the test entries recorded >5% improvement over better standard BO (11.69%). However CoLk 12207 (11.83%) ranked top position for mean CCS% across locations. All three entries recorded significantly superior performance over the better standard at Bethuadahari Centre. For sucrose%, none of the test entries recorded 5% improvement over best standard. CoLk 12207 (16.98%) ranked top position for mean sucrose % across locations. At Bethuadahari centre all three entries recorded significantly superior performance over the better standard. Based on the yield and juice quality parameters CoLk 12207 was identified as the qualifying entry as it recorded 15.11% improvement for cane yield and numerically superior for juice sucrose 5 compared to best standard. **The data are presented in table 5.1.1 to 5.1.21.**

Table 5.1.1. CCS (t/ha) at harvest

S. No.	Entries	Seo rahi	Pusa	Moti pur	Bethua dahari	Bura likson	Mean	Overall rank
1	CoLk 12207	9.11*	13.21*	8.66	8.56*	6.94	9.30	1
2	CoP 12436	8.61	10.40	8.72	5.19	6.97	7.98	3
3	CoSe 12451	9.58	9.64	9.10	9.27*	5.34	8.59	2
Standards								
1	BO 130	8.53	9.47	8.54	6.43	6.84	7.96	
2	CoSe 95422	7.46	9.16	6.16	5.17	9.05	7.40	
	GM	8.66	10.38	8.24	6.92	7.03		
	SE	0.02	0.31	1.00	0.48	NS.		
	CD	0.06	0.98	-	1.45	-		
	CV	4.23	6.05	24.30	6.25	-		
Qualifying entries at each locations								
	1	CoSe 12451	CoLk 12207		CoLk 12207		CoLk 12207	
	2				CoSe 12451			
	3							

* Significantly superior over the best standard

Qualifying entries: CoSe 12451 (2), CoLk 12207 (2).

Performance across the locations: CoLk 12207 ranked top with 9.30 t/ha of mean CCS yield across five locations and also recorded 16.78% improvement over best standard BO 130(7.96 t/ha). CoP 12436 and CoSe 12451 recorded second and third rank respectively across locations. The entry CoLk 12207 recorded more than 10% improvement over better standards at Pusa (39.49%) and Bethuadari (44.17%) centres. Another entry CoSe 12451 recorded 10% improvement over better standard at Seorahi (12.31%) and Bethuadari (33.13%).

Table 5.1.2. Cane yield (t/ha) at harvest

S. No.	Entries	Seo rahi	Pusa	Moti pur	Bethua dahari	Bura likson	Mean	Overall rank
1	CoLk 12207	81.89*	106.71*	75.23	72.19*	56.90	78.58	1
2	CoP 12436	80.11*	97.03*	73.96	44.10	55.50	70.14	3
3	CoSe 12451	86.22*	80.69	79.3	78.75*	43.60	73.71	2
	Standards							
1	BO 130	73.89	79.98	73.39	59.31	54.80	68.27	
2	CoSe 95422	70.22	78.30	54.49	48.54	68.80	64.07	
	GM	78.47	88.54	71.27	60.58	55.92		
	SE	0.98	2.57	8.45	2.92	NS.		
	CD	3.02	8.00	-	8.75	-		
	CV	2.49	5.80	23.72	5.89	-		
Qualifying entries at each locations								
	1	CoSe 12451	CoLk 12207		CoLk 12207		CoLk 12207	
	2	CoLk 12207	CoP 12436		CoSe 12451			
	3							

* Significantly superior over the best standard

Qualifying entries: CoLk 12207 (3), CoP 12436 (1). CoSe 12451 (2),

Performance across the locations: The entry CoLk 12207 ranked top with 78.58 t/ha of mean cane yield, followed by CoP 12436 (73.71 t/ha) and CoSe 12451(70.14 t/ha). It also recorded 15.11% mean improvement over the better standard across locations. CoLk 12207 recorded >10% improvement over best standard at Seorahi, Pusa and Bethuadahari. Another entry CoSe 12451 recorded more than 10% improvement over the best standard at Seorahi and Bethuadahari, which is followed by CoP 12436 also showed >10% improvement at Pusa centre.

Table 5.1.3. CCS (%) at harvest

S. No.	Entries	Seo rahi	Pusa	Moti pur	Bethua dahari	Bura likson	Mean	Overall rank
1	CoLk 12207	11.12	12.37	11.66	11.82	12.20	11.83	1
2	CoP 12436	10.75	10.71	11.71	11.73	12.57	11.49	
3	CoSe 12451	11.11	11.94	11.75	11.80	12.25	11.77	2
Standards								
1	BO 130	11.55	11.86	11.79	10.78	12.49	11.69	3
2	CoSe 95422	10.63	11.71	8.53	10.60	13.16	10.93	
	GM	11.03	11.72	11.09	11.35	12.53		
	SE	0.18	0.23	1.28	-	0.06		
	CD	0.57	0.72	-	NS	0.25		
	CV	3.38	3.92	23.04	6.10	4.25		
Qualifying entries at each locations								
	1				CoLk 12207			
	2				CoSe 12451			
	3				CoP 12436			

Qualifying entry: CoLk 12207(1), CoSe 12451(1), CoP 12436 (1).

Performance across the locations: None of the test entries recorded 5% improvement over better standard for CCS%. However CoLk 12207(11.83%) ranked top for mean CCS% across locations followed by CoSe 12451(11.77%). All three entries recorded significantly superior performance over the better standard at Bethuadahari centre.

Table 5.1.4. Sucrose (%) at harvest

S. No.	Entries	Seo rahi	Pusa	Moti pur	Bethua dahari	Bura likson	Mean	Overall rank
1	CoLk 12207	16.08	17.78	17.06	16.98	17.00	16.98	1
2	CoP 12436	15.62	15.82	16.97	16.79	17.50	16.54	
3	CoSe 12451	16.13	17.20	16.86	16.92	17.10	16.84	2
Standards								
1	BO 130	16.65	17.13	17.04	15.42	17.40	16.73	3
2	CoSe 95422	15.46	16.95	12.84	15.22	17.50	15.59	
	GM	15.99	16.98	16.15	16.27	17.35		
	SE	0.25	0.29	1.94	-	0.07		
	CD	0.77	0.90	-	NS	0.24		
	CV	3.15	3.39	24.07	5.86	3.55		
Qualifying entries at each locations								
	1				CoLk 12207			
	2				CoSe 12451			
	3				CoP 12436			

Qualifying entries: CoLk 12207 (1), CoSe 12451 (1), CoP 12436 (1).

Performance across the locations: None of the test entries recorded more than 5% improvement over better standard for sucrose %. However CoLk 12207(16.98%) ranked top position for mean sucrose % across locations followed by CoSe 12451(16.84%). All three entries recorded significantly superior performance over the better standard at Bethuadahari centre.

Table 5.1.5. Brix (%) at harvest

S. No.	Entries	Seo rahi	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	CoLk 12207	18.20	19.88	19.35	18.95	19.07	19.09
2	CoP 12436	17.87	17.83	19.12	18.59	19.56	18.59
3	CoSe 12451	18.41	19.30	19.01	18.79	19.14	18.93
Standards							
1	BO 130	18.75	19.35	19.25	17.01	19.46	18.76
2	CoSe 95422	17.70	19.25	14.53	16.97	19.55	17.60
GM		18.19	19.12	18.25	18.06	19.36	
	SE	0.24	0.30	2.21	-	0.23	
	CD	-	0.95	-	NS	0.74	
	CV	2.67	3.18	24.22	6.79	2.33	

Table 5.1.6. Purity (%) at harvest

S. No.	Entries	Seo rahi	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	CoLk 12207	88.36	89.48	88.97	89.60	89.14	89.11
2	CoP 12436	87.39	87.38	89.37	90.37	89.46	88.79
3	CoSe 12451	87.62	89.10	88.44	90.05	89.34	88.91
Standards							
1	BO 130	88.83	88.53	88.53	90.57	90.23	89.34
2	CoSe 95422	87.31	88.03	65.98	89.70	91.40	84.48
GM		87.90	88.50	84.26	90.06	89.91	
	SE	0.79	0.42	9.71	-	0.55	
	CD	0.26	1.29	-	NS	2.21	
	CV	0.58	0.94	23.05	7.10	3.43	

Table 5.1.7. Pol (%) cane at harvest

S. No.	Entries	Seo rahi	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	CoLk 12207	11.87	14.67	-	-	-	13.27
2	CoP 12436	11.79	12.85	-	-	-	12.32
3	CoSe 12451	12.25	14.07	-	-	-	13.16
Standards							
1	BO 130	12.51	14.09	-	-	-	13.30
2	CoSe 95422	11.62	13.88	-	-	-	12.75
GM		12.01	13.91	-	-	-	
	SE	-	0.26	-	-	-	
	CD	-	0.80	-	-	-	
	CV	-	3.68	-	-	-	

Table 5.1.8. Extraction (%) at harvest

S. No.	Entries	Seo rahi	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	CoLk 12207	58.85	58.40	61.06	-	-	59.44
2	CoP 12436	60.08	59.70	61.69	-	-	60.49
3	CoSe 12451	59.46	57.25	60.64	-	-	59.12
Standards							
1	BO 130	59.12	60.25	60.51	-	-	59.96
2	CoSe 95422	61.80	59.75	43.13	-	-	54.89
GM		59.86	59.07	57.41	-	-	
SE		-	0.64	6.48	-	-	
CD		-	1.98	-	-	-	
CV		-	2.15	22.58	-	-	

Table 5.1.9. Fibre (%) at harvest

S. No.	Entries	Seo rahi	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	CoLk 12207	13.05	12.50	12.37	-	-	12.64
2	CoP 12436	12.95	12.45	11.98	-	-	12.46
3	CoSe 12451	12.78	13.20	12.72	-	-	12.90
Standards							
1	BO 130	13.12	12.73	12.33	-	-	12.73
2	CoSe 95422	12.89	13.10	9.81	-	-	11.93
GM		12.96	12.80	11.84	-	-	
SE		-	0.20	1.48	-	-	
CD		-	0.59	-	-	-	
CV		-	3.06	25.05	-	-	

Table 5.1.10. Number of Millable Canes ('000/ha) at harvest

S. No.	Entries	Seo rahi	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	CoLk 12207	104.00	107.40	106.09	85.92	73.97	95.48
2	CoP 12436	123.00	101.35	133.50	94.23	72.15	104.85
3	CoSe 12451	124.00	106.85	149.58	117.37	56.68	110.90
Standards							
1	BO 130	125.00	101.23	133.16	99.85	71.24	106.10
2	CoSe 95422	106.00	101.13	116.65	103.11	89.44	103.27
GM		116.40	103.59	127.80	100.10	72.70	
SE		1.47	2.69	21.11	3.27	1.78	
CD		4.55	8.79	-	9.80	6.65	
CV		2.35	5.19	33.05	5.82	11.45	

Table 5.1.11. Stalk Length (cm) at harvest

S. No.	Entries	Seo rahi	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	CoLk 12207	213.00	342.65	265.00	229.70	230.00	256.07
2	CoP 12436	217.00	334.28	226.25	195.20	223.00	239.15
3	CoSe 12451	216.00	340.65	281.25	232.90	213.00	256.76
Standards							
1	BO 130	199.00	299.68	235.00	219.00	248.00	240.14
2	CoSe 95422	205.00	288.18	168.75	179.50	253.00	218.89
	GM	210.00	321.09	235.25	211.26	233.00	
	SE	0.05	11.59	27.19	3.60	NS.	
	CD	NS	36.10	-	10.79	-	
	CV	4.37	7.22	23.12	5.35	-	

Table 5.1.12. Stalk Diameter (cm) at harvest

S. No.	Entries	Seo rahi	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	CoLk 12207	2.10	2.12	2.05	2.23	2.10	2.12
2	CoP 12436	2.10	2.04	1.98	1.69	2.20	2.00
3	CoSe 12451	2.20	2.19	1.95	1.91	2.30	2.11
Standards							
1	BO 130	1.90	2.04	2.04	1.92	1.40	1.86
2	CoSe 95422	2.10	2.20	1.48	1.88	2.10	1.95
	GM	2.08	2.12	1.90	1.93	2.02	
	SE	0.05	0.06	0.24	0.26	NS.	
	CD	NS	0.17	-	0.77	-	
	CV	4.78	5.28	25.67	4.85	-	

Table 5.1.13. Single Cane Weight (kg) at harvest

S. No.	Entries	Seo rahi	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	CoLk 12207	0.79	1.00	0.9	0.85	1.12	0.93
2	CoP 12436	0.65	0.96	0.66	0.47	1.02	0.75
3	CoSe 12451	0.70	0.76	0.77	0.67	0.92	0.76
Standards							
1	BO 130	0.59	0.79	0.68	0.61	0.94	0.72
2	CoSe 95422	0.67	0.78	0.45	0.47	1.00	0.67
	GM	0.68	0.86	0.69	0.61	1.00	
	SE	0.01	0.02	0.07	0.02	NS.	
	CD	0.02	0.05	-	0.05	-	
	CV	1.83	3.95	21.03	4.05	-	

Table 5.1.14. CCS (%) at 240 days

S. No.	Entries	Seo rahi	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	CoLk 12207	10.41	12.51	11.78	8.74	10.50	10.79
2	CoP 12436	9.58	10.46	11.98	8.55	11.10	10.33
3	CoSe 12451	9.98	11.70	11.34	9.35	11.40	10.75
Standards							
1	BO 130	10.48	12.11	11.66	8.37	11.50	10.82
2	CoSe 95422	9.19	10.73	8.76	7.17	12.22	9.61
	GM	9.93	11.50	11.10	8.44	11.34	
	SE	0.14	0.25	1.32	-	0.18	
	CD	0.45	0.79	-	NS	0.55	
	CV	2.98	4.38	23.83	7.80	1.35	

Table 5.1.15. Sucrose (%) at 240 days

S. No.	Entries	Seo rahi	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	CoLk 12207	15.29	18.20	16.95	13.17	15.33	15.79
2	CoP 12436	14.21	15.33	17.34	13.15	15.85	15.18
3	CoSe 12451	14.59	16.98	16.29	14.09	16.40	15.67
Standards							
1	BO 130	15.41	17.43	16.89	12.63	16.50	15.77
2	CoSe 95422	13.64	15.69	12.78	10.74	17.12	13.99
	GM	14.63	16.73	16.05	12.76	16.24	
	SE	0.21	0.34	1.92	0.42	0.22	
	CD	0.66	1.07	-	1.25	0.60	
	CV	2.95	4.10	23.97	5.79	2.25	

Table 5.1.16. Brix (%) at 240 days

S. No.	Entries	Seo rahi	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	CoLk 12207	17.88	20.85	18.99	16.19	17.22	18.23
2	CoP 12436	14.04	17.83	19.66	15.89	17.65	17.01
3	CoSe 12451	17.07	19.30	18.18	17.30	16.83	17.74
Standards							
1	BO 130	18.06	19.53	19.2	15.57	18.30	18.13
2	CoSe 95422	16.27	18.18	14.71	13.01	18.40	16.11
	GM	16.66	19.14	18.15	15.59	17.68	
	SE	0.23	0.37	2.21	0.60	0.18	
	CD	0.73	1.14	-	1.79	0.56	
	CV	2.75	3.83	24.37	5.90	2.40	

Table 5.1.17. Purity (%) at 240 days

S. No.	Entries	Seo rahi	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	CoLk 12207	85.54	87.33	89.31	81.40	88.40	86.40
2	CoP 12436	83.99	85.93	88.23	82.75	89.15	86.01
3	CoSe 12451	85.51	87.98	89.67	81.45	90.22	86.97
Standards							
1	BO 130	85.53	89.20	87.97	81.17	90.20	86.81
2	CoSe 95422	83.88	87.03	65.28	82.52	91.60	82.06
GM		84.89	87.49	84.09	81.86	89.91	
SE		0.43	0.57	9.82	-	0.46	
CD		1.32	1.76	-	NS	1.55	
CV		1.02	1.29	23.36	6.25	2.75	

Table 5.1.18. Number of Shoots ('000/ha) at 240 days

S. No.	Entries	Seo rahi	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	CoLk 12207	-	151.23	97.58	115.08	71.33	108.81
2	CoP 12436	-	155.25	135.36	150.09	73.15	128.46
3	CoSe 12451	-	157.75	134.02	146.66	55.70	123.53
Standards							
1	BO 130	-	107.23	135.15	147.77	66.80	114.24
2	CoSe 95422	-	156.68	111.2	147.31	85.40	125.15
GM			145.63	122.66	141.38	70.48	
SE		-	7.06	19.77	6.73	2.33	
CD		-	21.98	-	20.19	5.96	
CV		-	10.12	32.23	6.37	12.23	

Table 5.1.19. Number of Tillers ('000/ha) at 120 days

S. No.	Entries	Seo rahi	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	CoLk 12207	174.00	131.55	113.87	88.70	70.34	115.69
2	CoP 12436	189.00	114.18	159.72	107.87	76.58	129.47
3	CoSe 12451	188.00	147.17	158.54	103.79	78.28	135.16
Standards							
1	BO 130	192.00	99.95	148.16	92.87	65.36	119.67
2	CoSe 95422	167.00	146.15	117.74	96.67	79.36	121.38
GM		182.00	127.80	139.61	97.98	73.98	
SE		1.62	8.86	21.98	3.42	2.25	
CD		5.01	27.59	-	10.27	6.80	
CV		1.79	13.86	25.18	6.45	13.30	

Table 5.1.20. Germination (%) at 45 days

S. No.	Entries	Seo rahi	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	CoLk 12207	42.57	35.80	39.72	21.35	35.17	34.92
2	CoP 12436	50.35	33.48	39.6	33.73	38.29	39.09
3	CoSe 12451	51.67	35.33	36.19	31.30	39.14	38.73
Standards							
1	BO 130	43.89	28.55	37.03	26.71	32.68	33.77
2	CoSe 95422	41.87	36.25	18.85	32.29	39.68	33.79
	GM	46.07	33.88	34.28	29.08	36.99	
	SE	0.86	1.54	3.03	0.69	1.40	
	CD	2.65	4.80	-	2.07	4.34	
	CV	3.73	9.09	17.7	5.20	13.21	

Table 5.1.21. Assessment of entries by monitoring team constituted by AICRP(S)

Entries	Seorahi	Pusa	Motipur	Bethuadhari	Buralikson
CoLk 12207	Good	Very Good	Good	Very Good	Average
CoP 12436	Good	Very Good	Good	Good	Average
CoSe 12451	Very Good	Good	Very Good	Very Good	Good
Standards					
BO 130	Good	Good	Good	Good	Good
CoSe 95422	Good	Very Good	Very Good	Good	Good

5.2. ADVANCED VARIETAL TRIAL -EARLY – (RATOON)

Centers (5)	Bethuadahari, Buralikson, Motipur, Pusa and Seorahi
Entries (3)	CoLk 12207, CoP 12436 and CoSe 12451
Standards (2)	BO 130 and CoSe 95422
Design	RBD
Replications	Four
Plot size	Gross : 6 m x 8 rows x 0.75 m Net : 5 m x 6 rows x 0.75 m
Crop duration	9 months

Results of the previous year:

Three entries and two standards were evaluated in Advanced Varietal Trial – Early (I Plant) at six locations in the North Central and North East zones. BO 130 (8.93 t/ha) was the better standard for CCS yield (t/ha). CoP 12436 (9.39 t/ha) was the top ranking entry and performed better than BO 130 and showed >10% improvement at Pusa and Gorakhpur. CoLk 12207 (9.32 t/ha) was the second best entry when compared with the better standard BO 130. CoLk 12207 and CoSe 12451 recorded >10% improvement at Seorahi and Gorakhpur. In Gorakhpur centre, all the entries performed better with >10% improvement and significantly superior over the best standard BO 130. BO 130 (75.77 t/ha) was the better standard for cane yield across the locations. CoP 12436 (82.27 t/ha) ranked first and CoLk 12207 (80.11 t/ha) was the second best entry for cane yield (t/ha) than the standard BO 130. All the three early test entries recorded >10% improvement for cane yield (t/ha) and significantly superior over the better standard BO 130 at Seorahi and Gorakhpur. CoP 12436 showed >10% improvement for cane yield (t/ha) and significantly superior over BO 130 at Pusa. BO 130 was the better standard for CCS (11.64%) and sucrose (17.04%) and none of the test entries performed better than this standard for both characters. Among the entries, CoLk 12207 ranked third with 11.56 % & 16.65 % for CCS and sucrose respectively. None of the entries was identified as qualifying entry.

Results of the current year:

Three entries and two standards were evaluated in AVT (Early) Ratoon at five locations of North Central and North East zones during 2017-18 for cane and juice parameters. None of the test entries recorded >10% improvement over better standard BO 130 (6.97 t/ha) for CCS yield. CoLk 12207 ranked top with 7.48 t/ha of mean CCS yield followed by CoP 12436 and CoSe 12451. All the three test entries recorded >10% improvement over the best standard at Pusa center. For cane yield, CoLk 12207 (66.64 t/ha), CoSe 12451 (65.87 t/ha) and CoP 12436 (65.58 t/ha) recorded 12.49%, 11.19% and 10.70% of mean cane yield improvement over better standard BO 130 (59.24 t/ha) across locations and also secured top three ranks. The entries CoLk 12207, CoSe 12451 and CoP 12436 recorded >10% improvement over best standard at two locations each. For CCS%, none of the test entries recorded >5% improvement over better standard across locations. The standard BO 130 (11.86%) recorded highest mean CCS%, followed by the entries CoLk 12207 (11.31%) and CoP 12436 (11.30%). For sucrose %, none of the test entries recorded >5% improvement over best standard at any center. The standard BO 130 recorded the highest mean sucrose % of 17.14 across locations, followed by CoP 12436 (16.43%) and CoLk 12207 (16.31%). Among the three test entries, none of the entry was identified as qualifying entry for the zone. **The data are presented in table 5.2.1 to 5.2.16.**

Table 5.2.1. CCS (t/ha) at harvest

S. No.	Entries	Seo rahi	Pusa	Moti pur	Bethua dahari	Bura likson	Mean	Overall rank
1	CoLk 12207	7.79	9.81*	7.74	5.52	6.56	7.48	1
2	CoP 12436	7.97	9.93*	6.73	5.71	6.50	7.37	2
3	CoSe 12451	7.65	9.22	7.48	5.28	7.08	7.34	3
Standards								
1	BO 130	7.59	8.00	7.10	6.50	5.65	6.97	
2	CoSe 95422	6.60	7.47	5.66	5.56	7.59	6.58	
	GM	7.52	8.89	6.94	5.71	6.68		
	SE	0.01	0.40	0.84	-	NS		
	CD	0.04	1.23	-	NS	-		
	CV	3.49	8.89	24.2	5.43	-		
Qualifying entries at each locations								
	1		CoP 12436					
	2		CoLk 12207					
	3		CoSe 12451					

* Significantly superior over the best standard

Qualifying entries: CoP 12436 (1), CoLk 12207 (1), CoSe 12451(1).

Performance across the locations: None of the test entries recorded >10% improvement over better standard for CCS t/ha. CoLk 12207 ranked top position with 7.48 t/ha of mean CCS yield followed by CoP 12436 (7.37 t/ha) and CoSe 12451 (7.34 t/ha). Test entries CoLk 12207, CoP 12436 and CoSe 12451 recorded more than 10% improvement over the best standard at Pusa center.

Table 5.2.2. Cane yield (t/ha) at harvest

S. No.	Entries	Seo rahi	Pusa	Moti pur	Bethua dahari	Bura likson	Mean	Overall rank
1	CoLk 12207	77.99*	84.08*	68.10	49.03	54.00	66.64	1
2	CoP 12436	76.89*	85.43*	61.69	50.58	53.30	65.58	3
3	CoSe 12451	80.44*	78.45*	65.43	46.59	58.43	65.87	2
Standards								
1	BO 130	69.11	64.22	63.25	52.92	46.72	59.24	
2	CoSe 95422	65.44	60.95	49.69	47.56	56.24	55.98	
	GM	73.97	74.63	61.63	49.34	53.74		
	SE	0.96	3.02	7.32	0.82	NS		
	CD	2.97	9.40	-	2.45	-		
	CV	3.47	8.09	23.74	6.37	-		
Qualifying entries at each locations								
	1	CoSe 12451	CoP 12436				CoLk 12207	
	2	CoLk 12207	CoLk 12207				CoSe 12451	
	3	CoP 12436	CoSe 12451				CoP 12436	

* Significantly superior over the best standard

Qualifying entries: CoLk 12207 (2), CoP 12436 (2), CoSe 12451 (2).

Performance across the locations: CoLk 12207 (66.64 t/ha), CoSe 12451 (65.87 t/ha) and CoP 12436 (65.58 t/ha) recorded 12.49%, 11.19% and 10.70% improvement for cane yield over best standard BO 130 (59.24 t/ha) across locations. They secured top three ranks across the locations based on mean cane yield. All the three test entries recorded significantly superior cane yields over the best standard at Seorahi and Pusa centers. The entries CoLk 12207, CoSe 12451 and CoP 12436 recorded >10% improvement over best standard at two locations each.

Table 5.2.3. CCS (%) at harvest

S. No.	Entries	Seo rahi	Pusa	Moti pur	Bethua dahari	Bura likson	Mean	Overall rank
1	CoLk 12207	9.99	11.67	11.36	11.25	12.30	11.31	2
2	CoP 12436	10.37	11.61	11.04	11.26	12.21	11.30	3
3	CoSe 12451	9.50	11.77	11.55	11.34	12.12	11.26	
Standards								
1	BO 130	10.99	12.47	11.45	12.28	12.10	11.86	1
2	CoSe 95422	10.08	12.25	8.77	11.67	13.50	11.25	
	GM	10.19	11.95	10.83	11.56	12.45		
	SE	0.17	0.24	1.33	-	0.07		
	CD	0.52	0.73	-	NS	0.25		
	CV	3.32	4.07	24.63	7.25	4.12		
Qualifying entries at each locations								
	1							
	2							
	3							

Qualifying entry: Nil

Performance across the locations: None of the test entries recorded >5% improvement over better standard for CCS%. The standard BO 130 recorded the highest mean CCS% of 11.86% across locations, followed by the entries CoLk 12207 (11.31%) and CoP 12436 (11.30%). None of the test entries recorded >5% improvement over best standard at any center.

Table 5.2.4. Sucrose (%) at harvest

S. No.	Entries	Seo rahi	Pusa	Moti pur	Bethua dahari	Bura likson	Mean	Overall rank
1	CoLk 12207	14.76	16.89	16.68	16.11	17.11	16.31	3
2	CoP 12436	15.26	16.78	16.84	16.20	17.05	16.43	2
3	CoSe 12451	14.12	17.04	16.66	16.32	16.89	16.21	
Standards								
1	BO 130	16.10	17.94	16.86	17.65	17.14	17.14	1
2	CoSe 95422	14.84	17.73	12.46	16.79	18.10	15.98	
	GM	15.02	17.28	15.90	16.61	17.26		
	SE	0.21	0.31	1.89	-	0.10		
	CD	0.63	0.95	-	NS	0.22		
	CV	2.76	3.64	23.85	6.87	3.70		
Qualifying entries at each locations								
	1							
	2							
	3							

Qualifying entries: Nil

Performance across the locations: None of the test entries recorded >5% improvement over best standard for sucrose %. The standard BO 130 recorded highest mean sucrose % of 17.14 across locations, followed by the entries CoP 12436 (16.43%) and CoLk 12207 (16.31%). None of the test entries recorded >5% improvement over best standard at any center.

Table 5.2.5. Brix (%) at harvest

S. No.	Entries	Seo rahi	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	CoLk 12207	17.46	19.15	18.41	17.87	18.10	18.20
2	CoP 12436	17.89	19.00	18.93	18.13	18.12	18.41
3	CoSe 12451	16.86	19.33	18.07	18.31	19.20	18.35
Standards							
1	BO 130	18.76	20.08	18.83	19.72	19.19	19.32
2	CoSe 95422	17.42	20.10	13.84	18.81	20.06	18.05
	GM	17.68	19.53	17.62	18.57	18.93	
	SE	0.16	0.28	2.12	-	0.25	
	CD	0.49	0.87	-	NS	0.70	
	CV	1.81	2.86	24.04	5.48	2.30	

Table 5.2.6. Purity (%) at harvest

S. No.	Entries	Seo rahi	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	CoLk 12207	84.53	88.18	89.25	90.17	91.50	88.73
2	CoP 12436	85.28	88.33	88.21	89.37	86.20	87.48
3	CoSe 12451	83.72	88.10	88.22	89.17	88.21	87.48
Standards							
1	BO 130	85.88	89.50	89.06	89.50	90.20	88.83
2	CoSe 95422	85.19	88.20	65.82	89.27	90.30	83.76
	GM	84.92	88.46	84.11	89.50	89.28	
	SE	0.52	0.45	9.76	-	0.67	
	CD	NS	1.37	-	NS	2.25	
	CV	3.49	1.03	23.18	6.77	2.90	

Table 5.2.7. Pol (%) cane at harvest

S. No.	Entries	Seo rahi	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	CoLk 12207	10.74	13.82	-	-	-	12.28
2	CoP 12436	10.91	13.81	-	-	-	12.36
3	CoSe 12451	10.37	13.96	-	-	-	12.17
Standards							
1	BO 130	11.62	14.74	-	-	-	13.18
2	CoSe 95422	10.75	14.51	-	-	-	12.63
	GM	10.88	14.17	-	-	-	
	SE	-	0.28	-	-	-	
	CD	-	0.83	-	-	-	
	CV	-	3.90	-	-	-	

Table 5.2.8. Extraction (%) at harvest

S. No.	Entries	Seo rahi	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	CoLk 12207	56.48	60.50	59.14	-	-	58.71
2	CoP 12436	55.03	61.20	60.06	-	-	58.76
3	CoSe 12451	53.92	59.80	59.22	-	-	57.65
Standards							
1	BO 130	57.45	60.55	58.72	-	-	58.91
2	CoSe 95422	60.59	59.90	44.1	-	-	54.86
	GM	56.69	60.39	56.25	-	-	
	SE	-	1.49	6.91	-	-	
	CD	-	4.48	-	-	-	
	CV	-	4.93	24.58	-	-	

Table 5.2.9. Fibre (%) at harvest

S. No.	Entries	Seo rahi	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	CoLk 12207	12.96	13.20	12.40	-	-	12.85
2	CoP 12436	13.18	12.70	12.79	-	-	12.89
3	CoSe 12451	13.02	13.10	12.51	-	-	12.88
Standards							
1	BO 130	12.89	12.80	12.33	-	-	12.67
2	CoSe 95422	12.65	13.15	9.74	-	-	11.85
	GM	12.94	12.99	11.95	-	-	
	SE	-	0.41	1.49	-	-	
	CD	-	1.24	-	-	-	
	CV	-	6.34	24.91	-	-	

Table 5.2.10. Number of Millable Canes ('000/ha) at harvest

S. No.	Entries	Seo rahi	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	CoLk 12207	99.00	94.50	126.16	102.02	87.20	101.78
2	CoP 12436	118.00	105.05	129.22	97.83	84.33	106.89
3	CoSe 12451	117.00	97.18	145.28	104.04	90.23	110.75
Standards							
1	BO 130	116.00	89.23	160.67	109.48	96.82	114.44
2	CoSe 95422	99.00	103.43	151.52	98.70	81.33	106.80
	GM	109.80	97.88	142.57	102.41	87.98	
	SE	1.31	2.74	26.08	-	1.65	
	CD	4.05	8.54	-	NS	7.12	
	CV	3.19	5.60	26.59	7.22	13.50	

Table 5.2.11. Stalk Length (cm) at harvest

S. No.	Entries	Seo rahi	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	CoLk 12207	212.00	256.25	182.00	265.00	225.00	228.05
2	CoP 12436	216.00	254.00	171.25	240.00	231.00	222.45
3	CoSe 12451	217.00	252.50	182.50	213.70	211.00	215.34
Standards							
1	BO 130	199.00	237.75	185.75	195.00	244.00	212.30
2	CoSe 95422	206.00	222.25	116.65	201.00	255.00	200.18
	GM	210.00	244.55	167.63	222.94	233.20	
	SE	0.45	5.49	18.98	3.49	NS	
	CD	NS	17.10	-	10.47	2.30	
	CV	4.38	4.49	22.67	6.79	2.23	

Table 5.2.12. Stalk Diameter (cm) at harvest

S. No.	Entries	Seo rahi	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	CoLk 12207	2.00	2.23	1.95	1.97	2.20	2.07
2	CoP 12436	2.10	2.12	1.90	1.81	2.25	2.04
3	CoSe 12451	2.10	2.03	1.88	1.84	2.43	2.06
Standards							
1	BO 130	1.90	2.25	2.00	1.79	1.42	1.87
2	CoSe 95422	2.00	1.98	1.43	1.81	2.15	1.87
	GM	2.02	2.12	1.83	1.84	2.09	
	SE	0.05	0.04	0.22	0.01	NS	
	CD	NS	0.13	-	0.04	2.10	
	CV	5.46	3.96	24.99	5.17	2.20	

Table 5.2.13. Single cane weight (kg) at harvest

S. No.	Entries	Seo rahi	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	CoLk 12207	0.79	0.89	0.56	0.48	1.11	0.77
2	CoP 12436	0.65	0.81	0.64	0.52	1.30	0.78
3	CoSe 12451	0.68	0.81	0.65	0.45	0.98	0.71
Standards							
1	BO 130	0.59	0.72	0.63	0.48	0.95	0.68
2	CoSe 95422	0.66	0.59	0.45	0.48	1.11	0.66
	GM	0.68	0.76	0.59	0.48	1.09	
	SE	0.01	0.03	0.07	0.02	NS	
	CD	0.02	0.08	-	0.05	1.12	
	CV	2.08	6.42	23.52	5.25	1.02	

Table 5.2.14. Number of Tillers ('000/ha) at 180 days

S. No.	Entries	Seo rahi	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	CoLk 12207	-	128.35	133.06	115.69	86.53	115.91
2	CoP 12436	-	126.50	162.52	110.61	82.10	120.43
3	CoSe 12451	-	113.95	172.43	122.66	87.55	124.15
	Standards	-					
1	BO 130	-	93.10	171.04	133.42	95.70	123.32
2	CoSe 95422	-	115.43	149.02	114.76	82.30	115.38
	GM	-	115.47	157.61	119.43	86.84	
	SE	-	3.39	22.8	6.73	2.33	
	CD	-	10.55	-	20.19	5.48	
	CV	-	5.87	24.48	6.27	13.30	

Table 5.2.15. Number of Tillers ('000/ha) at 90 days

S. No.	Entries	Seo rahi	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	CoLk 12207	155.00	103.97	168.53	140.38	83.90	130.36
2	CoP 12436	171.00	100.43	245.31	137.47	85.21	147.88
3	CoSe 12451	171.00	113.70	227.24	155.35	76.15	148.69
	Standards						
1	BO 130	177.00	77.20	247.67	162.92	90.20	151.00
2	CoSe 95422	139.00	92.30	206.79	145.23	76.30	131.92
	GM	162.60	97.52	219.11	148.27	82.35	
	SE	1.32	6.23	33.98	8.57	2.20	
	CD	4.07	19.40	-	25.72	6.50	
	CV	2.16	12.77	24.02	6.38	12.50	

Table 5.2.16. Assessment of entries by monitoring team constituted by AICRP(S)

Entries	Seorahi	Pusa	Motipur	Bethuadhari	Buralikson
CoLk 12207	Poor	Very Good	Poor	Good	Good
CoP 12436	Very Good	Good	Good	Average	Good
CoSe 12451	Very Good	Good	Very Good	Very Good	Good
Standards					
BO 130	Good	Good	Very Good	Poor	Good
CoSe 95422	Good	Average	Good	Good	Very Good

5.3. ADVANCED VARIETAL TRIAL (EARLY)

Mean of two plant and one ratoon crops (2016-18)

In the North Central and North East zones, three early clones were evaluated along with two standards during the crop seasons 2016-18. AVT I plant crop was conducted by all six centres. Gorakhpur did not conduct AVT II plant and AVT (Ratoon). Pooled data of two plant and one ratoon trials of six centres are presented in tables **5.3.1.** to **5.3.4.** and figures **5.3.1.** to **5.3.4.** The salient results pertaining to CCS (t/ha), cane yield (t/ha), CCS% and sucrose % are given below.

Commercial Cane Sugar (t/ha):

None of the test entries recorded >10% improvement over best standard for CCS yield across locations based on weighted mean. CoLk 12207 (8.68 t/ha) ranked first in the zone and recorded 17.76% and 12.30% improvement over the better standard BO 130 at Gorakhpur and Pusa centres respectively. Other test entry CoSe 12451 (8.35 t/ha) ranked second in the zone and recorded 39.20% over the better standard at Gorakhpur centre. CoP 12436 (8.32 t/ha) ranked third and recorded more than 16.30% and 13.77% improvement over best standard at Gorakhpur and Pusa centres respectively.

Cane yield (t/ha):

None of the test entries recorded >10% improvement over better standard BO 130 (68.48 t/ha) for cane yield across locations based on weighted mean. CoLk 12207 (75.15 t/ha) ranked first in the zone and recorded 12.70%, 11.32% and 18.85% improvement over the best standard BO 130 at Seorahi, Gorakhpur and Pusa centres respectively. CoP 12436 ranked second and recorded 16.96% and 23.01% improvement over the better standard at Gorakhpur and Pusa centres respectively. CoSe 12451 ranked third and recorded 16.55% and 23.01% improvement over the better standard at Seorahi and Gorakhpur centres.

Commercial Cane Sugar (%):

BO 130 was the better standard with a mean CCS of 11.76% and none of the entries was better than this standard. Among the test entries CoLk 12207(11.52%) was the better entry followed by CoSe 12451 (11.49%).

Sucrose (%):

None of the test entries recorded >5% improvement over best standard across locations for sucrose%. BO 130 was the better standard and ranked first in the zone with 16.91% sucrose. Among the test entries CoLk 12207 was the best and recorded 16.57% sucrose, which was followed by CoSe 12451 (16.48%).

Overall performance:

Based on the pooled mean of two plant and one ratoon crops in six centres, CoLk 12207 was the best entry for CCS t/ha and cane yield. However the entry was numerically inferior compared to the better standard BO 130. Hence no qualifying entry was identified from this trial.

Varietal Improvement Programme - AICRP (Sugarcane)
 Principal Investigator's Report (2017-18)
 North Central and North East Zones: - AVT Early (Means of 2 Plant + 1 Ratoon)

Table 5.3.1. CCS at harvest (t/ha) - Pooled data of two plant and one ratoon crops

S. No.	Entries	Seorahi				Gorakhpur				Pusa				Motipur			
		IP	IIP	R	Mean	IP	IIP*	R*	Mean	IP	IIP	R	Mean	IP	IIP	R	Mean
1	CoLk 12207	10.18	9.11	7.79	9.03	9.42	-	-	9.42	12.91	13.21	9.81	11.98	8.98	8.66	7.74	8.46
2	CoP 12436	9.34	8.61	7.97	8.64	9.75	-	-	9.75	14.42	10.40	9.93	11.58	8.59	8.72	6.73	8.01
3	CoSe 12451	10.06	9.58	7.65	9.10	11.68	-	-	11.68	10.12	9.64	9.22	9.66	8.01	9.10	7.48	8.20
	Standards																
1	BO 130	9.05	8.53	7.59	8.39	8.39	-	-	8.39	12.6	9.47	8.00	10.02	8.09	8.54	7.10	7.91
2	CoSe 95422	8.26	7.46	6.60	7.44	7.89	-	-	7.89	10.28	9.16	7.47	8.97	8.60	6.16	5.66	6.81
	GM	9.22	8.66	7.52		9.43	-	-		11.90	10.38	8.89		8.45	8.24	6.94	
S. No.	Entries	Bethuadahari				Buralikson				GM (Weighted Average)	Rank						
		IP	IIP	R	Mean	IP	IIP	R	Mean								
1	CoLk 12207	6.26	8.56	5.52	6.78	8.18	6.94	6.56	7.23	8.68	1						
2	CoP 12436	6.01	5.19	5.71	5.64	8.23	6.97	6.50	7.23	8.32	3						
3	CoSe 12451	6.79	9.27	5.28	7.11	8.37	5.34	7.08	6.93	8.35	2						
	Standards																
1	BO 130	8.36	6.43	6.50	7.10	7.10	6.84	5.65	6.53	8.01							
2	CoSe 95422	6.9	5.17	5.56	5.88	9.21	9.05	7.59	8.62	7.58							
	GM	6.98	6.92	5.71		8.23	7.03	6.68									

* Trial not conducted

Table 5.3.2. Cane yield at harvest (t/ha) - Pooled data of two plant and one ratoon crops

S. No.	Entries	Seorahi				Gorakhpur				Pusa				Motipur			
		IP	IIP	R	Mean	IP	IIP*	R*	Mean	IP	IIP	R	Mean	IP	IIP	R	Mean
1	CoLk 12207	83.78	81.80	77.99	81.22	78.78	-	-	78.78	102.64	106.71	84.08	97.81	77.70	75.23	68.10	73.68
2	CoP 12436	80.78	80.11	76.89	79.26	82.77	-	-	82.77	121.27	97.03	85.43	101.24	74.34	73.96	61.69	70.00
3	CoSe 12451	85.33	86.22	80.44	84.00	94.55	-	-	94.55	81.08	80.69	78.45	80.07	71.18	79.30	65.43	71.97
	Standards																
1	BO 130	73.22	73.89	69.11	72.07	70.77	-	-	70.77	102.71	79.98	64.22	82.30	74.31	73.39	63.25	70.32
2	CoSe 95422	68.55	70.22	65.44	68.07	67.22	-	-	67.22	86.76	78.30	60.95	75.34	73.46	54.49	49.69	59.21
	GM	78.33	78.47	73.97		78.82	-	-		98.89	88.54	74.63		74.20	71.27	61.63	
S. No.	Entries	Bethuadahari				Buralikson				GM (Weighted Average)	Rank						
		IP	IIP	R	Mean	IP	IIP	R	Mean								
1	CoLk 12207	71.76	72.19	49.03	64.33	66.00	56.90	54.00	58.97	75.15	1						
2	CoP 12436	67.08	44.10	50.58	53.92	67.40	55.50	53.30	58.73	73.38	2						
3	CoSe 12451	74.92	78.75	46.59	66.75	69.83	43.60	58.43	57.29	72.99	3						
	Standards																
1	BO 130	74.86	59.31	52.92	62.36	58.72	54.80	46.72	53.41	68.45							
2	CoSe 95422	72.34	48.54	47.56	56.15	68.24	68.80	56.24	64.43	65.12							
	GM	72.19	60.58	49.34		66.04	55.92	53.74									

* Trial not conducted

Table 5.3.3. CCS (%) at harvest - Pooled data of two plant and one ratoon crops

S. No.	Entries	Seorahi				Gorakhpur				Pusa				Motipur			
		IP	IIP	R	Mean	IP	IIP*	R*	Mean	IP	IIP	R	Mean	IP	IIP	R	Mean
1	CoLk 12207	12.15	11.12	9.99	11.09	11.95	-	-	11.95	12.56	12.37	11.67	12.20	11.56	11.66	11.36	11.53
2	CoP 12436	11.56	10.75	10.37	10.89	11.78	-	-	11.78	11.91	10.71	11.61	11.41	11.56	11.71	11.04	11.44
3	CoSe 12451	11.79	11.11	9.50	10.80	12.35	-	-	12.35	12.54	11.94	11.77	12.08	11.25	11.75	11.55	11.52
	Standards																
1	BO 130	12.36	11.55	10.99	11.63	11.85	-	-	11.85	12.59	11.86	12.47	12.31	10.9	11.79	11.45	11.38
2	CoSe 95422	12.05	10.63	10.08	10.92	11.73	-	-	11.73	11.87	11.71	12.25	11.94	11.71	8.53	8.77	9.67
	GM	11.98	11.03	10.19		11.93	-	-		12.29	11.72	11.95		11.40	11.09	10.83	
S. No.	Entries	Bethuadahari				Buralikson				GM (Weighted Average)	Rank						
		IP	IIP	R	Mean	IP	IIP	R	Mean								
1	CoLk 12207	8.72	11.82	11.25	10.60	12.40	12.20	12.30	12.30	11.52	2						
2	CoP 12436	8.96	11.70	11.26	10.65	12.22	12.57	12.21	12.33	11.35							
3	CoSe 12451	9.07	11.80	11.34	10.74	12.00	12.25	12.12	12.12	11.49	3						
	Standards																
1	BO 130	11.18	10.78	12.28	11.41	12.10	12.49	12.10	12.23	11.76	1						
2	CoSe 95422	9.53	10.60	11.67	10.60	13.50	13.16	13.50	13.39	11.31							
	GM	9.49	11.35	11.56		12.44	12.53	12.45									

* Trial not conducted

Table 5.3.4. Sucrose (%) at harvest - Pooled data of two plant and one ratoon crops

S. No.	Entries	Seorahi				Gorakhpur				Pusa				Motipur			
		IP	IIP	R	Mean	IP	IIP*	R*	Mean	IP	IIP	R	Mean	IP	IIP	R	Mean
1	CoLk 12207	17.65	16.08	14.76	16.16	17.31	-	-	17.31	18.09	17.78	16.89	17.59	16.91	17.06	16.68	16.88
2	CoP 12436	16.8	15.62	15.26	15.89	17.08	-	-	17.08	17.14	15.82	16.78	16.58	16.85	16.97	16.84	16.89
3	CoSe 12451	17.06	16.13	14.12	15.77	17.81	-	-	17.81	18.1	17.20	17.04	17.45	15.89	16.86	16.66	16.47
	Standards																
1	BO 130	17.9	16.65	16.10	16.88	17.15	-	-	17.15	18.21	17.13	17.94	17.76	15.63	17.04	16.86	16.51
2	CoSe 95422	17.52	15.46	14.84	15.94	17.01	-	-	17.01	17.11	16.95	17.73	17.26	17.16	12.84	12.46	14.15
	GM	17.39	15.99	15.02		17.27	-	-		17.73	16.98	17.28		16.49	16.15	15.90	
S. No.	Entries	Bethuadahari				Buralikson				GM (Weighted Average)	Rank						
		IP	IIP	R	Mean	IP	IIP	R	Mean								
1	CoLk 12207	12.82	16.98	16.11	15.30	17.12	17.00	17.11	17.08	16.57	2						
2	CoP 12436	13.13	16.79	16.20	15.37	17.11	17.50	17.05	17.22	16.40							
3	CoSe 12451	13.29	16.92	16.32	15.51	16.99	17.10	16.89	16.94	16.48	3						
	Standards																
1	BO 130	16.18	15.42	17.65	16.42	17.15	17.40	17.14	17.23	16.91	1						
2	CoSe 95422	13.92	15.22	16.79	15.31	18.11	17.50	18.10	17.90	16.12							
	GM	13.87	16.27	16.61		17.30	17.35	17.26									

* Trial not conducted

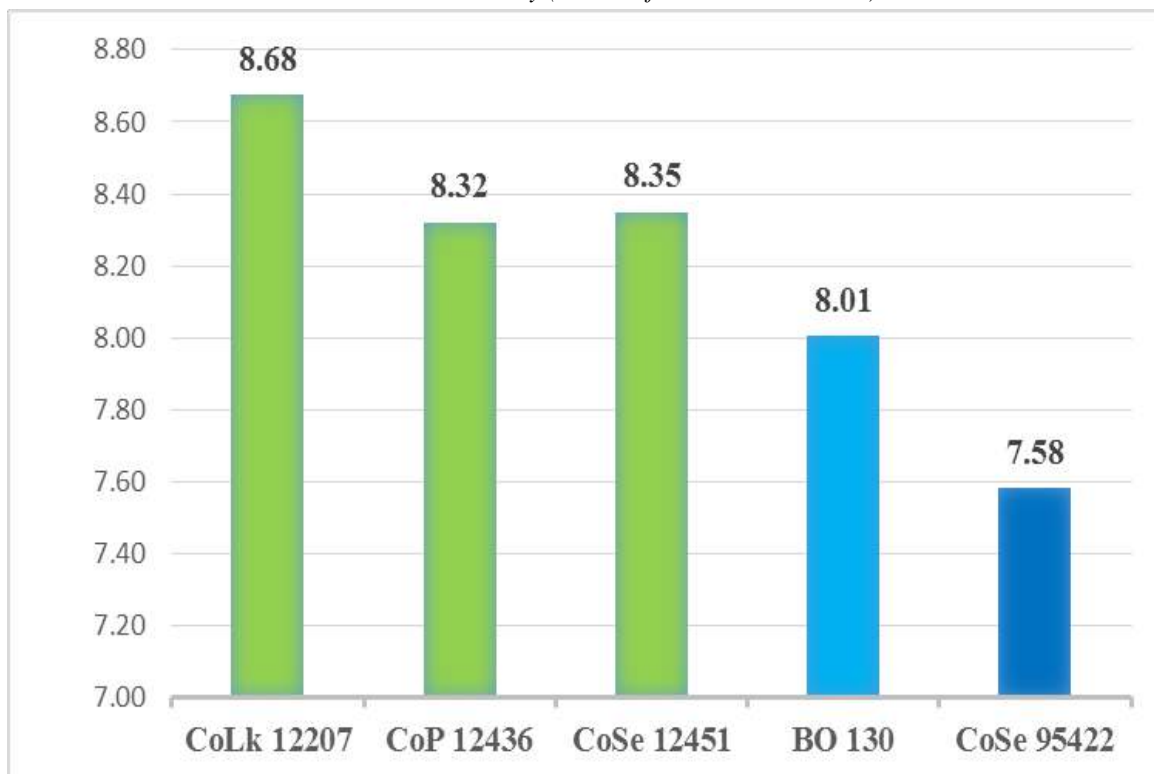


Fig. 5.3.1. Mean performance of (2P+1R) of AVT early clones for CCS (t/ha)

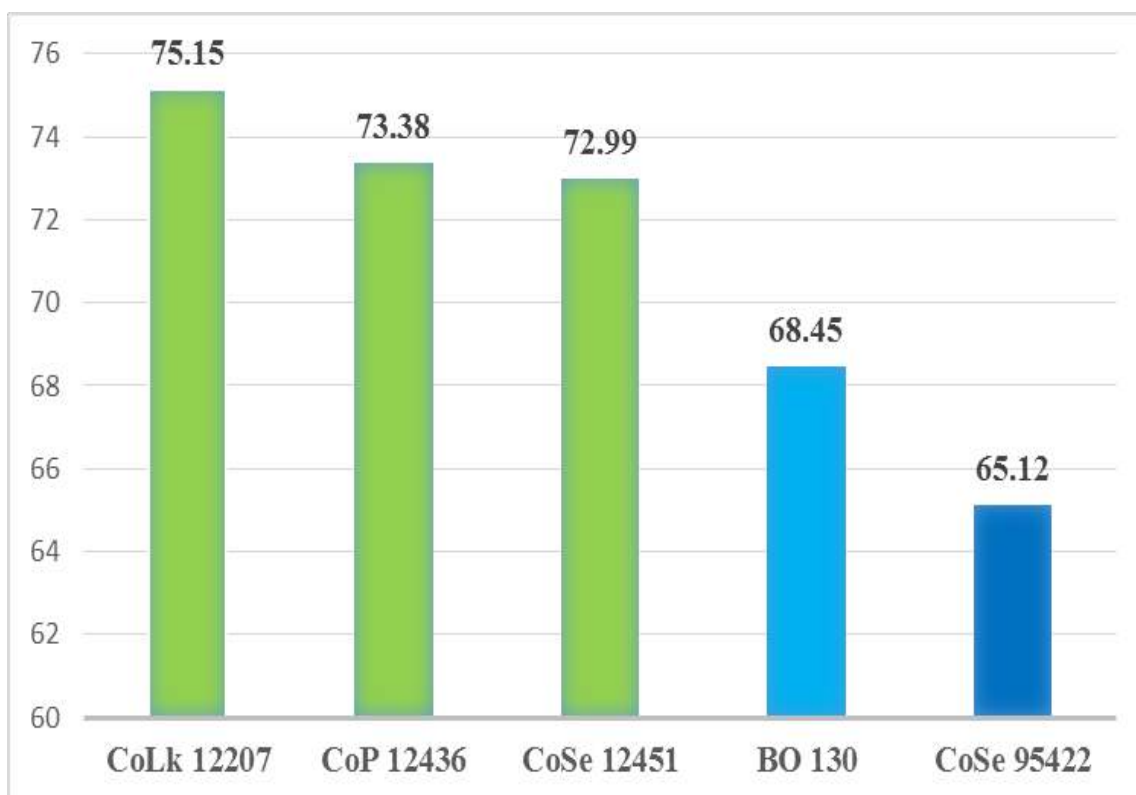


Fig. 5.3.2. Mean performance of (2P+1R) of AVT early clones for Cane Yield (t/ha)

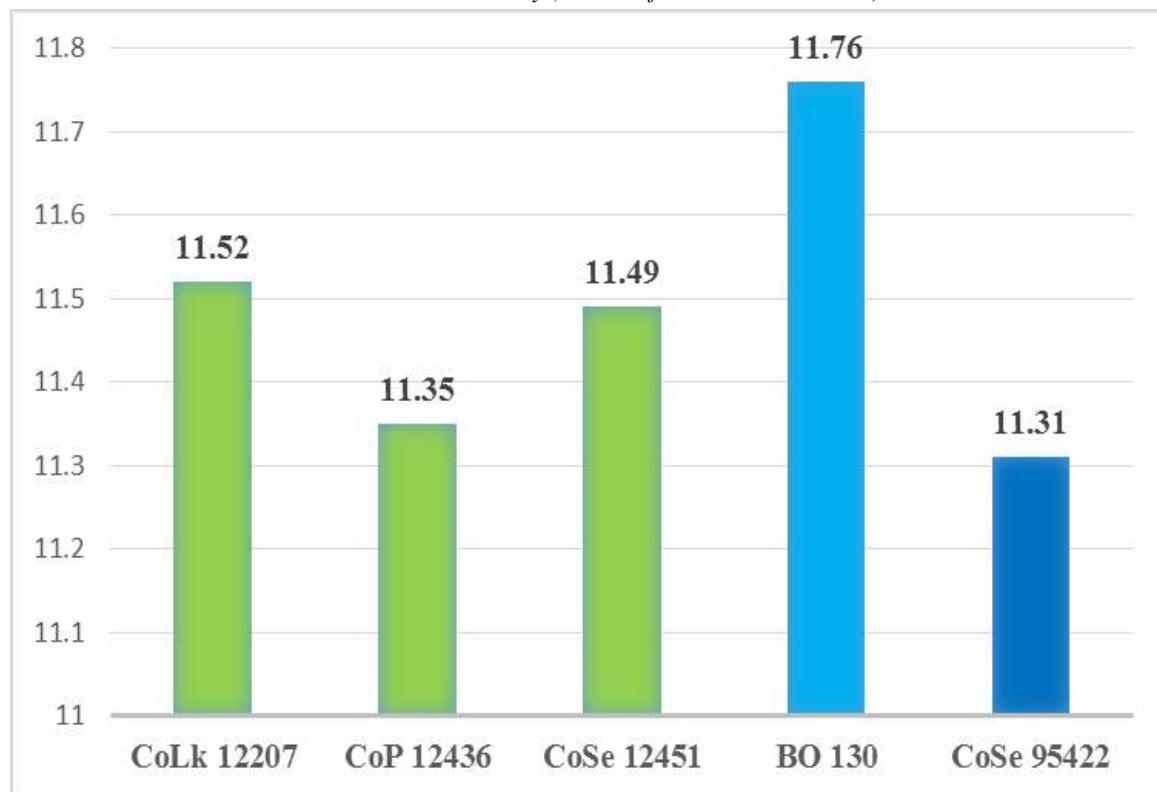


Fig. 5.3.3. Mean performance of (2P+1R) of AVT early clones for CCS (%)

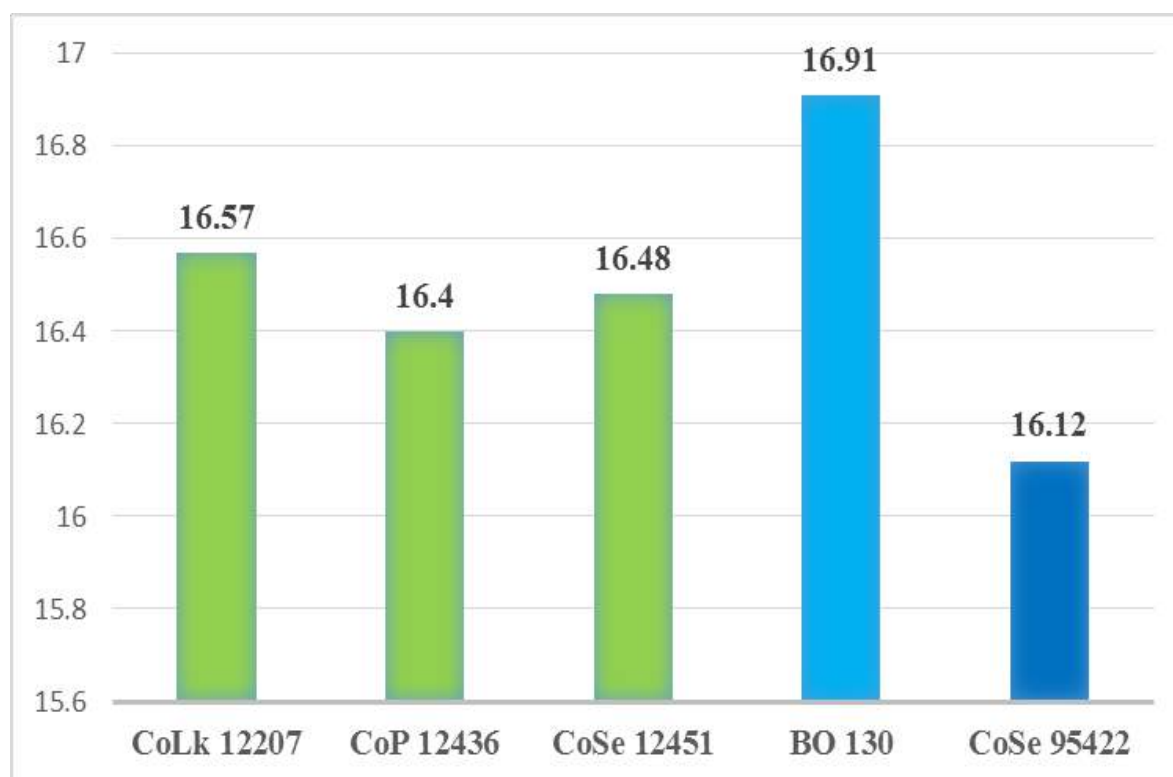


Fig. 5.3.4. Mean performance of (2P+1R) of AVT early clones for Sucrose (%)
1. Simultaneous selection of high yielding and stable genotypes in Advance

Varietal Trial (Early) – Plant I, II and Ratoon

Three entries, CoLk 12207, CoP 12436 and CoSe 12451 and two standards, BO 130 and CoSe 95422 were evaluated during three crop cycles (I and II Plant crop and ratoon crop) at 6 locations in North Central Zone. The data on CCS (t/ha), cane yield (t/ha) and sucrose (%) were subjected to stability analysis using AMMI model. Simultaneous selection of high yielding and stable genotypes was done by estimated index value based ranking. Estimated index values, CCS (t/ha), cane yield (t/ha) and sucrose (%) values and stability values of different genotypes along with their ranks are presented in Tables 8.1 to 8.3.

Results based on index of simultaneous selection for high CCS (t/ha) and stable genotypes revealed that the standard, BO 130, and the entry ,CoLk 12207, were at first and second rank, respectively. Such a ranking differs with the ranking based only on mean data of CCS (t/ha) presented in Table 8.1. Considering top high yielding and stable genotype, entry CoLk 12207 was superior among entries and better than the standard, CoSe 95422, for CCS(t/ha).

Results based on index of simultaneous selection for high cane yield (t/ha) and stable genotypes revealed that standard, BO 130, and entry ,CoLk 12207, were at first and second rank, respectively. Such a ranking differs with the ranking based only on mean data of cane yield (t/ha) presented in Table 8.2. Considering top high yielding and stable genotype, entry CoLk 12207 was superior among entries and better than the standard, CoSe 95422, for cane yield (t/ha).

Results based on index of simultaneous selection for high sucrose (%) and stable genotypes revealed that standard, BO 130, and entry ,CoLk 12207, were at first and second rank, respectively. Such a ranking differs with the ranking based only on mean data of sucrose (%) presented in Table 8.3. Considering top high yielding and stable genotype, entry CoLk 12207 was superior among entries and better than the standard, CoSe 95422, for CCS(t/ha).

From the above analysis, it may be concluded that the only entry CoLk 12207 was most stable and high for cane yielding (tha), CCS (t/ha) and sucrose (%) in early maturity group of North Central Zone.

Table 8.1 - Ranking of genotypes of AVT (E) of North Central Zone according to their (i) mean performance, (ii) stability and (iii) simultaneous index value in respect of CCS (t/ha)

Variety	Estimated value			Rank based on estimated value		
	Index Value	CCS (t/ha) value	Stability value	Index value based rank	CCS (t/ha) based rank	Stability based rank
CoLk 12207	1.34	8.82	3.52	2	1	3
CoP 12436	1.30	8.48	3.45	3	3	2
CoSe 12451	1.21	8.78	6.45	4	2	4
Standards						
BO 130	1.34	8.06	2.61	1	4	1
CoSe 95422	1.06	7.60	6.57	5	5	5

Table 8.2 - Ranking of genotypes of AVT (E) of North Central Zone according to their (i) mean performance, (ii) stability and (iii) simultaneous index value in respect of cane yield (t/ha)

Variety	Estimated value			Rank based on estimated value		
	Index Value	Cane Yield (t/ha) value	Stability value	Index value based rank	Cane Yield (t/ha) based rank	Stability based rank
CoLk 12207	1.36	75.80	160.81	2	1	2
CoP 12436	1.20	74.32	298.32	3	3	4
CoSe 12451	1.20	75.77	351.02	4	2	5
Standards						
BO 130	1.40	68.54	112.14	1	4	1
CoSe 95422	1.09	65.07	270.11	5	5	3

Table 8.3 - Ranking of genotypes of AVT (E) of North Central Zone according to their (i) mean performance, (ii) stability and (iii) simultaneous index value in respect of sucrose (%)

Variety	Estimated value			Rank based on estimated value		
	Index Value	Sucrose (%) value	Stability value	Index value based rank	Sucrose (%) based rank	Stability based rank
CoLk 12207	1.28	11.61	1.90	2	2	2
CoP 12436	1.27	11.42	1.89	3	4	1
CoSe 12451	1.26	11.60	2.05	4	3	4
Standards						
BO 130	1.30	11.80	1.91	1	1	3
CoSe 95422	1.13	11.38	3.59	5	5	5

5.4. ADVANCED VARIETAL TRIAL (EARLY) – I PLANT

Centers (5)	Bethuadahari, Buralikson, Motipur, Pusa and Seorahi
Entries (3)	CoP 13437, CoSe 13451 and CoSe 13452
Standards (3)	CoLk 94184, CoSe 95422 and CoSe 01421
Design	RBD
Replications	Four
Plot size	Gross : 6 m x 8 rows x 0.75 m Net : 5 m x 6 rows x 0.75 m
Seed rate	12 buds per meter
Date of planting	February - March, 2017
Crop duration	10 months

Results of the previous year:

Four entries and two standards were evaluated in Initial Varietal Trial (Early) at six locations across North Central and North East zones. CoP 13437 (10.05 t/ha) and CoSe 13451 (9.64 t/ha) recorded >10% improvement for CCS (t/ha) at Seorahi & Pusa. CoP 13436 (9.11 t/ha) recorded >10% improvement at Gorakhpur and Pusa. CoSe 13451, CoSe 13452 and CoP 13436 were significantly superior over the better standard BO 130 at Gorakhpur. For cane yield, CoP 13437 was the top performer & significantly superior over the better standard at Seorahi, Gorakhpur, Pusa and Motipur. It also recorded >10% improvement over the better standard (BO 130) at Seorahi and Pusa. CoSe 13451 was the second best entry with >10% improvement over the better standard at Seorahi and Gorakhpur. CoSe 13451 (12.28%), CoP 13437 (12.07%) and CoSe 13452 (11.90%) were the first, second and third best entries respectively for CCS at harvest & numerically superior over the better standard (CoSe 95422). CoSe 13451 and CoP 13437 were significantly superior for CCS % over the better standard (CoSe 95422) at Gorakhpur. CoSe 13451 (17.98%), CoP 13437 (17.66%) and CoSe 13452 (11.90%) respectively were the first, second and third best entries for sucrose % and numerically superior over the better standard (CoSe 95422). CoP 13437 was significantly superior over the better standard (CoSe 95422) at Buralikson and recorded >5% improvement for sucrose % at Bethuadahari. CoP 13437 recorded 15.92% improvement for CCS yield (t/ha), 12.76% for cane yield (t/ha), 2.54% for CCS % and 3.15% for juice sucrose % over the best standard CoSe 95422 across the locations and identified as qualifying entry in the zone.

Results of the current year:

Three entries and three standards were evaluated in AVT (Early) I plant at five locations of North Central and North East zones during 2017-18 for cane and juice parameters. None of the test entries recorded >10% improvement over best standard for CCS yield. CoSe 13451 (9.24 t/ha) ranked top based on mean CCS yield in the zone. CoSe 13451 recorded >10% improvement over best standard for CCS yield at four locations followed by CoSe 13452 (2) and CoP 13437 (1). All the test entries showed >10% improvement over better standard at Seorahi and Pusa centers. For cane yield, none of the test entries recorded >10% improvement over better standard across locations. CoSe 13451 (77.19 t/ha) ranked top based on mean cane yield across locations, followed by CoSe 13452 (75.14 t/ha). CoSe 13451 recorded >10% improvement and significantly higher yield over better standard at three locations followed by CoSe 13452 (2) and CoP 13437 (1). None of the test entries recorded >5% improvement over the best standard for sucrose % in the zone. Test entry CoSe 13452 (12.13%) ranked top based on mean sucrose % across locations. CoSe 13451 (12.00%) ranked second and third spot occupied by CoP 13437 (11.95%). All the test entries showed >5% improvement over best standard at Bethuadahari center. For sucrose %, none of the test entries recorded >5% improvement over best standard in the zone. Test entry CoSe 13452 (17.47%) ranked top position based on mean sucrose % across locations. CoP 13437 (17.21%) ranked second and third rank to CoSe 13451 (17.20%). All the test entries showed >5% improvement over best standard at Bethuadahari center. Based on the cane yield and CCS%, the entry CoSe 13451 was identified as qualifying entry as it recorded >5% improvement for CCS% and numerically superior performance for cane yield (t/ha) compared to best standard. **The data are presented in table 5.4.1 to 5.4.21.**

Table 5.4.1. CCS (t/ha) at harvest

S. No.	Entries	Seo rahi	Pusa	Moti pur	Bethua dahari	Bura likson	Mean	Overall rank
1	CoP 13437	10.16*	10.23*	8.47	6.56	6.01	8.29	
2	CoSe 13451	10.55*	9.93*	9.79	10.55*	5.36	9.24	1
3	CoSe 13452	10.59*	9.58*	9.61	8.52	6.96	9.05	2
Standards								
1	CoLk 94184	9.45	8.54	8.74	8.20	-	8.73	3
2	CoSe 95422	8.93	8.15	8.49	6.42	9.59	8.32	
3	CoSe 01421	9.83	8.25	6.50	-	-	8.19	
	GM	9.92	9.11	8.6	8.05	6.98		
	SE	0.01	0.33	0.93	0.41	NS		
	CD	0.05	1.01	-	1.23	-		
	CV	3.69	7.25	21.69	4.56	-		
Qualifying entries at each locations								
	1	CoSe 13452	CoP 13437	CoSe 13451	CoSe 13451			
	2	CoSe 13451	CoSe 13451					
	3		CoSe 13452					

* Significantly superior over the best standard

Qualifying entries: CoP 13437(1), CoSe 13451(4), CoSe 13452(2).

Performance across the locations: None of the test entries recorded more than 10% improvement over the better standard for CCS yield. CoSe 13451(9.24 t/ha) ranked top based on mean CCS yield across locations, followed by CoSe 13452 (9.05 t/ha). CoSe 13451 recorded >10% improvement over best standard for CCS yield at four locations followed by CoSe 13452 at two and CoP 13437 at one location. All the test entries showed significantly higher CCS yield at Seorahi and Pusa centers.

Table 5.4.2. Cane yield (t/ha) at harvest

S. No.	Entries	Seo rahi	Pusa	Moti pur	Bethua dahari	Bura likson	Mean	Overall rank
1	CoP 13437	83.00	87.74*	74.15	54.35	49.27	69.70	
2	CoSe 13451	84.89*	83.47	82.62	90.78*	44.21	77.19	1
3	CoSe 13452	89.11*	78.80	82.64	71.15	54.00	75.14	2
Standards								
1	CoLk 94184	80.67	67.41	74.56	74.71	-	74.34	3
2	CoSe 95422	73.67	75.43	73.37	66.32	74.06	72.57	
3	CoSe 01421	79.44	71.68	54.99	-	-	68.70	
	GM	81.80	77.42	73.72	71.46	55.39		
	SE	1.01	3.38	7.56	2.38	NS		
	CD	3.07	10.27	-	7.15	-		
	CV	3.29	8.72	20.51	5.73	-		
Qualifying entries at each locations								
	1	CoSe 13452	CoP 13437	CoSe 13451	CoSe 13451			
	2		CoSe 13451	CoSe 13452				
	3							

* Significantly superior the over best standard

Qualifying entries: CoP 13437(1), CoSe 13451(3), CoSe 13452(2).

Performance across the locations: None of the test entries recorded more than 10% improvement over the better standard for cane yield. CoSe 13451 (77.19 t/ha) ranked top based on mean cane yield in the zone, followed by CoSe 13452 (75.14 t/ha). CoSe 13451 recorded >10% improvement over better standard at three locations followed by CoSe 13452 at two and CoP 13437 at one location. CoSe 13451 showed significantly higher cane yield over the better standard at Seorahi and Bethuadahari.

Table 5.4.3. CCS (%) at harvest

S. No.	Entries	Seo rahi	Pusa	Moti pur	Bethua dahari	Bura likson	Mean	Overall rank
1	CoP 13437	12.24	11.68	11.52	12.12	12.21	11.95	3
2	CoSe 13451	12.42	11.96	11.86	11.62	12.14	12.00	2
3	CoSe 13452	11.88	12.16	11.71	12.02	12.90	12.13	1
Standards								
1	CoLk 94184	11.71	12.67	11.73	10.94	-	11.76	
2	CoSe 95422	12.12	11.10	11.49	9.66	12.96	11.47	
3	CoSe 01421	12.37	11.52	9.10	-	-	11.00	
	GM	12.12	11.85	11.24	12.11	12.55		
	SE	0.13	0.31	1.27	0.70	0.75		
	CD	0.39	0.93	-	2.10	0.25		
	CV	2.15	5.16	22.73	6.25	3.85		
Qualifying entries at each locations								
	1				CoSe 13451			
	2				CoP 13437			
	3				CoSe 13452			

Qualifying entry: CoSe 13451(1), CoP 13437(1), CoSe 13452(1).

Performance across the locations: None of the test entries recorded >5% improvement over the best standard for sucrose% in the zone. Test entry CoSe13452 (12.13%) ranked top position based on mean sucrose% across locations. CoSe 13451 (12.00%) ranked second and third spot occupied by CoP 13437(11.95%). All the test entries showed >5% improvement over best standard at Bethuadahari center only.

Table 5.4.4. Sucrose (%) at harvest

S. No.	Entries	Seo rahi	Pusa	Moti pur	Bethua dahari	Bura likson	Mean	Overall rank
1	CoP 13437	17.61	16.90	17.16	17.39*	17.00	17.21	2
2	CoSe 13451	17.93	17.20	17.34	16.62	16.89	17.20	3
3	CoSe 13452	17.13	17.54	17.36	17.25*	18.05	17.47	1
Standards								
1	CoLk 94184	16.97	18.37	17.28	15.66	-	17.07	
2	CoSe 95422	17.53	16.15	17.06	14.00	18.07	16.56	
3	CoSe 01421	17.75	16.70	13.01	-	-	15.82	
	GM	17.49	17.14	16.54	16.18	17.50		
	SE	0.14	0.40	1.77	0.51	0.9		
	CD	0.42	1.22	-	1.53	0.22		
	CV	1.63	4.66	24.19	6.18	3.45		
Qualifying entries at each locations								
	1				CoP 13437			
	2				CoSe 13452			
	3				CoSe 13451			

Qualifying entries: CoP 13437(1), CoSe 13452(1), CoSe 13451(1).

Performance across the locations: None of the test entries recorded >5% improvement over best standard for sucrose% in the zone. Test entry CoSe13452 (17.47%) ranked top position based on mean sucrose % across locations. CoP 13437 (17.21%) ranked second followed by shared by CoSe 13451 (17.20%). All the test entries showed >5% improvement over best standard at Bethuadahari center.

Table 5.4.5. Brix (%) at harvest

S. No.	Entries	Seo rahi	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	CoP 13437	19.71	19.15	20.05	19.37	19.08	19.47
2	CoSe 13451	20.20	19.25	20.17	18.37	18.99	19.40
3	CoSe 13452	19.27	19.75	20.07	19.20	20.00	19.66
Standards							
1	CoLk 94184	19.27	20.90	20.09	17.34	-	19.40
2	CoSe 95422	19.85	18.53	19.52	15.91	20.09	18.78
3	CoSe 01421	19.74	19.00	14.73	-	-	17.82
	GM	19.67	19.43	19.11	18.04	19.54	
	SE	0.20	0.36	1.99	0.56	2.80	
	CD	0.61	1.08	-	1.68	0.77	
	CV	2.07	3.67	20.86	5.37	2.65	

Table 5.4.6. Purity (%) at harvest

S. No.	Entries	Seo rahi	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	CoP 13437	89.34	88.20	86.71	89.73	89.09	88.61
2	CoSe 13451	88.74	89.28	86.21	90.47	88.94	88.73
3	CoSe 13452	88.89	88.80	86.53	89.80	90.25	88.85
Standards							
1	CoLk 94184	88.02	87.88	86.34	90.28	-	88.13
2	CoSe 95422	88.30	87.20	87.39	87.98	89.94	88.16
3	CoSe 01421	89.00	87.75	65.19	-	-	80.65
	GM	88.72	88.19	83.06	89.65	89.56	
	SE	0.23	0.49	9.01	-	0.55	
	CD	0.70	1.47	-	NS	2.30	
	CV	0.52	1.10	21.3	6.87	3.65	

Table 5.4.7. Pol (%) cane at harvest

S. No.	Entries	Seo rahi	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	CoP 13437	13.15	13.99	-	-	-	13.57
2	CoSe 13451	13.39	14.14	-	-	-	13.77
3	CoSe 13452	12.91	14.23	-	-	-	13.57
Standards							
1	CoLk 94184	12.78	14.96	-	-	-	13.87
2	CoSe 95422	13.12	13.27	-	-	-	13.20
3	CoSe 01421	13.29	13.74	-	-	-	13.52
	GM	13.11	14.06				
	SE	-	0.33	-	-	-	
	CD	-	1.00	-	-	-	
	CV	-	4.73	-	-	-	

Table 5.4.8. Extraction (%) at harvest

S. No.	Entries	Seo rahi	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	CoP 13437	55.27	60.20	60.2	-	-	58.56
2	CoSe 13451	59.62	61.25	61.85	-	-	60.91
3	CoSe 13452	60.60	58.70	61.46	-	-	60.25
Standards							
1	CoLk 94184	58.30	59.20	60.97	-	-	59.49
2	CoSe 95422	56.12	58.25	57.16	-	-	57.18
3	CoSe 01421	59.12	58.30	45.51	-	-	54.31
GM		58.17	59.32	57.86			
	SE	-	0.93	6.06	-	-	
	CD	-	2.79	-	-	-	
	CV	-	3.13	20.95	-	-	

Table 5.4.9. Fibre (%) at harvest

S. No.	Entries	Seo rahi	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	CoP 13437	13.69	12.20	12.37	-	-	12.75
2	CoSe 13451	13.32	12.80	12.29	-	-	12.80
3	CoSe 13452	13.25	13.82	12.15	-	-	13.07
Standards							
1	CoLk 94184	13.48	13.55	12.25	-	-	13.09
2	CoSe 95422	13.52	13.10	11.92	-	-	12.85
3	CoSe 01421	13.12	12.85	9.67	-	-	11.88
GM		13.40	13.05	11.78			
	SE	-	0.18	1.36	-	-	
	CD	-	0.56	-	-	-	
	CV	-	2.81	23.14	-	-	

Table 5.4.10. Number of Millable Canes ('000/ha) at harvest

S. No.	Entries	Seo rahi	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	CoP 13437	111.00	111.40	173.36	118.69	64.05	115.70
2	CoSe 13451	108.00	94.90	114.42	117.95	57.47	98.55
3	CoSe 13452	110.00	91.18	116.65	107.40	70.20	99.09
Standards							
1	CoLk 94184	121.00	98.38	145.96	100.09	-	116.36
2	CoSe 95422	113.00	101.13	158.87	116.11	96.27	117.08
3	CoSe 01421	123.00	95.48	106.84	-	-	108.44
GM		114.33	98.75	136.02	112.05	72.00	
	SE	1.40	3.50	29.1	2.62	1.90	
	CD	4.24	10.65	-	7.85	5.64	
	CV	3.27	7.09	29.56	6.10	11.64	

Table 5.4.11. Stalk Length (cm) at harvest

S. No.	Entries	Seo rahi	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	CoP 13437	216.00	252.73	238.75	210.50	182.00	220.00
2	CoSe 13451	219.00	245.95	271.5	237.50	225.00	239.79
3	CoSe 13452	225.00	233.58	274.25	233.50	233.00	239.87
Standards							
1	CoLk 94184	212.00	286.18	265.00	275.70	-	259.72
2	CoSe 95422	209.00	290.63	247.25	231.30	170.00	229.64
3	CoSe 01421	204.00	293.63	190.75	-	-	229.46
GM		214.17	267.12	247.92	237.70	202.50	
SE		0.03	8.61	27.24	3.59	NS	
CD		0.10	26.20	-	10.77	-	
CV		3.32	6.45	21.97	6.75	-	

Table 5.4.12. Stalk Diameter (cm) at harvest

S. No.	Entries	Seo rahi	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	CoP 13437	2.20	2.13	1.93	1.96	2.35	2.11
2	CoSe 13451	2.20	2.30	2.43	2.36	2.42	2.34
3	CoSe 13452	2.30	2.20	2.45	2.17	2.55	2.33
Standards							
1	CoLk 94184	2.10	1.91	2.08	2.16	-	2.06
2	CoSe 95422	2.00	2.01	2.05	2.08	2.35	2.10
3	CoSe 01421	1.90	2.11	1.65	-	-	1.89
GM		2.12	2.11	2.10	2.15	2.42	
SE		0.05	0.06	0.25	0.33	NS	
CD		0.15	0.18	-	0.98	-	
CV		4.90	5.67	24.48	5.22	-	

Table 5.4.13. Single Cane Weight (kg) at harvest

S. No.	Entries	Seo rahi	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	CoP 13437	0.75	0.79	0.65	0.51	0.65	0.67
2	CoSe 13451	0.79	0.88	1.05	1.03	0.75	0.90
3	CoSe 13452	0.81	0.86	1.24	0.87	0.80	0.91
Standards							
1	CoLk 94184	0.67	0.69	0.91	0.93	-	0.80
2	CoSe 95422	0.65	0.75	0.79	0.66	0.76	0.72
3	CoSe 01421	0.64	0.74	0.78	-	-	0.72
GM		0.72	0.79	0.90	0.80	0.74	
SE		0.01	0.02	0.16	0.04	NS	
CD		0.02	0.06	-	0.11	-	
CV		2.63	4.71	25.28	5.43	-	

Table 5.4.14. CCS (%) at 240 days

S. No.	Entries	Seo rahi	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	CoP 13437	10.62	11.32	11.70	6.97	12.01	10.52
2	CoSe 13451	10.34	11.70	11.83	7.92	12.06	11.36
3	CoSe 13452	10.11	10.83	12.08	8.64	12.29	10.79
Standards							
1	CoLk 94184	10.03	12.35	12.00	7.97	-	10.59
2	CoSe 95422	10.54	10.15	11.91	7.05	12.51	10.43
3	CoSe 01421	12.05	12.42	8.88	-	-	11.12
GM		10.62	11.46	11.40	8.30	12.22	
SE		0.14	0.25	1.21	0.58	0.16	
CD		0.40	0.77	-	1.75	0.54	
CV		2.55	4.41	21.14	4.85	1.90	

Table 5.4.15. Sucrose (%) at 240 days

S. No.	Entries	Seo rahi	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	CoP 13437	15.55	16.46	17.12	10.56	16.72	15.28
2	CoSe 13451	15.17	16.91	17.26	11.87	16.80	15.60
3	CoSe 13452	14.91	15.77	17.52	13.03	17.10	15.67
Standards							
1	CoLk 94184	14.70	18.03	17.48	11.96	-	15.54
2	CoSe 95422	15.43	15.03	17.38	10.69	17.35	15.18
3	CoSe 01421	17.53	17.89	12.83	-	-	16.08
GM		15.55	16.68	16.60	11.62	16.99	
SE		0.19	0.33	1.74	0.41	0.23	
CD		0.57	1.00	-	1.22	0.56	
CV		2.45	3.96	20.99	5.01	2.15	

Table 5.4.16. Brix (%) at 240 days

S. No.	Entries	Seo rahi	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	CoP 13437	16.44	18.85	19.83	13.08	18.82	17.40
2	CoSe 13451	15.89	19.13	19.91	14.43	18.88	17.65
3	CoSe 13452	14.91	18.10	19.94	16.02	19.19	17.63
Standards							
1	CoLk 94184	14.70	20.80	20.08	14.58	-	17.54
2	CoSe 95422	15.43	17.85	20.06	13.28	19.48	17.22
3	CoSe 01421	17.53	20.10	14.49	-	-	17.37
GM		15.82	19.14	19.05	14.28	19.09	
SE		0.21	0.42	1.98	0.36	0.17	
CD		0.63	1.28	-	1.09	0.48	
CV		2.34	4.40	20.81	5.22	2.21	

Table 5.4.17. Purity (%) at 240 days

S. No.	Entries	Seo rahi	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	CoP 13437	86.13	87.30	86.34	80.75	88.84	85.87
2	CoSe 13451	85.81	88.08	86.74	82.25	88.98	86.37
3	CoSe 13452	85.03	87.08	87.88	81.37	89.10	86.09
Standards							
1	CoLk 94184	86.00	86.78	87.09	82.05	-	85.48
2	CoSe 95422	86.03	86.98	86.67	80.58	89.06	85.86
3	CoSe 01421	87.42	89.03	66.41	-	-	80.95
GM		86.07	87.54	83.52	81.40	89.00	
SE		0.28	0.68	9.06	-	0.45	
CD		0.85	2.05	-	NS	1.54	
CV		0.66	1.56	21.69	6.35	2.65	

Table 5.4.18. Number of Shoots ('000/ha) at 240 days

S. No.	Entries	Seo rahi	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	CoP 13437	-	107.83	154.58	172.68	63.12	124.55
2	CoSe 13451	-	98.90	116.74	159.48	55.40	107.63
3	CoSe 13452	-	94.23	117.99	119.25	69.50	100.24
Standards							
1	CoLk 94184	-	101.68	126.23	124.99	-	117.63
2	CoSe 95422	-	117.45	162.39	159.27	90.56	132.42
3	CoSe 01421	-	99.60	113.49	-	-	106.55
GM			103.28	131.90	147.13	69.65	
SE			3.70	19.24	7.26	2.33	
CD		-	11.26	-	21.79	6.58	
CV		-	7.17	29.54	6.08	14.12	

Table 5.4.19. Number of Tillers ('000/ha) at 120 days

S. No.	Entries	Seo rahi	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	CoP 13437	189.00	122.63	165.42	135.09	66.11	135.65
2	CoSe 13451	185.00	111.25	120.81	113.52	54.23	116.96
3	CoSe 13452	192.00	100.53	119.69	98.24	66.20	115.33
Standards							
1	CoLk 94184	191.00	100.30	121.36	94.54	-	126.80
2	CoSe 95422	169.00	150.08	148.82	115.00	91.30	134.84
3	CoSe 01421	166.00	97.63	125.89	-	-	129.84
GM		182.00	113.74	133.67	111.28	69.46	
SE		1.71	5.28	22.76	3.59	2.21	
CD		5.16	16.06	-	10.77	5.82	
CV		2.50	9.79	34.06	6.73	12.30	

Table 5.4.20. Germination (%) at 45 days

S. No.	Entries	Seo rahi	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	CoP 13437	40.35	37.83	32.51	21.92	40.60	34.64
2	CoSe 13451	46.39	35.73	37.93	27.66	42.81	38.10
3	CoSe 13452	50.21	31.63	36.34	30.15	38.69	37.40
Standards							
1	CoLk 94184	46.94	32.43	35.34	25.23	-	34.99
2	CoSe 95422	42.01	30.93	31.83	29.97	37.86	34.52
3	CoSe 01421	39.86	31.08	23.83	-	-	31.59
GM		44.29	33.27	32.96	26.99	39.99	
SE		0.71	1.05	4.04	0.86	1.40	
CD		2.13	3.20	-	2.59	4.35	
CV		3.20	6.32	24.49	5.80	13.50	

Table 5.4.21. Assessment of entries by monitoring team constituted by AICRP(S)

Entries	Seorahi	Pusa	Motipur	Bethuadhari	Buralikson
CoP 13437	Average	Good	Average	Average	Good
CoSe 13451	Good	Good	Very Good	Very Good	Average
CoSe 13452	Very Good	Average	Very Good	Good	Average
Standards					
CoLk 94184	Very Good	Poor	Good	Very Good	Not planted
CoSe 95422	Poor	Very Good	Good	Average	Good
CoSe 01421	Average	Good	Good	Not planted	Not planted

5.5. INITIAL VARIETAL TRIAL (EARLY)

Centers (5)	Bethuadahari, Buralikson, Pusa, Motipur and Seorahi
Entries (8)	1. CoBln 14501 (MS 6847 x Co 1148) 2. CoLk 14206 (CoLk 97050 x CoSe 92423) 3. CoLk 14207 (CoLk 97050 x CoSe 92423) 4. CoP 14436 (BO 108 GC) 5. CoP 14437 (CoS 96260 GC) 6. CoSe 14451 (CoSe 95422 PC) 7. CoSe 14453 (Co 88039 GC) 8. CoSe 14454 (CoLk 8102 x NCo 310)
Standards (3)	CoLk 94184, CoSe 95422 and CoSe 01421
Design	RBD
Replications	Three
Plot size	Gross : 6 m x 6 rows x 0.75 m Net : 5 m x 4 rows x 0.75 m
Seed rate	12 buds per meter
Date of planting	February - March, 2017
Crop duration	10 months

Results of the previous year:

The entries were under multiplication.

Results of the current year:

Eight entries and three standards were evaluated in IVT Early at five locations of North Central and North East zones during 2017-18 for cane and juice parameters. None of the test entries recorded >10% improvement over best standard for CCS yield across locations. Standard CoLk 94184 ranked top with 10.18 t/ha of CCS yield, followed by the entries CoSe 14453 (10.10 t/ha) and CoP 14437 (9.84 t/ha). All the test entries recorded significantly higher CCS yields than best standard at Seorahi center. The entries CoLk 14206, CoLk 14207, CoSe 14451, CoSe 14453 and CoSe 14454 recorded >10% improvement over best standard for CCS yield at two locations, whereas CoBln 14501 and CoP 14437 recorded at one location each. For cane yield, none of the test entries recorded >10% improvement over best the standard CoLk 94184 (83.30 t/ha) in the zone. CoSe 14453 (88.41 t/ha) ranked top in the zone, followed by CoSe 14451(86.30 t/ha) and CoSe 14454 (83.40 t/ha). CoSe 14453 recorded 10% improvement over best standard at Seorahi and Motipur, whereas CoLk 14206, CoP 14436, CoSe 14451 and CoSe 14454 recorded >10% improvement over the standard at one location each. For CCS%, none of the test entries recorded >5% improvement over the best standard CoLk 94184 (12.02%) across locations. CoSe 14454 (12.03%) ranked top in the zone, followed by CoLk 94184 (12.02%) and CoP 14437 (12.00%). All the test entries except CoLk 14206 and CoP 14436 recorded >5% improvement over the best standard at one location. For sucrose %, none of the test entries recorded >5% improvement over the best standards across locations. The standard CoLk 94184 (17.59%) was the best in the zone which was followed by CoP 14437 (17.47%) and CoP 14436 (17.37%). CoP 14437 was the only entry which recorded >5% improvement over best standard for sucrose % at Seorahi center. No qualifying entry was identified from this trial. **The data are presented in table 5.5.1 to 5.5.21.**

Table 5.5.1. CCS (t/ha) at harvest

S. No.	Entries	Seo Rahi #	Pusa	Moti Pur#	Bethua dahari	Bura likson	Mean	Overall rank
1	CoBln 14501	7.78	3.19 \$	9.47	6.73	9.40	8.35	
2	CoLk 14206	9.37*	12.18	9.82	8.68	6.56	9.32	
3	CoLk 14207	9.21*	10.86	9.49	8.14	10.45	9.63	
4	CoP 14436	8.89*	12.38	9.02	6.99	7.94	9.04	
5	CoP 14437	9.98*	12.88	8.97	8.23	9.15	9.84	3
6	CoSe 14451	10.21*	12.93	9.45	6.61	-	9.80	
7	CoSe 14453	9.88*	12.66	10.14	7.71	-	10.10	2
8	CoSe 14454	9.37*	12.16	9.48	9.39	8.97	9.87	
Standards								
1	CoLk 94184	8.36	12.81	8.57	10.92	-	10.17	1
2	CoSe 95422	8.12	9.51	8.49	8.97	-	8.77	
3	CoSe 01421	8.25	12.19	5.89	7.86	-	8.55	
	GM	9.04	12.06	8.98	8.20	8.75		
	SE	0.04	0.61	0.90	0.71	0.32		
	CD	0.14	1.81	-	2.12	1.10		
	CV	9.14	9.37	17.36	7.35	9.20		
Qualifying entries at each locations								
	1	CoSe 14451		CoSe 14453				
	2	CoP 14437		CoLk 14206				
	3	CoSe 14453		CoLk 14207				

* Significantly superior over the best standard, # only top three entries were listed, \$ Data not considered due to poor germination (12.00%)

Qualifying entries: CoBln 14501(1), CoLk 14206(2), CoLk 14207(2), CoP 14437(1), CoSe 14451(2), CoSe 14453(2), CoSe 14454 (2).

Performance across the locations: None of the test entries recorded >10% improvement over best standard for CCS yield across locations. Standard CoLk 94184 ranked top with 10.17 t/ha of CCS yield, followed by the entries CoSe 14453 (10.10 t/ha) and CoP 14437 (9.84 t/ha). All the test entries recorded significantly higher CCS yields over the best standard CoLk 94184 (8.36 t/ha) at Seorahi center. The entries CoLk 14206, CoLk 14207, CoSe 14451, CoSe 14453 and CoSe 14454 recorded >10% improvement over the best standard for CCS yield at two locations each, whereas CoBln 14501 and CoP 14437 recorded >10% improvement at one location each.

Table 5.5.2. Cane yield (t/ha) at harvest

S. No.	Entries	Seo Rahi #	Pusa	Moti pur	Bethua dahari	Bura likson	Mean	Overall rank
1	CoBln 14501	70.22	28.26 \$	78.02	72.02	72.89	73.29	
2	CoLk 14206	78.44	98.47	83.57	78.86	52.17	78.30	
3	CoLk 14207	80.00	94.33	77.49	78.60	81.03	82.29	
4	CoP 14436	83.11	102.56	77.76	59.72	61.79	76.99	
5	CoP 14437	79.33	104.13	76.14	76.21	68.82	80.93	
6	CoSe 14451	85.56*	105.09	80.43	74.11	-	86.30	2
7	CoSe 14453	84.22	111.67	82.40	75.33	-	88.41	1
8	CoSe 14454	82.22	109.83	77.83	80.14	66.97	83.40	3
Standards								
1	CoLk 94184	73.56	104.02	71.93	83.70	-	83.30	
2	CoSe 95422	68.89	88.71	74.06	81.09	86.58	79.87	
3	CoSe 01421	71.78	97.45	53.16	74.28	-	74.17	
	GM	77.94	101.63	75.71	75.82	70.04		
	SE	3.75	5.45	8.02	3.52	1.50		
	CD	11.08	16.19	-	10.56	5.30		
	CV	8.31	9.94	18.36	6.10	12.11		
Qualifying entries at each locations								
	1	CoSe 14451		CoLk 14206				
	2	CoSe 14453		CoSe 14453				
	3	CoP 14436						

* Significantly superior over the best standard, # only top three entries were listed, \$ Data not considered due to poor germination (12.00%)

Qualifying entries: CoLk 14206(1), CoP 14436(1), CoSe 14451(1), CoSe 14453(2), CoSe 14454(1).

Performance across the locations: None of the test entries recorded >10% improvement over best standard CoLk 94184 (83.30 t/ha) for cane yield across locations. CoSe 14453 (88.41 t/ha) ranked top in the zone, followed by CoSe 14451(86.30 t/ha) and CoSe 14454 (83.40 t/ha). CoSe 14453 recorded 10% improvement over the best standard at Seorahi and Motipur, whereas other test entries viz., CoLk 14206, CoP 14436, CoSe 14451 and CoSe 14454 recorded >10% improvement at one location each.

Table 5.5.3. CCS (%) at harvest

S. No.	Entries	Seo rahi	Pusa	Moti Pur #	Bethua dahari	Bura likson	Mean	Overall rank
1	CoBln 14501	11.07	11.28	12.00	9.32	12.90	11.31	
2	CoLk 14206	11.74	12.37	11.81	10.98	12.58	11.90	
3	CoLk 14207	11.11	11.50	12.10	10.34	12.90	11.59	
4	CoP 14436	12.01	12.11	11.21	11.78	12.86	11.99	
5	CoP 14437	12.44*	12.46	11.19	10.61	13.30	12.00	3
6	CoSe 14451	11.93	12.31	11.99	8.93	-	11.29	
7	CoSe 14453	11.73	11.33	12.33	10.18	-	11.39	
8	CoSe 14454	11.41	10.90	12.74	11.71	13.40	12.03	1
Standards								
1	CoLk 94184	11.37	12.33	11.34	13.04	-	12.02	2
2	CoSe 95422	11.79	10.75	11.36	11.04	13.51	11.69	
3	CoSe 01421	11.49	12.50	7.66	10.58	-	10.56	
	GM	11.64	11.80	11.43	10.77	13.06		
	SE	0.21	0.41	1.21	0.51	0.05		
	CD	0.61	1.22	-	1.53	0.25		
	CV	3.11	6.01	18.37	5.85	3.35		
Qualifying entries at each locations								
	1	CoP 14437		CoSe 14454				
	2			CoSe 14453				
	3			CoLk 14207				

* Significantly superior over the best standard, # only top three entries were listed.

Qualifying entry: CoBln 14501(1), CoLk 14207(1), CoP 14437(1), CoSe 14451(1), CoSe 14453(1), CoSe 14454(1).

Performance across the locations: None of the test entries recorded >5% improvement over best standard for CCS% across locations. CoSe 14454 (12.03%) ranked top in the zone and the best standard was CoLk 94184 (12.02%) followed by CoP 14437 (12.00%). All the test entries except CoLk 14206 and CoP 14436 recorded >5% improvement over the best standard at one location each.

Table 5.5.4. Sucrose (%) at harvest

S. No.	Entries	Seo rahi	Pusa	Moti pur	Bethua dahari	Bura likson	Mean	Overall rank
1	CoBln 14501	16.01	16.44	16.33	13.44	18.00	16.04	
2	CoLk 14206	16.94	17.77	17.42	15.91	17.55	17.12	
3	CoLk 14207	16.12	16.65	16.96	15.00	18.03	16.55	
4	CoP 14436	17.34	17.59	17.18	16.94	17.80	17.37	3
5	CoP 14437	18.01*	18.06	17.33	15.41	18.55	17.47	2
6	CoSe 14451	17.22	17.72	17.18	12.88	-	16.25	
7	CoSe 14453	16.99	16.56	16.82	14.72	-	16.27	
8	CoSe 14454	16.51	15.98	17.18	16.91	18.55	17.03	
Standards								
1	CoLk 94184	16.46	17.80	17.39	18.72	-	17.59	1
2	CoSe 95422	17.06	15.78	17.02	15.85	18.78	16.90	
3	CoSe 01421	16.62	18.04	11.52	15.12	-	15.33	
	GM	16.84	17.13	16.58	15.54	18.18		
	SE	0.28	0.38	1.76	0.45	0.07		
	CD	0.83	1.11	-	1.35	0.22		
	CV	2.91	3.79	18.35	6.85	3.50		
Qualifying entries at each locations								
	1	CoP 14437						
	2							
	3							

Significantly superior over the best standard

Qualifying entries: CoP 14437(1).

Performance across the locations: None of the test entries recorded >5% improvement over the best standard for CCS% across locations. The best standard was CoLk 94184 (17.59%) which is followed by test entries CoP 14437 (17.47%) and COP 14436 (17.37%). CoP 14437 was the only entry recorded >5% improvement over the best standard for sucrose % at Seorahi center.

Table 5.5.5. Brix (%) at harvest

S. No.	Entries	Seo rahi	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	CoBln 14501	18.09	18.90	19.28	15.11	20.01	18.28
2	CoLk 14206	19.09	19.83	19.91	18.09	19.57	19.30
3	CoLk 14207	18.34	18.90	19.11	17.09	20.00	18.69
4	CoP 14436	19.55	20.07	19.88	18.98	19.95	19.69
5	CoP 14437	20.42	20.53	20.15	17.60	20.54	19.85
6	CoSe 14451	19.41	19.87	18.91	14.52	-	18.18
7	CoSe 14453	19.33	19.07	19.15	16.68	-	18.56
8	CoSe 14454	18.74	18.60	19.43	19.11	20.70	19.32
	Standards						
1	CoLk 94184	18.69	20.07	19.65	20.86	-	19.82
2	CoSe 95422	19.36	18.43	19.58	17.65	20.80	19.16
3	CoSe 01421	18.82	20.33	13.28	16.67	-	17.28
	GM	19.08	19.51	18.94	17.49	20.22	
	SE	0.29	0.45	2.05	0.60	0.21	
	CD	0.87	1.35	-	1.79	0.65	
	CV	2.69	4.03	18.75	5.05	2.50	

Table 5.5.6. Purity (%) at harvest

S. No.	Entries	Seo rahi	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	CoBln 14501	88.43	86.93	87.64	89.05	89.55	88.32
2	CoLk 14206	88.73	89.63	87.66	88.03	89.67	88.74
3	CoLk 14207	87.88	88.07	89.43	87.80	91.50	88.94
4	CoP 14436	88.67	87.70	85.91	89.33	89.22	88.17
5	CoP 14437	88.17	87.97	85.67	87.60	90.31	87.94
6	CoSe 14451	88.52	88.87	90.41	88.77	-	89.14
7	CoSe 14453	87.92	86.90	87.87	88.23	-	87.73
8	CoSe 14454	88.14	85.77	88.42	88.50	89.61	88.09
	Standards						
1	CoLk 94184	88.09	88.67	88.55	89.73	-	88.76
2	CoSe 95422	88.14	86.63	86.49	89.76	90.28	88.26
3	CoSe 01421	88.32	88.70	56.61	90.70	-	81.08
	GM	88.27	87.80	84.97	88.86	90.02	
	SE	0.49	0.70	8.49	-	0.77	
	CD	NS	2.09	-	NS	2.40	
	CV	0.97	1.38	17.32	7.11	3.90	

Table 5.5.7. Pol (%) cane at harvest

S. No.	Entries	Seo rahi	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	CoBln 14501	13.35	13.30	-	-	-	13.33
2	CoLk 14206	12.63	14.38	-	-	-	13.51
3	CoLk 14207	11.98	12.37	-	-	-	12.18
4	CoP 14436	12.83	14.34	-	-	-	13.59
5	CoP 14437	13.35	14.60	-	-	-	13.98
6	CoSe 14451	12.84	14.83	-	-	-	13.84
7	CoSe 14453	12.59	13.26	-	-	-	12.93
8	CoSe 14454	12.26	12.61	-	-	-	12.44
	Standards						
1	CoLk 94184	12.18	14.30	-	-	-	13.24
2	CoSe 95422	12.62	12.78	-	-	-	12.70
3	CoSe 01421	12.39	14.15	-	-	-	13.27
	GM	12.64	13.72	-	-	-	
	SE	-	0.55	-	-	-	
	CD	-	1.63	-	-	-	
	CV	-	6.93	-	-	-	

Table 5.5.8. Extraction (%) at harvest

S. No.	Entries	Seo rahi	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	CoBln 14501	58.56	56.20	47.15	-	-	53.97
2	CoLk 14206	57.72	60.35	49.45	-	-	55.84
3	CoLk 14207	56.84	61.20	51.56	-	-	56.53
4	CoP 14436	59.16	63.50	45.95	-	-	56.20
5	CoP 14437	58.65	63.80	48.99	-	-	57.15
6	CoSe 14451	60.87	59.30	45.66	-	-	55.28
7	CoSe 14453	59.20	58.50	51.22	-	-	56.31
8	CoSe 14454	58.54	59.20	52.66	-	-	56.80
	Standards						
1	CoLk 94184	60.12	55.80	47.49	-	-	54.47
2	CoSe 95422	59.15	58.20	48.99	-	-	55.45
3	CoSe 01421	60.72	59.30	29.49	-	-	49.84
	GM	59.05	59.58	47.15	-	-	
	SE	-	2.57	4.79	-	-	
	CD	-	6.71	-	-	-	
	CV	-	7.48	17.59	-	-	

Table 5.5.9. Fibre (%) at harvest

S. No.	Entries	Seo rahi	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	CoBln 14501	13.68	14.09	12.62	-	-	13.46
2	CoLk 14206	13.15	14.06	13.00	-	-	13.40
3	CoLk 14207	13.85	14.44	13.07	-	-	13.79
4	CoP 14436	13.72	13.46	12.91	-	-	13.36
5	CoP 14437	13.68	14.21	12.6	-	-	13.50
6	CoSe 14451	12.88	11.31	12.23	-	-	12.14
7	CoSe 14453	12.95	14.90	12.35	-	-	13.40
8	CoSe 14454	13.07	16.17	13.06	-	-	14.10
	Standards						
1	CoLk 94184	13.67	14.66	13.35	-	-	13.89
2	CoSe 95422	13.25	13.97	12.2	-	-	13.14
3	CoSe 01421	13.02	16.58	8.07	-	-	12.56
	GM	13.36	14.35	12.31	-	-	
	SE	-	0.36	1.26	-	-	
	CD	-	1.06	-	-	-	
	CV	-	4.29	17.65	-	-	

Table 5.5.10. Number of Millable Canes ('000/ha) at harvest

S. No.	Entries	Seo rahi	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	CoBln 14501	134.00	30.25 \$	85.81	66.39	87.46	93.42
2	CoLk 14206	120.00	95.66	105.04	139.26	62.60	104.51
3	CoLk 14207	113.00	98.23	114.90	118.05	97.23	108.28
4	CoP 14436	114.00	116.52	106.11	121.85	74.14	106.52
5	CoP 14437	109.00	96.82	102.14	128.70	82.58	103.85
6	CoSe 14451	116.00	91.13	132.29	110.55	-	112.49
7	CoSe 14453	108.00	97.87	132.74	132.96	-	117.89
8	CoSe 14454	112.00	99.50	87.91	124.45	80.36	100.84
	Standards						
1	CoLk 94184	124.00	107.87	116.79	141.11	-	122.44
2	CoSe 95422	113.25	85.30	131.84	125.80	103.89	112.02
3	CoSe 01421	105.00	91.20	95.45	97.78	-	97.36
	GM	115.00	98.01	110.09	121.56	84.03	
	SE	2.65	3.85	16.57	6.96	1.89	
	CD	7.82	11.45	-	20.89	5.55	
	CV	4.01	7.27	16.06	6.77	10.33	

\$ Data not considered due to poor germination (12.00%)

Table 5.5.11. Stalk Length (cm) at harvest

S. No.	Entries	Seo rahi	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	CoBln 14501	165.00	258.00	236.67	274.00	225.00	231.73
2	CoLk 14206	196.00	284.53	258.33	258.30	210.00	241.43
3	CoLk 14207	200.00	289.47	260.00	248.50	232.00	245.99
4	CoP 14436	205.00	270.63	253.33	188.00	230.00	229.39
5	CoP 14437	196.00	287.90	263.33	252.30	192.00	238.31
6	CoSe 14451	212.00	345.37	273.33	253.00	-	270.93
7	CoSe 14453	225.00	353.87	291.33	263.70	-	283.48
8	CoSe 14454	208.00	305.67	271.67	273.00	241.00	259.87
	Standards						
1	CoLk 94184	195.00	308.10	272.00	259.00	-	258.53
2	CoSe 95422	180.00	316.10	255.00	251.00	232.00	246.82
3	CoSe 01421	204.00	287.50	179.00	239.00	-	227.38
	GM	198.73	300.65	255.82	249.60	223.14	
	SE	0.03	8.14	27.30	8.37	NS	
	CD	0.11	24.17	-	25.11	-	
	CV	3.23	4.69	18.44	7.52	-	

Table 5.5.12. Stalk Diameter (cm) at harvest

S. No.	Entries	Seo rahi	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	CoBln 14501	1.93	2.05	2.50	2.74	2.30	2.30
2	CoLk 14206	2.37	2.35	2.33	1.98	2.46	2.30
3	CoLk 14207	2.33	2.17	2.30	2.16	2.38	2.27
4	CoP 14436	2.47	1.96	2.33	1.76	2.30	2.16
5	CoP 14437	2.40	2.07	2.30	2.11	2.40	2.26
6	CoSe 14451	2.30	2.05	2.03	2.28	-	2.17
7	CoSe 14453	2.70	2.24	2.43	1.90	-	2.32
8	CoSe 14454	2.33	2.09	2.52	1.95	2.03	2.18
	Standards						
1	CoLk 94184	2.10	2.03	2.23	2.13	-	2.12
2	CoSe 95422	1.97	2.12	2.30	2.25	2.33	2.19
3	CoSe 01421	2.10	2.07	1.32	2.22	-	1.93
	GM	2.08	1.93	2.24	1.96	2.03	
	SE	8.66	0.05	0.22	0.25	NS	
	CD	0.02	0.16	-	0.75	-	
	CV	6.60	4.47	17.25	5.22	-	

Table 5.5.13. Single Cane Weight (kg) at harvest

S. No.	Entries	Seo rahi	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	CoBln 14501	0.52	0.93	1.05	1.21	0.70	0.88
2	CoLk 14206	0.65	1.03	1.05	0.70	0.77	0.84
3	CoLk 14207	0.72	0.96	0.86	0.73	0.76	0.81
4	CoP 14436	0.73	0.88	0.99	0.52	0.65	0.75
5	CoP 14437	0.73	1.08	1.03	0.80	0.60	0.85
6	CoSe 14451	0.74	1.15	0.81	0.93	-	0.91
7	CoSe 14453	0.78	1.10	0.99	0.72	-	0.90
8	CoSe 14454	0.73	1.07	1.08	0.81	0.65	0.87
	Standards						
1	CoLk 94184	0.60	0.97	1.01	0.73	-	0.83
2	CoSe 95422	0.68	1.04	0.9	0.88	0.77	0.85
3	CoSe 01421	0.69	1.07	0.54	0.86	-	0.79
	GM	0.68	1.03	0.94	0.82	0.70	
	SE	0.01	0.05	0.12	0.03	NS	
	CD	0.03	0.16	-	0.08	-	
	CV	2.46	9.02	22.59	4.35	-	

Table 5.5.14. CCS (%) at 240 days

S. No.	Entries	Seo rahi	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	CoBln 14501	10.64	10.82	11.32	6.97	10.98	10.15
2	CoLk 14206	10.40	11.51	11.58	8.39	11.09	10.59
3	CoLk 14207	10.55	10.65	11.32	5.95	11.61	10.02
4	CoP 14436	10.28	11.44	11.82	8.23	11.43	10.64
5	CoP 14437	10.60	11.50	11.58	8.64	11.99	10.86
6	CoSe 14451	10.28	10.97	11.16	7.48	-	9.97
7	CoSe 14453	9.78	10.80	11.14	7.02	-	9.69
8	CoSe 14454	10.26	10.60	10.97	7.16	11.31	10.06
	Standards						
1	CoLk 94184	10.47	11.60	11.72	9.53	-	10.83
2	CoSe 95422	10.80	10.47	11.20	7.76	12.06	10.46
3	CoSe 01421	11.10	11.34	7.62	8.48	-	9.64
	GM	10.47	11.06	11.04	8.59	11.49	
	SE	0.15	0.31	1.16	0.52	0.17	
	CD	0.45	-	-	1.56	0.48	
	CV	2.56	4.78	18.35	5.20	1.70	

Table 5.5.15. Sucrose (%) at 240 days

S. No.	Entries	Seo rahi	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	CoBln 14501	15.71	15.76	16.27	10.49	15.44	14.73
2	CoLk 14206	15.41	16.71	17.09	12.60	15.59	15.48
3	CoLk 14207	15.60	15.58	16.78	8.96	16.28	14.64
4	CoP 14436	15.04	16.42	17.34	12.29	16.05	15.43
5	CoP 14437	15.61	16.71	17.09	12.86	16.79	15.81
6	CoSe 14451	15.12	15.97	16.46	11.17	-	14.68
7	CoSe 14453	14.46	16.01	16.32	10.53	-	14.33
8	CoSe 14454	15.13	15.48	16.29	10.76	15.88	14.71
	Standards						
1	CoLk 94184	15.58	16.71	17.26	14.22	-	15.94
2	CoSe 95422	15.78	15.53	16.62	11.58	16.89	15.28
3	CoSe 01421	16.39	16.42	11.30	12.60	-	14.18
	GM	15.44	16.12	16.26	12.80	16.13	
	SE	0.22	0.48	1.73	0.73	0.12	
	CD	0.66	-	-	2.19	0.47	
	CV	2.52	5.10	18.49	6.45	2.09	

Table 5.5.16. Brix (%) at 240 days

S. No.	Entries	Seo rahi	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	CoBln 14501	18.55	18.10	18.18	12.80	17.43	17.01
2	CoLk 14206	18.32	19.07	20.15	15.39	17.60	18.11
3	CoLk 14207	18.49	18.07	19.95	10.99	18.38	17.18
4	CoP 14436	17.41	19.33	20.21	14.87	18.06	17.98
5	CoP 14437	18.33	19.10	20.16	15.41	18.84	18.37
6	CoSe 14451	17.71	18.40	19.38	13.48	-	17.24
7	CoSe 14453	17.13	19.07	18.95	12.83	-	17.00
8	CoSe 14454	17.81	17.87	19.43	13.14	17.89	17.23
	Standards						
1	CoLk 94184	18.65	18.77	20.28	17.13	-	18.71
2	CoSe 95422	18.24	18.50	19.81	13.95	18.88	17.88
3	CoSe 01421	19.35	18.63	13.45	15.10	-	16.63
	GM	18.18	18.63	19.09	15.39	18.15	
	SE	0.21	0.37	2.09	0.86	0.15	
	CD	0.64	-	-	2.57	0.53	
	CV	2.07	3.41	18.97	6.83	2.00	

Table 5.5.17. Purity (%) at 240 days

S. No.	Entries	Seo rahi	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	CoBln 14501	84.68	87.17	89.62	81.95	88.58	86.40
2	CoLk 14206	84.15	87.70	84.84	81.87	88.57	85.43
3	CoLk 14207	84.36	86.47	84.13	81.53	88.57	85.01
4	CoP 14436	86.33	86.50	85.78	82.65	88.87	86.03
5	CoP 14437	85.18	87.47	84.81	83.45	89.11	86.00
6	CoSe 14451	85.37	86.77	84.92	82.87	-	84.98
7	CoSe 14453	84.41	84.27	86.19	82.07	-	84.24
8	CoSe 14454	84.93	86.70	83.95	81.95	88.76	85.26
	Standards						
1	CoLk 94184	83.48	89.07	85.11	83.03	-	85.17
2	CoSe 95422	86.48	84.03	83.89	83.03	89.45	85.38
3	CoSe 01421	84.68	88.13	56.01	83.50	-	78.08
	GM	84.91	86.75	82.66	83.18	88.84	
	SE	0.54	1.26	8.47	-	0.44	
	CD	1.60	-	-	NS	1.33	
	CV	1.11	2.51	17.75	6.22	2.64	

Table 5.5.18. Number of Shoots ('000/ha) at 240 days

S. No.	Entries	Seo rahi	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	CoBln 14501	-	6.53 \$	75.02	79.17	85.44	79.88
2	CoLk 14206	-	150.25	95.07	187.96	60.56	123.46
3	CoLk 14207	-	166.57	97.45	157.83	96.22	129.52
4	CoP 14436	-	163.62	92.85	149.25	72.10	119.46
5	CoP 14437	-	152.55	80.62	186.66	80.53	125.09
6	CoSe 14451	-	142.10	117.5	155.37	-	138.32
7	CoSe 14453	-	150.21	107.86	177.03	-	145.03
8	CoSe 14454	-	167.17	79.28	134.99	79.33	115.19
	Standards						
1	CoLk 94184	-	165.59	92.33	167.40	-	141.77
2	CoSe 95422	-	154.49	110.82	142.96	100.88	127.29
3	CoSe 01421	-	148.57	70.50	121.11	-	113.39
	GM	-	156.11	92.66	143.82	82.15	
	SE	-	4.67	12.54	8.57	1.95	
	CD	-	13.86	-	25.72	5.69	
	CV	-	5.67	23.43	7.19	12.50	

\$ Data not considered due to poor germination (12.00%)

Table 5.5.19. Number of Tillers ('000/ha) at 120 days

S. No.	Entries	Seo rahi	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	CoBln 14501	143.00	32.54 \$	106.22	75.00	78.40	100.66
2	CoLk 14206	145.00	115.94	108.97	131.28	72.15	114.67
3	CoLk 14207	202.00	165.38	116.92	92.78	82.16	131.85
4	CoP 14436	172.00	132.23	130.46	123.15	68.74	125.32
5	CoP 14437	198.00	126.04	107.86	46.67	86.74	113.06
6	CoSe 14451	193.00	140.01	139.00	68.10	-	135.03
7	CoSe 14453	204.00	135.54	148.27	119.63	-	151.86
8	CoSe 14454	207.00	135.30	101.56	60.28	68.83	114.59
	Standards						
1	CoLk 94184	182.00	138.13	132.51	138.52	-	147.79
2	CoSe 95422	195.00	136.60	140.99	93.52	100.49	133.32
3	CoSe 01421	154.00	150.36	94.41	85.56	-	121.08
	GM	182.00	137.55	120.65	105.86	79.64	
	SE	2.21	7.63	19.66	9.71	1.82	
	CD	6.54	22.66	-	29.15	5.50	
	CV	2.11	10.33	28.22	8.15	13.03	

\$ Data not considered due to poor germination (12.00%)

Table 5.5.20. Germination (%) at 45 days

S. No.	Entries	Seo rahi	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	CoBln 14501	44.86	12.00 \$	37.87	24.65	43.56	37.74
2	CoLk 14206	46.67	20.99	27.55	37.61	45.64	35.69
3	CoLk 14207	54.17	33.44	35.72	41.84	40.09	41.05
4	CoP 14436	50.83	37.92	32.85	20.37	48.19	38.03
5	CoP 14437	51.81	41.63	27.26	46.29	38.24	41.05
6	CoSe 14451	53.19	34.95	42.67	23.03	-	38.46
7	CoSe 14453	55.42	35.62	42.46	40.36	-	43.47
8	CoSe 14454	56.94	37.92	33.11	22.57	55.83	41.27
	Standards						
1	CoLk 94184	48.33	37.48	35.93	39.58	-	40.33
2	CoSe 95422	52.50	39.18	37.78	26.85	63.55	43.97
3	CoSe 01421	45.42	35.33	20.07	17.36	-	29.55
	GM	50.92	35.45	33.93	27.93	47.87	
	SE	1.25	1.21	4.12	2.42	1.39	
	CD	3.70	3.59	-	7.25	4.65	
	CV	4.27	6.19	21.01	6.43	12.96	

\$ Data not considered due to poor germination (12.00%)

Table 5.5.21. Assessment of entries by monitoring team constituted by AICRP(S)

Entries	Seorahi	Pusa	Motipur	Bethuadhari	Buralikson
CoBln14501	Average	Poor	Good	Good	Very Good
CoLk 14206	Very Good	Good	Good	Good	Good
CoLk 14207	Very Good	Very Good	Very Good	Good	Good
CoP 14436	Good	Very Good	Good	Good	Good
CoP 14437	Good	Good	Good	Very Good	Good
CoSe 14451	Good	Poor	Very Good	Good	Not planted
CoSe 14453	Good	Good	Very Good	Very Good	Not planted
CoSe 14454	Very Good	Very Good	Good	Very Good	Good
Standards					
CoLk 94184	Good	Good	Good	Good	Not planted
CoSe 95422	Good	Very Good	Good	Good	Good
CoSe 01421	Good	Good	Not planted	Not planted	Not planted

5.6. ADVANCED VARIETAL TRIAL (MIDLATE) - II PLANT CROP

Centers (6)	Bethuadahari, Buralikson, Gorakhpur, Motipur, Pusa and Seorahi
Entries (4)	CoLk 09204, CoLk 12209, CoP 12438 and CoSe 12453
Standards (2)	BO 91 and CoP 9301
Design	RBD
Replications	Four
Plot size	Gross : 6m x 8r x 0.90m Net : 5m x 6r x 0.90m
Seed rate	12 buds per meter
Date of planting	February - March, 2017
Crop duration	12 months

Results of the previous year:

The AVT (Midlate) I Plant trial was conducted with four test entries and two standards in all the six centres of the zone. CoP 9301 was the better standard for commercial cane sugar yield (8.92 t/ha) and cane yield (73.82 t/ha). CoLk 12209 (9.95 t/ha) ranked first and recorded 10 per cent improvement for CCS (t/ha) over best standard at Seorahi (BO 91), Gorakhpur (BO 91) and Pusa (CoP 9301) centres. CoSe 12453 (9.39 t/ha) ranked second and recorded 10 per cent improvement at Seorahi centre. CoLk 12209 (81.59 t/ha) ranked top and recorded 10 per cent improvement in cane yield and it was also found to be significantly superior than the best standard at Seorahi (BO 91), Gorakhpur (BO 91) and Pusa (CoP 9301). CoP 12438 (78.35 t/ha) ranked second and 10 per cent improvement in cane yield and also significantly superior over the best standard at Seorahi (BO 91) and Pusa (CoP 9301). BO 91 was the best standard for CCS % (12.11 %) and juice sucrose % (17.42 %) at harvest. CoLk 12209 (12.17 %) ranked first and recorded 5 per cent improvement in CCS % when compared to best standard (CoP 9301) at Seorahi centre. CoLk 12209 (17.48 %) was the best entry and recorded more than 5 per cent improvement over better standard (BO 91) for juice sucrose % at Seorahi centre followed by CoSe 12453 (17.39 %).

Results of the current year:

The data on cane yield and juice quality of four test entries and two standards were presented in tables 5.6.1 to 5.6.20. Gorakhpur centre did not conduct the trial. The data provided by Buralikson centre was wrong for CCS (t/ha), CCS % and purity % etc., hence the data was not included. CoP 9301 was the better standard for commercial cane sugar yield (9.01 t/ha), cane yield (73.96 t/ha), CCS % (12.23) and juice sucrose % (17.85). The entry CoLk 12209 (10.09 t/ha) ranked first with more than 10 per cent improvement in CCS (t/ha) as well as significantly superior over the respective better standards at Seorahi, Pusa and Bethuadahari. CoLk 09204 (9.84 t/ha) ranked second with 10 per cent improvement and also significantly superior over the respective better standard at Bethuadahari, Pusa and Seorahi. CoLk 12209 was recorded more than 10 per cent improvement over the better standard across locations. CoP 12438 (83.34 t/ha) was the top yielder and recorded 10 per cent improvement in yield over the better standard at Pusa (BO 91). CoLk 12209 (82.65 t/ha) ranked second and recorded 10 per cent improvement over better standard at Seorahi (BO 91). Both CoP 12438 and CoLk 12209 recorded significantly superior yield to the better standard (BO 91) both at Pusa and Seorahi. The entries viz., CoP 12438, CoLk 12209 and CoLk 09204 were recorded more than 10 per cent improvement over the better standard across locations. For CCS %, none of the test entries was found to be better than the standard CoP 9301 (12.23 %) across locations. Test entries, CoSe 12453 and CoLk 09204 recorded 5 per cent improvement over best standard (CoP 9301) at Pusa. CoLk 12209 (17.96 %) was the top ranking entry for juice sucrose % and numerically superior over the better standard (CoP 9301) across locations. None of the entries recorded more than 5 per cent improvement over the better standard for both CCS % and sucrose % across locations. The entry CoLk 12209 recorded 11.75 % improvement in cane yield, 11.99 % improvement for CCS yield and numerically superior for sucrose %. Therefore the entry CoLk 12209 was identified as qualified entry across locations in the zone.

Table 5.6.1. CCS at harvest (t/ha)

S. No.	Entries	Seorahi	Pusa	Motipur	Bethuadahari	Mean	Overall rank
1	CoLk 09204	9.29*	10.84*	9.49	9.74*	9.84	2
2	CoLk 12209	10.31*	11.78*	8.63	9.65*	10.09	1
3	CoP 12438	9.30*	12.07*	9.35	8.40	9.78	3
4	CoSe 12453	11.15*	11.69*	9.46	6.43	9.68	
	Standards						
1	BO 91	8.54	10.12	8.63	8.66	8.99	
2	CoP 9301	8.46	10.07	8.77	8.75	9.01	
	GM	9.51	11.10	9.06	8.61		
	SE	0.05	0.19	0.81	0.26		
	CD	0.17	0.58	-	0.79		
	CV	4.20	3.47	18.91	6.13		
	Qualifying entries at each location						
	1	CoSe 12453	CoP 12438	-	CoLk 09204	CoLk 12209	
	2	CoLk 12209	CoLk 12209	-	CoLk 12209	-	
	3	-	CoSe 12453	-	-	-	

No. of locations where an entry recorded >10% improvement: CoLk 12209 (3), CoSe 12453 (2), CoLk 09204 (1) and CoP 12438 (1)

Performance across the locations:

CoP 9301 (9.01 t/ha) was the better standard for commercial cane sugar yield (t/ha). CoLk 12209 (10.09 t/ha) ranked first with more than 10 per cent improvement in CCS (t/ha) as well as significantly superior over the respective better standards at Seorahi, Pusa and Bethuadahari. CoLk 09204 (9.84 t/ha) ranked second and recorded 10 per cent improvement over better standard at Bethuadahari (CoP 9301). CoLk 09204 recorded significantly superior over respective better standard at Seorahi, Pusa and Bethuadahari. CoLk 12209 recorded more than 10 per cent improvement over the better standard for CCS (t/ha) across locations.

Table 5.6.2. Cane Yield at harvest (t/ha)

S. No.	Entries	Seorahi	Pusa	Motipur	Bethuada hari	Mean	Overall rank
1	CoLk 09204	77.49*	85.24	83.13	83.97*	82.46	3
2	CoLk 12209	78.89*	94.27*	78.17	79.28	82.65	2
3	CoP 12438	77.40*	98.28*	82.87	74.82	83.34	1
4	CoSe 12453	88.88*	90.39*	83.69	55.02	79.50	
	Standards						
1	BO 91	67.12	85.79	53.52	73.72	70.04	
2	CoP 9301	65.18	83.24	76.51	70.92	73.96	
	GM	75.83	89.54	76.32	72.96		
	SE	1.59	1.19	7.05	2.27		
	CD	4.8	3.63	-	6.84		
	CV	4.2	2.66	18.47	6.22		
	Qualifying entries at each location						
	1	CoSe 12453	CoP 12438	-	CoLk 09204	CoP 12438	
	2	CoLk 12209	-	-	-	CoLk 12209	
	3	CoLk 09204	-	-	-	CoLk 09204	

No. of locations where an entry recorded >10% improvement: CoLk 09204 (2), CoLk 12209 (1), CoP 12438 (1) and CoSe 12453 (1)

Performance across the locations:

CoP 9301 (73.96 t/ha) was the better standard for cane yield in the zone. CoP 12438 (83.34 t/ha) was the top yielder and recorded 10 per cent improvement in yield over the better standard at Pusa (BO 91), and significantly superior to the better standard at Seorahi (BO 91). CoLk 12209 (82.65 t/ha) ranked second with 10 per cent improvement over better standard at Seorahi (BO 91) and significantly superior performance over the better standard (BO 91) both at Pusa and Seorahi. CoLk 09204 (82.46 t/ha) ranked third and showed 10 per cent improvement as well as significantly superior over the better standard (BO 91) both at Bethuadahari and Seorahi. The entries viz., CoP 12438, CoLk 12209 and CoLk 09204 recorded more than 10 per cent improvement over the better standard across locations.

Table 5.6.3. CCS (%) at harvest

S. No.	Entries	Seorahi	Pusa	Motipur	Bethuadahari	Mean	Overall rank
1	CoLk 09204	11.99	12.72	11.42	11.63	11.94	
2	CoLk 12209	13.07	12.50	11.05	12.18	12.20	2
3	CoP 12438	12.01	12.28	11.33	11.23	11.71	
4	CoSe 12453	12.54	12.93*	11.14	11.73	12.09	3
	Standards						
1	BO 91	12.73	11.80	8.27	11.75	11.14	
2	CoP 9301	12.98	12.10	11.47	12.35	12.23	1
	GM	12.55	12.39	10.78	11.81		
	SE	0.16	0.27	1.15	0.34		
	CD	0.51	0.81	-	1.02		
	CV	2.68	4.40	21.29	5.72		
	Qualifying entries at each location						
	1	-	CoSe 12453	-	-	-	
	2	-	CoLk 09204	-	-	-	
	3	-	-	-	-	-	

No. of locations where an entry recorded >5% improvement: CoSe 12453 (1) and CoLk 09204 (1)

Performance across the locations:

CoP 9301 (12.23 %) was the better standard for CCS % and none of the test entries was found to be better than this standard. Test entries CoSe 12453 and CoLk 09204 recorded 5 per cent improvement over better standard (CoP 9301) at Pusa. None of the test entries recorded more than 5 per cent improvement over the better standard across locations.

Table 5.6.4. Sucrose (%) at harvest

S. No.	Entries	Seorahi	Pusa	Motipur	Bethuadahari	Mean	Overall rank
1	CoLk 09204	17.52	18.32	17.01	16.87	17.43	3
2	CoLk 12209	19.08	18.18	17.01	17.58	17.96	1
3	CoP 12438	17.76	17.64	16.82	16.30	17.13	
4	CoSe 12453	18.22	17.23	16.68	16.99	17.28	
	Standards						
1	BO 91	18.58	17.03	12.63	16.96	16.30	
2	CoP 9301	18.91	17.59	17.18	17.73	17.85	2
	GM	18.35	17.67	16.22	17.07		
	SE	0.23	0.27	1.74	0.49		
	CD	0.69	0.83	-	1.47		
	CV	2.53	3.11	21.48	5.73		
	Qualifying entries at each location						
	1	-	-	-	-	-	
	2	-	-	-	-	-	
	3	-	-	-	-	-	

No. of locations where an entry recorded >5% improvement: Nil

Performance across the locations:

CoP 9301 (17.85 %) was the better standard for juice sucrose % in the zone. Among the test entries, CoLk 12209 (17.96 %) was the top ranking entry and numerically superior over better standard (CoP 9301) across locations. None of the entries recorded more than 5 per cent improvement over the better standard at individual locations as well as across locations.

Table 5.6.5. Brix (%) at harvest

S. No.	Entries	Seorahi	Pusa	Motipur	Bethuada hari	Mean
1	CoLk 09204	20.24	20.58	19.12	19.25	19.80
2	CoLk 12209	22.04	20.80	19.07	19.85	20.44
3	CoP 12438	20.59	19.70	18.85	18.57	19.43
4	CoSe 12453	20.89	19.43	18.62	19.30	19.56
	Standards					
1	BO 91	21.47	19.20	14.09	19.10	18.47
2	CoP 9301	21.72	19.95	20.02	19.77	20.37
	GM	21.16	19.94	18.30	19.31	
	SE	0.24	0.29	1.97	0.56	
	CD	0.74	0.89	-	1.68	
	CV	2.34	2.94	21.58	5.77	

Table 5.6.6. Purity (%) at harvest

S. No.	Entries	Seorahi	Pusa	Motipur	Bethuada hari	Mean
1	CoLk 09204	86.56	89.05	88.99	87.70	88.08
2	CoLk 12209	86.59	87.40	89.19	88.62	87.95
3	CoP 12438	86.26	86.70	90.21	87.77	87.74
4	CoSe 12453	87.20	88.83	89.45	88.07	88.39
	Standards					
1	BO 91	86.58	88.65	67.18	88.82	82.81
2	CoP 9301	87.08	88.20	86.91	89.70	87.97
	GM	86.71	88.14	85.32	88.45	
	SE	0.49	0.60	9.12	2.56	
	CD	1.48	1.81	-	7.70	
	CV	1.14	1.36	21.38	5.78	

Table 5.6.7. Pol % cane at harvest

S. No.	Entries	Seorahi	Pusa	Motipur	Bethuad ahari	Mean
1	CoLk 09204	13.18	15.15	-	-	14.17
2	CoLk 12209	14.21	14.93	-	-	14.57
3	CoP 12438	13.39	14.57	-	-	13.98
4	CoSe 12453	13.78	14.19	-	-	13.99
	Standards					
1	BO 91	13.85	14.12	-	-	13.99
2	CoP 9301	13.92	14.50	-	-	14.21
	GM	13.72	14.58	-	-	
	SE	-	0.32	-	-	
	CD	-	0.96	-	-	
	CV	-	4.39	-	-	

Table 5.6.8. Extraction (%) at harvest

S. No.	Entries	Seorahi	Pusa	Motipur	Bethuada hari	Mean
1	CoLk 09204	61.13	60.15	60.51	-	60.60
2	CoLk 12209	56.68	58.65	61.59	-	58.97
3	CoP 12438	56.89	62.10	59.21	-	59.40
4	CoSe 12453	59.12	61.30	62.04	-	60.82
	Standards				-	
1	BO 91	61.11	60.50	44.29	-	55.30
2	CoP 9301	58.98	61.90	57.48	-	59.45
	GM	58.99	60.77	57.52	-	
	SE	-	0.72	6.09	-	
	CD	-	2.20	-	-	
	CV	-	2.38	21.18	-	

Table 5.6.9. Fibre (%) at harvest

S. No.	Entries	Seorahi	Pusa	Motipur	Bethuada hari	Mean
1	CoLk 09204	12.26	12.30	12.85	-	12.47
2	CoLk 12209	13.15	12.85	13.11	-	13.04
3	CoP 12438	12.09	12.42	12.11	-	12.21
4	CoSe 12453	12.25	12.65	12.50	-	12.47
	Standards				-	
1	BO 91	12.19	12.10	8.78	-	11.02
2	CoP 9301	11.95	12.30	11.67	-	11.97
	GM	12.32	12.44	11.84	-	
	CD	-	0.72	-	-	
	CV	-	3.83	19.41	-	

Table 5.6.10. Number of Millable Canes ('000/ha) at harvest

S. No.	Entries	Seorahi	Pusa	Motipur	Bethuada hari	Mean
1	CoLk 09204	120.00	98.15	101.07	94.00	103.31
2	CoLk 12209	115.00	102.61	102.63	84.73	101.24
3	CoP 12438	122.00	105.80	108.97	117.47	113.56
4	CoSe 12453	129.00	96.30	94.14	99.25	104.67
	Standards					
1	BO 91	115.00	110.15	91.51	108.22	106.22
2	CoP 9301	111.00	101.18	101.09	99.76	103.26
	GM	118.67	102.37	99.90	100.57	
	SE	2.17	2.27	13.50	2.94	
	CD	6.54	6.91	-	8.85	
	CV	3.63	4.44	23.03	5.84	

Table 5.6.11. Stalk Length (cm) at harvest

S. No.	Entries	Seorahi	Pusa	Motipur	Bethuada hari	Mean
1	CoLk 09204	215.00	290.83	306.25	280.50	273.15
2	CoLk 12209	209.00	269.68	328.75	290.00	274.36
3	CoP 12438	202.00	300.15	266.25	256.20	256.15
4	CoSe 12453	215.00	277.48	277.70	197.20	241.85
	Standards					
1	BO 91	173.00	201.63	195.00	253.20	205.71
2	CoP 9301	169.00	251.05	245.75	224.50	222.58
	GM	171.00	226.34	220.38	238.85	
	SE	2.32	7.45	27.45	7.63	
	CD	7.00	22.67	-	23.01	
	CV	2.35	5.62	20.34	6.10	

Table 5.6.12. Stalk Diameter (cm) at harvest

S. No.	Entries	Seorahi	Pusa	Motipur	Bethuada hari	Mean
1	CoLk 09204	2.10	2.26	2.28	2.26	2.23
2	CoLk 12209	2.00	2.20	2.03	2.34	2.14
3	CoP 12438	1.90	2.17	1.98	1.73	1.95
4	CoSe 12453	2.10	2.13	2.20	1.81	2.06
	Standards					
1	BO 91	1.90	1.87	1.43	1.82	1.76
2	CoP 9301	2.00	2.20	2.13	2.09	2.11
	GM	2.00	2.14	2.01	2.01	
	SE	0.05	0.04	0.23	0.06	
	CD	0.17	0.11	-	0.18	
	CV	5.84	3.50	22.78	6.02	

Table 5.6.13. Single Cane Weight (kg.) at harvest

S. No.	Entries	Seorahi	Pusa	Motipur	Bethuada hari	Mean
1	CoLk 09204	0.64	0.87	1.21	1.03	0.94
2	CoLk 12209	0.68	0.92	1.03	1.11	0.94
3	CoP 12438	0.63	0.93	0.89	0.67	0.78
4	CoSe 12453	0.69	0.94	0.97	0.52	0.78
	Standards					
1	BO 91	0.58	0.78	0.47	0.74	0.64
2	CoP 9301	0.58	0.81	0.96	0.71	0.76
	GM	0.63	0.88	0.92	0.79	
	SE	0.01	0.02	0.08	0.03	
	CD	0.02	0.07	-	0.08	
	CV	3.08	5.41	17.16	6.41	

Table 5.6.14. CCS (%) at 300 days

S. No.	Entries	Seorahi	Pusa	Motipur	Bethuada hari	Mean
1	CoLk 09204	10.46	11.44	11.74	8.81	10.61
2	CoLk 12209	10.46	12.33	11.18	9.75	10.93
3	CoP 12438	10.30	11.48	11.94	9.40	10.78
4	CoSe 12453	11.00	11.76	11.35	10.27	11.10
	Standards					
1	BO 91	10.87	11.25	8.81	8.03	9.74
2	CoP 9301	12.19	12.29	11.71	9.82	11.50
	GM	10.88	11.76	11.12	9.35	
	SE	0.18	0.25	1.21	0.27	
	CD	0.54	0.75	-	0.80	
	CV	3.34	4.19	21.83	5.69	

Table 5.6.15. Sucrose (%) at 300 days

S. No.	Entries	Seorahi	Pusa	Motipur	Bethuada hari	Mean
1	CoLk 09204	15.21	16.56	16.68	12.99	15.36
2	CoLk 12209	15.19	17.82	16.22	14.49	15.93
3	CoP 12438	15.07	16.63	16.98	14.04	15.68
4	CoSe 12453	16.19	17.02	16.41	15.35	16.24
	Standards					
1	BO 91	15.79	16.34	12.63	11.92	14.17
2	CoP 9301	16.64	17.74	16.86	14.54	16.45
	GM	15.68	17.02	15.96	13.89	
	SE	0.14	0.33	1.73	0.39	
	CD	0.44	0.99	-	1.19	
	CV	1.87	3.83	21.69	5.67	

Table 5.6.16. Brix (%) at 300 days

S. No.	Entries	Seorahi	Pusa	Motipur	Bethuada hari	Mean
1	CoLk 09204	17.40	18.80	18.82	15.29	17.58
2	CoLk 12209	17.34	20.20	18.47	17.31	18.33
3	CoP 12438	17.45	18.93	18.57	16.94	17.97
4	CoSe 12453	18.66	19.30	18.55	18.58	18.77
	Standards					
1	BO 91	18.01	18.70	14.05	14.20	16.24
2	CoP 9301	19.19	20.00	18.92	17.26	18.84
	GM	18.01	19.32	17.90	16.60	
	SE	0.12	0.30	1.94	0.47	
	CD	0.38	0.92	-	1.41	
	CV	1.40	3.14	21.67	5.65	

Table 5.6.17. Purity (%) at 300 days

S. No.	Entries	Seorahi	Pusa	Motipur	Bethuada hari	Mean
1	CoLk 09204	87.39	88.05	89.60	84.95	87.50
2	CoLk 12209	87.63	89.05	87.83	83.70	87.05
3	CoP 12438	86.39	87.30	91.51	82.92	87.03
4	CoSe 12453	86.74	88.15	88.51	82.65	86.51
	Standards					
1	BO 91	87.62	87.35	67.41	83.90	81.57
2	CoP 9301	86.71	88.68	89.14	84.25	87.20
	GM	87.08	88.10	85.67	83.73	
	SE	0.48	0.48	9.92	2.45	
	CD	1.47	1.43	-	7.37	
	CV	1.12	1.08	21.53	5.84	

Table 5.6.18. Number of Shoots ('000/ha) at 240 days

S. No.	Entries	Seorahi	Pusa	Motipur	Bethuada hari	Mean
1	CoLk 09204	-	88.58	89.99	102.31	93.63
2	CoLk 12209	-	131.90	92.63	95.13	106.55
3	CoP 12438	-	118.28	104.13	145.13	122.51
4	CoSe 12453	-	88.15	98.90	116.89	101.31
	Standards	-				
1	BO 91	-	122.55	83.47	134.56	113.53
2	CoP 9301	-	104.85	105.93	118.51	109.76
	GM	-	109.05	95.84	118.76	
	SE	-	6.95	12.31	3.40	
	CD	-	21.15	-	10.23	
	CV	-	12.75	24.69	5.72	

Table 5.6.19. Number of Tillers ('000/ha) at 120 days

S. No.	Entries	Seorahi	Pusa	Motipur	Bethuada hari	Mean
1	CoLk 09204	160.00	90.50	106.59	62.65	104.94
2	CoLk 12209	165.00	124.78	116.85	45.90	113.13
3	CoP 12438	161.00	112.23	131.89	68.90	118.51
4	CoSe 12453	162.00	86.33	113.23	66.51	107.02
	Standards					
1	BO 91	148.00	111.14	119.66	86.49	116.32
2	CoP 9301	139.00	100.81	112.84	49.76	100.60
	GM	155.83	104.30	116.84	63.37	
	SE	3.08	5.75	19.51	1.87	
	CD	9.31	17.49	-	5.64	
	CV	3.95	11.03	23.41	5.91	

Table 5.6.20. Germination (%) at 45 days

S. No.	Entries	Seorahi	Pusa	Motipur	Bethuadahari	Mean
1	CoLk 09204	47.56	33.81	25.71	17.18	31.07
2	CoLk 12209	49.93	36.53	35.87	20.65	35.75
3	CoP 12438	41.59	36.33	40.44	24.93	35.82
4	CoSe 12453	47.22	33.33	28.26	26.52	33.83
	Standards					
1	BO 91	41.31	40.68	26.69	24.82	33.38
2	CoP 9301	37.29	54.43	39.17	23.31	38.55
	GM	44.15	39.19	32.69	22.90	
	SE	0.3	1.14	5.10	0.61	
	CD	0.92	3.48	-	1.82	
	CV	5.52	6.39	31.22	5.29	

Table 5.6.21. Assessment of entries by monitoring team constituted by AICRP(S)

Entry / Locations	Seorahi	Pusa	Motipur	Bethuadhari	Buralikson
CoLk 09204	Very Good	Very Good	Good	Good	Average
CoLk 12209	Good	Very Good	Very Good	Very Good	Good
CoP 12438	Poor	Very Good	Good	Average	Average
CoSe 12453	Poor	Average	Average	Poor	Good
Standards BO 91	Good	Good	Good	Average	Poor
CoP 9301	Poor	Average	Good	Poor	Good
Overall Performance of the Experiment	Very Good	Very Good	Excellent	Good	Good

5.7. ADVANCED VARIETAL TRIAL (MIDLATE) - RATOON

Centers (6)	Bethuadahari, Buralikson, Gorakhpur, Motipur, Pusa and Seorahi
Entries (4)	CoLk 09204, CoLk 12209, CoP 12438 and CoSe 12453
Standards (2)	BO 91 and CoP 9301
Design	RBD
Replications	Four
Plot size	Gross : 6m x 8r x 0.90m Net : 5m x 6r x 0.90m
Crop duration	11 months

Results of the previous year:

The AVT (Midlate) I Plant trial with four test entries and two standards was conducted in all the six centres of the zone. CoP 9301 (8.92 t/ha) was the better standard for commercial cane sugar yield and for cane yield (73.82 t/ha). CoLk 12209 (9.95 t/ha) was the top ranking entry and recorded 10 per cent improvement in CCS (t/ha) over best standard at Seorahi (BO 91), Gorakhpur (BO 91) and (Pusa CoP 9301) centres. CoSe 12453 (9.39 t/ha) ranked second and recorded 10 per cent improvement at Seorahi centre. CoLk 12209 (81.59 t/ha) ranked top and showed 10 per cent improvement in cane yield and also found to be significantly superior than the best standard at Seorahi (BO 91), Gorakhpur (BO 91) and Pusa (CoP 9301). CoP 12438 (78.35 t/ha) ranked second and recorded 10 per cent improvement in cane yield and also significantly superior over the best standard at Seorahi (BO 91) and Pusa (CoP 9301). BO 91 was the best standard for CCS % (12.11 %) and juice sucrose % (17.42 %) at harvest. CoLk 12209 (12.17 %) ranked first and recorded five per cent improvement in CCS % when compared to best standard (CoP 9301) at Seorahi centre. CoLk 12209 (17.48 %) was the best entry and recorded more than 5 per cent improvement over better parent (BO 91) for juice sucrose % at Seorahi centre followed by CoSe 12453 (17.39 %).

Results of the current year:

The data on cane yield and juice quality of four test entries and two standards were presented in tables 5.7.1 to 5.7.15. Gorakhpur centre did not conduct the trial. The data provided by Buralikson centre was wrong for CCS (t/ha), CCS % and purity % etc., hence the data was not included. CoP 9301 was the better standard for commercial cane sugar yield (7.55 t/ha), cane yield (61.54 t/ha), CCS % (12.30) and juice sucrose % (17.94). CoLk 09204 (8.41 t/ha) ranked first in the zone with more than 10 per cent improvement in CCS (t/ha) at Pusa and significantly superior over better standard at Pusa (BO 91) and Seorahi (CoP 9301). CoSe 12453 (7.95 t/ha) ranked second with 10 per cent improvement and significantly superior over the better standard (BO 91) at Seorahi. CoLk 09204 recorded more than 10 per cent improvement over the better standard across locations. CoLk 09204 (71.76 t/ha) was the top ranking entry for cane yield and recorded 10 per cent improvement over better standard at Pusa (BO 91). The entry CoP 12438 (68.93 t/ha) was ranked second in the zone and recorded 10 per cent improvement over the better standard (BO 91) both at Seorahi and Pusa. Both entries CoLk 09204 and CoP 12438 recorded significantly superior over better standard (BO 91) both at Seorahi and Pusa as well as recorded more than 10 per cent improvement over the better standard across locations. CoP 9301 was the better standard for both CCS % (12.30) and juice sucrose % (17.94). None of the test entries was found to be better than this standard for juice quality traits. Among the test entries, CoLk 09204 recorded 16.61 % improvement in cane yield and 11.39 % improvement for CCS yield across locations. None of the entries was identified as a qualifying entry across the locations in the zone.

Table 5.7.1. CCS at harvest (t/ha)

S. No.	Entries	Seorahi	Pusa	Motipur	Bethuadahari	Mean	Overall rank
1	CoLk 09204	7.48*	11.31*	7.81	7.02	8.41	1
2	CoLk 12209	8.16*	8.21	7.52	7.32	7.80	3
3	CoP 12438	7.40*	9.05*	7.78	6.97	7.80	3
4	CoSe 12453	9.54*	7.94	7.56	6.75	7.95	2
	Standards						
1	BO 91	6.83	8.14	4.25	7.47	6.67	
2	CoP 9301	6.97	8.09	7.96	7.17	7.55	
	GM	7.73	8.79	7.15	7.12		
	SE	0.01	0.22	0.76	0.20		
	CD	0.04	0.66	-	0.61		
	CV	4.23	4.92	20.54	5.73		
	Qualifying entries at each location						
	1	CoSe 12453	CoLk 09204	-	-	CoLk 09204	
	2	CoLk 12209	CoP 12438	-	-	-	
	3	-	-	-	-	-	

No. of locations where an entry recorded >10% improvement: CoLk 09204 (1), CoSe 12453 (1), CoP 12438 (1) and CoLk 12209 (1)

Performance across the locations:

CoP 9301 (7.55 t/ha) was the better standard for commercial cane sugar yield (t/ha). CoLk 09204 (8.41 t/ha) ranked first in the zone with more than 10 per cent improvement in CCS (t/ha) at Pusa and significantly superior over the better standard at Pusa (BO 91) and Seorahi (CoP 9301). CoSe 12453 (7.95 t/ha) ranked second with 10 per cent improvement and significantly superior over better standard (BO 91) at Seorahi. CoLk 09204 recorded more than 10 per cent improvement over the better standard across locations.

Table 5.7.2. Cane Yield at harvest (t/ha)

S. No.	Entries	Seorahi	Pusa	Motipur	Bethuada hari	Mean	Overall rank
1	CoLk 09204	66.11*	88.92*	71.00	61.02	71.76	1
2	CoLk 12209	69.72*	64.43	70.48	60.15	66.20	
3	CoP 12438	69.81*	78.20*	69.82	57.89	68.93	2
4	CoSe 12453	79.44*	63.02	69.45	57.06	67.24	3
	Standards						
1	BO 91	59.44	64.36	50.69	61.58	59.02	
2	CoP 9301	55.37	63.69	69.08	58.01	61.54	
	GM	66.65	70.44	66.75	59.29		
	SE	1.41	1.83	6.71	1.73		
	CD	4.24	5.58	-	5.23		
	CV	4.23	5.21	20.12	5.85		
	Qualifying entries at each location						
	1	CoSe 12453	CoLk 09204	-	-	CoLk 09204	
	2	CoP 12438	CoP 12438	-	-	CoP 12438	
	3	CoLk 12209	-	-	-	-	

No. of locations where an entry recorded >10% improvement: CoP 12438 (2), CoLk 09204 (1), CoSe 12453 (1) and CoLk 12209 (1)

Performance across the locations:

CoP 9301 (61.54 t/ha) was the better standard for cane yield in the zone. CoLk 09204 (71.76 t/ha) was the top ranking entry for cane yield and recorded 10 per cent improvement over the better standard at Pusa (BO 91). CoP 12438 (68.93 t/ha) was ranked second in the zone and recorded 10 per cent improvement over the better standard (BO 91) both at Seorahi and Pusa. Both entries CoLk 09204 and CoP 12438 recorded significantly superior over better standard (BO 91) both at Seorahi and Pusa as well as recorded more than 10 per cent improvement over the better standard across locations.

Table 5.7.3. CCS (%) at harvest

S. No.	Entries	Seorahi	Pusa	Motipur	Bethuada hari	Mean	Overall rank
1	CoLk 09204	11.32	12.72	11.11	11.52	11.67	
2	CoLk 12209	11.71	12.74	10.87	12.18	11.88	2
3	CoP 12438	10.60	11.58	11.13	12.05	11.34	
4	CoSe 12453	12.01	12.60	10.88	11.83	11.83	3
	Standards						
1	BO 91	11.49	12.65	8.39	12.15	11.17	
2	CoP 9301	12.58	12.72	11.52	12.36	12.30	1
	GM	11.62	12.50	10.65	12.02		
	SE	0.15	0.11	1.14	0.34		
	CD	0.47	0.34	-	1.03		
	CV	2.69	1.77	21.49	5.69		
	Qualifying entries at each location						
	1	-	-	-	-	-	
	2	-	-	-	-	-	
	3	-	-	-	-	-	

No. of locations where an entry recorded >5% improvement: Nil

Performance across the locations:

CoP 9301 (12.30 %) was the better standard for CCS % and none of the entries was found to be better than this standard in the zone.

Table 5.7.4. Sucrose (%) at harvest

S. No.	Entries	Seorahi	Pusa	Motipur	Bethuadahari	Mean	Overall rank
1	CoLk 09204	16.38	18.46	16.10	16.54	16.87	
2	CoLk 12209	16.89	18.55	17.01	17.97	17.61	2
3	CoP 12438	15.43	16.77	15.55	17.39	16.29	
4	CoSe 12453	17.34	18.09	16.17	17.13	17.18	3
	Standards						
1	BO 91	16.63	18.27	12.14	17.52	16.14	
2	CoP 9301	18.15	18.08	16.97	17.60	17.94	1
	GM	16.80	18.04	15.39	17.36		
	SE	0.31	0.12	1.70	0.49		
	CD	0.96	0.35	-	1.48		
	CV	3.77	1.27	21.76	5.67		
	Qualifying entries at each location						
	1	-	-	-	-	-	
	2	-	-	-	-	-	
	3	-	-	-	-	-	

No. of locations where an entry recorded >5% improvement: Nil

Performance across the locations:

Among the standards, CoP 9301 (17.94 %) was the better standard for juice sucrose % and none of the test entries performed better than this standard in the zone.

Table 5.7.5. Brix (%) at harvest

S. No.	Entries	Seorahi	Pusa	Motipur	Bethuada hari	Mean
1	CoLk 09204	18.55	21.20	17.43	18.63	18.95
2	CoLk 12209	19.03	21.30	19.29	20.26	19.97
3	CoP 12438	17.68	19.05	17.98	19.56	18.57
4	CoSe 12453	19.55	20.18	18.45	19.30	19.37
	Standards					
1	BO 91	18.83	20.60	13.74	19.63	18.20
2	CoP 9301	20.42	20.25	19.98	19.83	20.12
	GM	19.01	20.43	17.81	19.54	
	SE	0.21	0.18	1.97	0.55	
	CD	0.64	0.55	-	1.67	
	CV	2.23	1.78	22.15	5.73	

Table 5.7.6. Purity (%) at harvest

S. No.	Entries	Seorahi	Pusa	Motipur	Bethuada hari	Mean
1	CoLk 09204	88.27	87.23	88.03	88.80	88.08
2	CoLk 12209	88.80	87.10	88.21	88.70	88.20
3	CoP 12438	87.26	88.00	86.94	88.90	87.78
4	CoSe 12453	88.68	89.65	86.46	88.80	88.40
	Standards					
1	BO 91	88.26	88.70	66.75	89.20	83.23
2	CoP 9301	88.84	89.30	86.83	88.80	88.44
	GM	88.35	88.33	83.87	88.87	
	SE	0.22	0.45	9.02	-	
	CD	0.67	1.37	-	NS	
	CV	0.50	1.02	21.51	5.81	

Table 5.7.7. Pol % cane at harvest

S. No.	Entries	Seorahi	Pusa	Motipur	Bethuadah ari	Mean
1	CoLk 09204	12.28	15.21	-	-	13.75
2	CoLk 12209	12.65	15.27	-	-	13.96
3	CoP 12438	11.78	13.90	-	-	12.84
4	CoSe 12453	12.98	14.95	-	-	13.97
	Standards					
1	BO 91	12.39	15.15	-	-	13.77
2	CoP 9301	13.12	15.10	-	-	14.11
	GM	12.53	14.93	-	-	
	SE	-	0.09	-	-	
	CD	-	0.28	-	-	
	CV	-	1.22	-	-	

Table 5.7.8. Extraction (%) at harvest

S. No.	Entries	Seorahi	Pusa	Motipur	Bethuada hari	Mean
1	CoLk 09204	59.16	60.15	60.95	-	60.09
2	CoLk 12209	63.86	59.10	60.54	-	61.17
3	CoP 12438	60.54	61.60	60.42	-	60.85
4	CoSe 12453	63.92	60.80	58.96	-	61.23
	Standards					
1	BO 91	58.17	61.15	45.16	-	54.83
2	CoP 9301	60.74	62.80	59.50	-	61.01
	GM	61.07	60.93	57.59	-	
	SE	-	0.69	6.17	-	
	CD	-	2.11	-	-	
	CV	-	2.27	21.44	-	

Table 5.7.9. Fibre (%) at harvest

S. No.	Entries	Seorahi	Pusa	Motipur	Bethuada hari	Mean
1	CoLk 09204	13.19	12.65	13.13	-	12.99
2	CoLk 12209	14.14	12.70	12.86	-	13.23
3	CoP 12438	13.50	12.10	12.06	-	12.55
4	CoSe 12453	14.06	12.35	12.71	-	13.04
	Standards					
1	BO 91	12.97	12.10	9.26	-	11.44
2	CoP 9301	13.55	11.50	12.14	-	12.40
	GM	13.57	12.23	12.03	-	
	SE	-	0.25	1.25	-	
	CD	-	0.77	-	-	
	CV	-	4.11	20.74	-	

Table 5.7.10. Number of Millable Canes ('000/ha) at harvest

S. No.	Entries	Seorahi	Pusa	Motipur	Bethuada hari	Mean
1	CoLk 09204	127.00	95.95	119.07	85.81	106.96
2	CoLk 12209	127.00	94.48	134.93	93.12	112.38
3	CoP 12438	125.00	96.30	155.91	85.19	115.60
4	CoSe 12453	132.00	84.75	136.39	81.17	108.58
	Standards					
1	BO 91	121.00	90.13	109.50	93.45	103.52
2	CoP 9301	118.00	85.23	144.75	82.42	107.60
	GM	125.00	91.14	133.43	86.86	
	SE	2.43	1.66	16.11	2.48	
	CD	7.35	5.05	-	7.47	
	CV	3.89	3.64	24.15	5.71	

Table 5.7.11. Stalk Length (cm) at harvest

S. No.	Entries	Seorahi	Pusa	Motipur	Bethuad ahari	Mean
1	CoLk 09204	202.00	262.53	218.75	180.00	215.82
2	CoLk 12209	191.00	250.55	235.00	184.00	215.14
3	CoP 12438	192.00	273.25	226.25	176.60	217.03
4	CoSe 12453	205.00	260.50	230.50	198.00	223.50
	Standards					
1	BO 91	165.00	268.75	141.00	160.30	183.76
2	CoP 9301	161.00	257.50	184.75	154.00	189.31
	GM	186.00	262.18	206.04	175.48	
	SE	2.57	4.58	19.43	5.18	
	CD	7.77	13.93	-	15.61	
	CV	2.76	3.49	18.86	5.90	

Table 5.7.12. Stalk Diameter (cm) at harvest

S. No.	Entries	Seorahi	Pusa	Motipur	Bethuad ahari	Mean
1	CoLk 09204	1.80	2.07	2.09	1.88	1.96
2	CoLk 12209	1.90	1.95	2.05	1.86	1.94
3	CoP 12438	1.70	2.23	1.70	1.77	1.85
4	CoSe 12453	1.90	2.12	1.95	1.88	1.96
	Standards					
1	BO 91	1.80	2.12	1.25	1.86	1.76
2	CoP 9301	1.70	2.24	1.86	1.74	1.89
	GM	1.80	2.12	1.82	1.83	
	SE	0.05	0.06	0.16	0.05	
	CD	0.16	0.17	-	0.16	
	CV	6.17	5.27	18.69	5.85	

Table 5.7.13. Single Cane Weight (kg.) at harvest

S. No.	Entries	Seorahi	Pusa	Motipur	Bethuad ahari	Mean
1	CoLk 09204	0.52	0.96	0.81	0.53	0.71
2	CoLk 12209	0.55	0.71	0.75	0.50	0.63
3	CoP 12438	0.56	0.84	0.58	0.54	0.63
4	CoSe 12453	0.60	0.75	0.78	0.55	0.67
	Standards					
1	BO 91	0.49	0.76	0.37	0.51	0.53
2	CoP 9301	0.46	0.78	0.59	0.51	0.59
	GM	0.53	0.80	0.65	0.52	
	SE	-	0.01	0.06	0.01	
	CD	-	0.03	-	0.04	
	CV	-	2.79	19.26	5.91	

Table 5.7.14. Number of Shoots ('000/ha) at 240 days

S. No.	Entries	Seorahi	Pusa	Motipur	Bethuada hari	Mean
1	CoLk 09204	-	95.95	139.03	123.02	119.33
2	CoLk 12209	-	94.48	147.00	133.90	125.13
3	CoP 12438	-	96.30	174.56	130.81	133.89
4	CoSe 12453	-	84.75	152.00	119.60	118.78
	Standards					
1	BO 91	-	90.13	146.18	135.80	124.04
2	CoP 9301	-	85.23	158.32	124.18	122.58
	GM	-	91.14	152.85	127.89	
	SE	-	1.66	22.31	5.63	
	CD	-	5.05	-	10.93	
	CV	-	3.64	29.19	5.69	

Table 5.7.15. Number of Tillers ('000/ha) at 120 days

S. No.	Entries	Seorahi	Pusa	Motipur	Bethuad ahari	Mean
1	CoLk 09204	176.00	80.30	171.36	148.08	143.94
2	CoLk 12209	169.00	84.13	182.64	161.88	149.41
3	CoP 12438	171.00	86.13	192.08	160.44	152.41
4	CoSe 12453	172.00	84.61	166.97	147.01	142.65
	Standards					
1	BO 91	162.00	68.87	153.96	164.60	137.36
2	CoP 9301	140.00	73.63	184.57	156.44	138.66
	GM	165.00	79.61	175.26	156.41	
	SE	3.32	3.83	22.31	4.43	
	CD	10.02	11.65	-	13.34	
	CV	4.02	9.62	24.22	5.66	

Table 5.7.16. Assessment of entries by monitoring team constituted by AICRP(S)

Entry / Locations	Seorahi	Pusa	Motipur	Bethuadhari	Buralikson
CoLk 09204	Very Good	Good	Very Good	Poor	Good
CoLk 12209	Very Good	Very Good	Very Good	Poor	Good
CoP 12438	Good	Good	Good	Average	Good
CoSe 12453	Good	Good	Good	Good	Good
Standards BO 91	Good	Poor	Average	Poor	Average
CoP 9301	Average	Good	Average	Average	Very Good

5.8. ADVANCED VARIETAL TRIAL (MIDLATE)

Mean of two plant and one ratoon crops (2016-18)

In the North Central and North East zones, four midlate clones were evaluated along with two standards during the crop seasons 2016 – 18. AVT II plant crop and Ratoon were conducted by five centres except Gorakpur. Pooled data of two plant and one ratoon trials of six centres were presented in tables 5.8.1. to 5.8.4. and figures 5.8.1. to 5.8.4. The data provided by Buralikson centre was wrong for CCS (t/ha) and CCS % etc., for AVT II plant and ratoon. Hence the data was not included. The salient results pertaining to CCS (t/ha), cane yield (t/ha), CCS% and sucrose % are given below.

Commercial Cane Sugar (t/ha):

CoP 9301 was the better standard for CCS yield (8.55 t/ha). The performance of all the four test entries was better than the standard CoP 9301. Among the test entries, CoLk 12209 (9.38 t/ha) and CoSe 12453 (9.06 t/ha) ranked first and second respectively in the zone and they performed better in three locations (Seorahi, Pusa and Gorakpur). The third best entry was CoP 12438 (9.00 t/ha) and it performed better at Gorakpur, Pusa and Buralikson. In Buralikson centre, both CoSe 12453 and CoP 12438 performed better for CCS (t/ha). The entry CoLk 12209 recorded 9.71 % improvement over better standard CoP 9301 for CCS (t/ha).

Cane Yield (t/ha):

CoP 9301 was the better standard for cane yield with 70.35 t/ha and all the test entries performed better than this standard. CoLk 12209 (77.50 t/ha) was the top yielder followed by CoP 12438 (77.09 t/ha) and CoLk 09204 (76.89 t/ha). All the three entries performed better at Gorakpur and Pusa, and in addition CoP 12438 performed better at Motipur centre also. The entries CoLk 12209 and CoP 12438 recorded 10.16 % and 9.58 % respectively improvement over the better standard CoP 9301 for cane yield.

Commercial Cane Sugar (%):

CoP 9301 was the better standard with a mean CCS % of 12.13 and none of the entries performed better than this standard in the zone. The entry CoLk 12209 (12.10 %) performed better at Seorahi, Gorakpur, Pusa and Buralikson.

Sucrose (%):

CoP 9301 was the better standard with mean juice sucrose of 17.64 %. The entry CoLk 12209 (17.65 %) ranked top and performed better at Seorahi, Gorakpur and Pusa. CoSe 12453 (17.30 %) performed better at Seorahi, Gorakpur, Pusa and Buralikson centres.

Overall performance:

Based on the pooled mean of two plant and one ratoon crop in the zone, CoP 9301 was the better standard for CCS (t/ha), cane yield (t/ha), CCS (%) and sucrose (%). The entry CoLk 12209 recorded 10.16 % improvement in cane yield, 9.71 % improvement for CCS yield and numerically superior for sucrose %. Therefore the entry CoLk 12209 was identified as qualified entry across locations in the zone.

Table 5.8.1. CCS at harvest (t/ha) - Pooled data of two plant and one ratoon crops

S. No.	Entries	Seorahi				Gorakpur				Pusa				Motipur			
		IP	IP	R	Mean	IP	IP*	R*	Mean	IP	IP	R	Mean	IP	IP	R	Mean
1	CoLk 09204	8.15	9.29	7.48	8.31	9.84	-	-	9.84	10.78	10.84	11.31	10.98	8.63	9.49	7.81	8.64
2	CoLk 12209	9.76	10.31	8.16	9.41	10.40	-	-	10.40	14.02	11.78	8.21	11.34	9.20	8.63	7.52	8.45
3	CoP 12438	8.78	9.3	7.40	8.49	9.68	-	-	9.68	11.17	12.07	9.05	10.76	8.84	9.35	7.78	8.66
4	CoSe 12453	10.22	11.15	9.54	10.30	10.06	-	-	10.06	9.14	11.69	7.94	9.59	8.91	9.46	7.56	8.64
	Standards																
1	BO 91	7.64	8.54	6.83	7.67	9.28	-	-	9.28	8.61	10.12	8.14	8.96	8.73	8.63	4.25	7.20
2	CoP 9301	7.33	8.46	6.97	7.59	9.00	-	-	9.00	9.52	10.07	8.09	9.23	9.25	8.77	7.96	8.66
	GM	8.65	9.51	7.73		9.71	-	-		10.54	11.10	8.79		8.93	9.06	7.15	
S. No.	Entries	Bethuadahari				Buralikson				GM (Wt. Aver.)	Rank						
		IP	IP	R	Mean	IP	IP**	R**	Mean								
1	CoLk 09204	7.40	9.74	7.02	8.05	8.11	-	-	8.11	8.99							
2	CoLk 12209	8.21	9.65	7.32	8.39	8.12	-	-	8.12	9.38	1						
3	CoP 12438	8.13	8.40	6.97	7.83	9.14	-	-	9.14	9.00	3						
4	CoSe 12453	8.78	6.43	6.75	7.32	9.22	-	-	9.22	9.06	2						
	Standards																
1	BO 91	8.65	8.66	7.47	8.26	8.17	-	-	8.17	8.12							
2	CoP 9301	7.62	8.75	7.17	7.85	10.80	-	-	10.80	8.55							
	GM	8.13	8.61	7.12		8.93	-	-									

* Trial not conducted ** Data was wrong and not included for GM (Weighted Average)

Table 5.8.2. Cane yield at harvest (t/ha) - Pooled data of two plant and one ratoon crops

S. No.	Entries	Seorahi				Gorakpur				Pusa				Motipur			
		IP	IP	R	Mean	IP	IP*	R*	Mean	IP	IP	R	Mean	IP	IP	R	Mean
1	CoLk 09204	77.78	77.49	66.11	73.79	82.40	-	-	82.40	84.97	85.24	88.92	86.38	75.82	83.13	71.00	76.65
2	CoLk 12209	79.63	78.89	69.72	76.08	83.33	-	-	83.33	111.18	94.27	64.43	89.96	80.93	78.17	70.48	76.53
3	CoP 12438	79.17	77.4	69.81	75.46	80.65	-	-	80.65	89.54	98.28	78.20	88.67	79.07	82.87	69.82	77.25
4	CoSe 12453	87.50	88.88	79.44	85.27	82.87	-	-	82.87	72.25	90.39	63.02	75.22	77.00	83.69	69.45	76.71
	Standards																
1	BO 91	66.67	67.12	59.44	64.41	71.30	-	-	71.30	68.28	85.79	64.36	72.81	76.35	53.52	50.69	60.19
2	CoP 9301	63.89	65.18	55.37	61.48	68.18	-	-	68.18	75.81	83.24	63.69	74.25	78.87	76.51	69.08	74.82
	GM	75.77	75.83	66.65		78.12	-	-		83.67	89.54	70.44		78.01	76.32	66.75	
S. No.	Entries	Bethuadahari				Buralikson				GM (Wt. Aver.)	Rank						
		IP	IP	R	Mean	IP	IP**	R**	Mean								
1	CoLk 09204	74.43	83.97	61.02	73.14	64.13	-	-	64.13	76.89	3						
2	CoLk 12209	71.59	79.28	60.15	70.34	62.90	-	-	62.90	77.50	1						
3	CoP 12438	72.61	74.82	57.89	68.44	69.07	-	-	69.07	77.09	2						
4	CoSe 12453	75.11	55.02	57.06	62.40	71.53	-	-	71.53	75.23							
	Standards																
1	BO 91	73.86	73.72	61.58	69.72	60.43	-	-	60.43	66.65							
2	CoP 9301	72.44	70.92	58.01	67.12	83.73	-	-	83.73	70.35							
	GM	73.34	72.96	59.29		68.63	-	-									

* Trial not conducted ** Data was wrong and not included for GM (Weighted Average)

Table 5.8.3. CCS (%) at harvest - Pooled data of two plant and one ratoon crops

S. No.	Entries	Seorahi				Gorakpur				Pusa				Motipur			
		I P	II P	R	Mean	I P	II P*	R*	Mean	I P	II P	R	Mean	I P	II P	R	Mean
1	CoLk 09204	10.48	11.99	11.32	11.26	11.95	-	-	11.95	12.68	12.72	12.72	12.71	11.38	11.42	11.11	11.30
2	CoLk 12209	12.26	13.07	11.71	12.35	12.49	-	-	12.49	12.61	12.50	12.74	12.62	11.37	11.05	10.87	11.10
3	CoP 12438	11.09	12.01	10.60	11.23	12.00	-	-	12.00	12.45	12.28	11.58	12.10	11.18	11.33	11.13	11.21
4	CoSe 12453	11.68	12.54	12.01	12.08	12.13	-	-	12.13	12.65	12.93	12.60	12.73	11.57	11.14	10.88	11.20
	Standards																
1	BO 91	11.46	12.73	11.49	11.89	11.85	-	-	11.85	12.66	11.80	12.65	12.37	11.43	8.27	8.39	9.36
2	CoP 9301	11.47	12.98	12.58	12.34	12.61	-	-	12.61	12.55	12.10	12.72	12.46	11.73	11.47	11.52	11.57
	GM	11.41	12.55	11.62		12.17	-	-		12.60	12.39	12.50		11.44	10.78	10.65	
S. No.	Entries	Bethuadahari				Buralikson				GM (Wt. Aver.)	Rank						
		I P	II P	R	Mean	I P	II P**	R**	Mean								
1	CoLk 09204	9.95	11.63	11.52	11.03	12.66	-	-	12.66	11.68							
2	CoLk 12209	11.46	12.18	12.18	11.94	12.92	-	-	12.92	12.10	2						
3	CoP 12438	11.19	11.23	12.05	11.49	13.24	-	-	13.24	11.67							
4	CoSe 12453	11.68	11.73	11.83	11.75	12.89	-	-	12.89	12.02	3						
	Standards																
1	BO 91	11.72	11.75	12.15	11.87	13.52	-	-	13.52	11.56							
2	CoP 9301	10.52	12.35	12.36	11.74	12.90	-	-	12.90	12.13	1						
	GM	11.09	11.81	12.02		13.02	-	-									

* Trial not conducted ** Data was wrong and not included for GM (Weighted Average)

Table 5.8.4. Sucrose (%) at harvest - Pooled data of two plant and one ratoon crops

S. No.	Entries	Seorahi				Gorakpur				Pusa				Motipur			
		I P	II P	R	Mean	I P	II P*	R*	Mean	I P	II P	R	Mean	I P	II P	R	Mean
1	CoLk 09204	15.34	17.52	16.38	16.41	17.35	-	-	17.35	18.43	18.32	18.46	18.40	16.40	17.01	16.10	16.50
2	CoLk 12209	17.86	19.08	16.89	17.94	18.09	-	-	18.09	18.62	18.18	18.55	18.45	16.38	17.01	17.01	16.80
3	CoP 12438	16.18	17.76	15.43	16.46	17.43	-	-	17.43	18.02	17.64	16.77	17.48	15.88	16.82	15.55	16.08
4	CoSe 12453	17.02	18.22	17.34	17.53	17.56	-	-	17.56	18.56	17.23	18.09	17.96	16.47	16.68	16.17	16.44
	Standards																
1	BO 91	16.72	18.58	16.63	17.31	17.22	-	-	17.22	18.56	17.03	18.27	17.95	16.36	12.63	12.14	13.71
2	CoP 9301	16.68	18.91	18.15	17.91	18.15	-	-	18.15	18.75	17.59	18.08	18.14	17.11	17.18	16.97	17.15
	GM	16.63	18.35	16.80		17.63	-	-		18.49	17.67	18.04		16.43	16.22	15.39	
S. No.	Entries	Bethuadahari				Buralikson				GM (Wt. Aver.)	Rank						
		I P	II P	R	Mean	I P	II P**	R**	Mean								
1	CoLk 09204	14.48	16.87	16.54	15.96	17.50	-	-	17.50	16.91							
2	CoLk 12209	16.41	17.58	17.97	17.32	17.53	-	-	17.53	17.65	1						
3	CoP 12438	16.17	16.30	17.39	16.62	18.30	-	-	18.30	16.83							
4	CoSe 12453	16.84	16.99	17.13	16.99	17.88	-	-	17.88	17.30	3						
	Standards																
1	BO 91	16.90	16.96	17.52	17.13	18.76	-	-	18.76	16.73							
2	CoP 9301	15.24	17.73	17.60	16.86	17.80	-	-	17.80	17.64	2						
	GM	16.01	17.07	17.36		17.96	-	-									

* Trial not conducted ** Data was wrong and not included for GM (Weighted Average)

Fig: 5.8.1. CCS at harvest (t/ha) - Pooled data of two plant and one ratoon crops

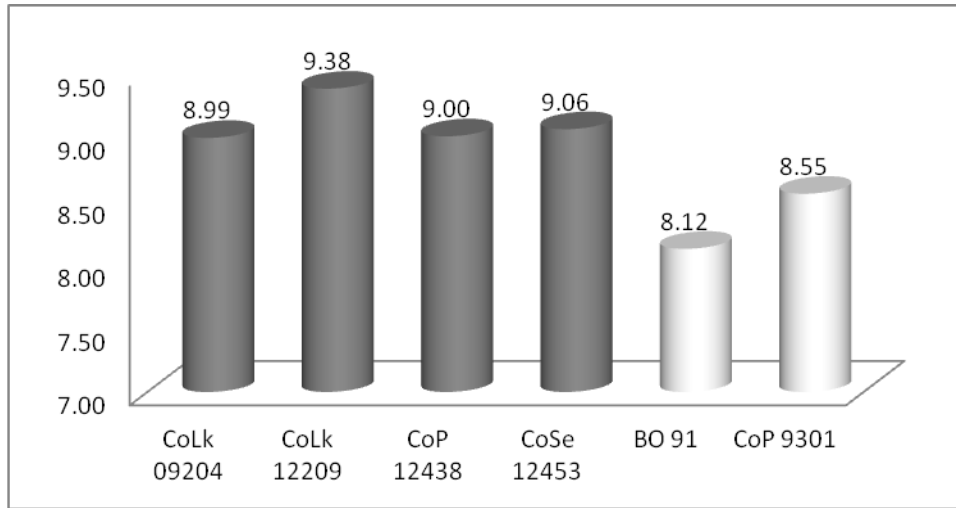


Fig: 5.8.2. Cane yield at harvest (t/ha) - Pooled data of two plant and one ratoon crops

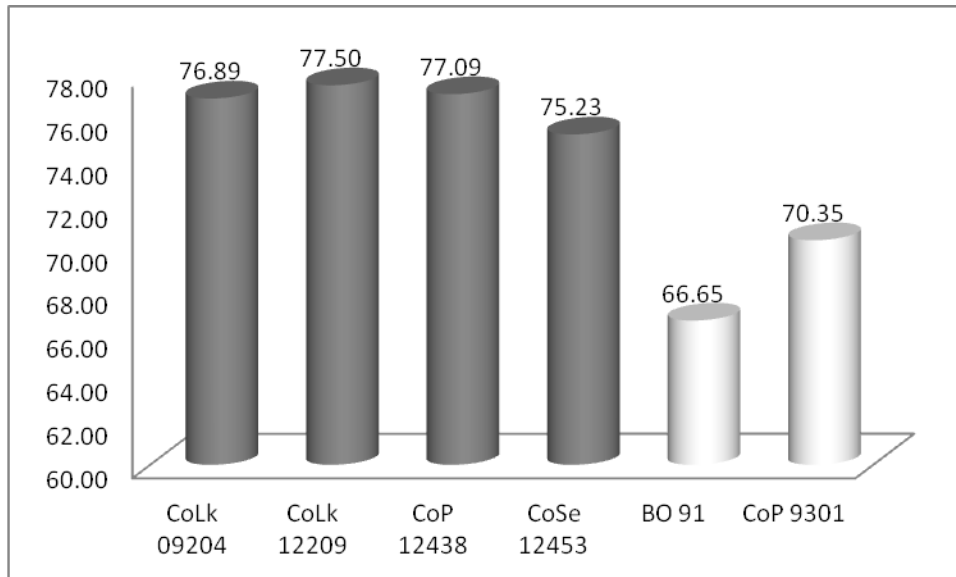


Fig 5.8.3. CCS (%) at harvest - Pooled data of two plant and one ratoon crops

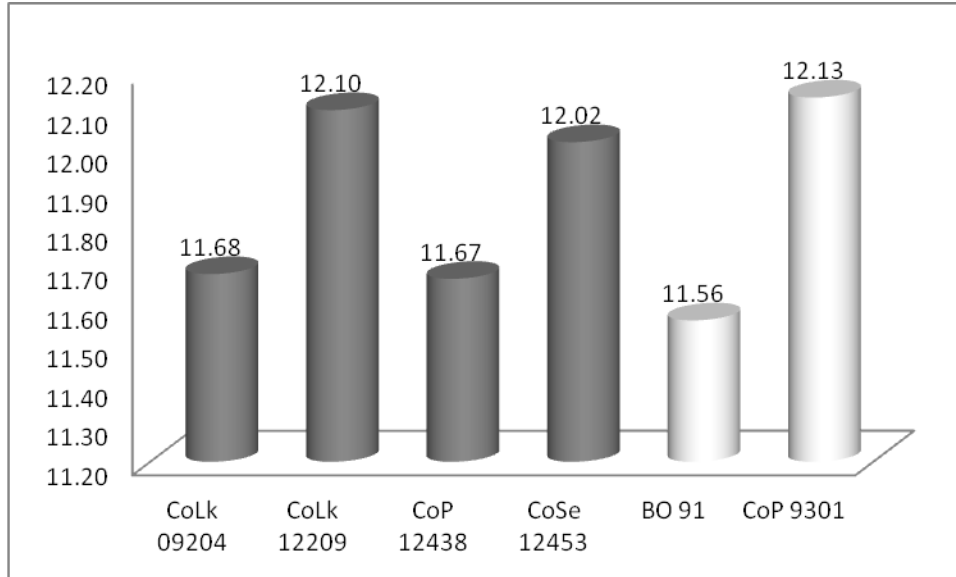
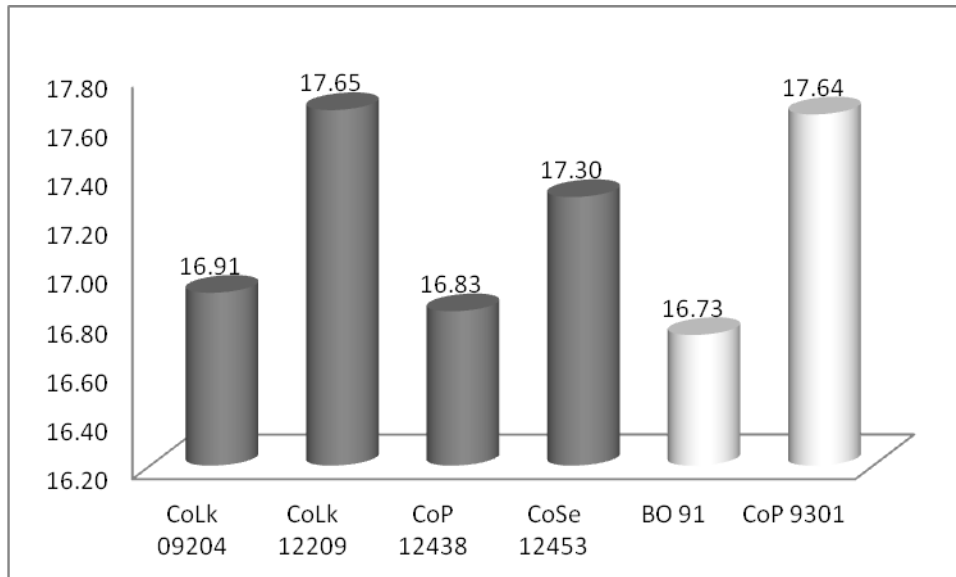


Fig 5.8.4. Sucrose (%) at harvest - Pooled data of two plant and one ratoon crops



Simultaneous selection of high yielding and stable genotypes in Advance Varietal Trial (Midlate) – Plant I, II and Ratoon

Four entries, CoLk 09204, CoLk 12209, CoP 12438 and CoSe 12453 and two standards, BO 91 and CoP 9301 were evaluated during three crop cycles (I and II Plant crop and ratoon crop) at 6 locations in North Central Zone. The data on CCS (t/ha), cane yield (t/ha) and sucrose (%) were subjected to stability analysis using AMMI model. Simultaneous selection of high yielding and stable genotypes was done by estimated index value based ranking. Estimated index values, CCS (t/ha), cane yield (t/ha) and sucrose (%) values and stability values of different genotypes along with their ranks are presented in Tables 8.4 to 8.6.

Results based on index of simultaneous selection for high CCS (t/ha) and stable genotypes revealed that the entry, CoP 12438, and standard, BO 91, were at first and second rank, respectively. Such a ranking differs with the ranking based only on mean data of CCS (t/ha) presented in Table 8.4. Considering top high yielding and stable genotype, entry CoP 12438 was superior than the best standard BO 91 for CCS (t/ha).

Results based on index of simultaneous selection for high cane yield (t/ha) and stable genotypes revealed that the entry, CoP 12438, and standard, BO 91, were at first and second rank, respectively. Such a ranking differs with the ranking based only on mean data of cane yield (t/ha) presented in Table 8.4. Considering top high cane yielding and stable genotype, entry CoP 12438 was superior than the best standard BO 91 for cane yield (t/ha).

Results based on index of simultaneous selection for sucrose (%) and stable genotypes revealed that the entries, CoSe 12453 and CoP 12438 were at first and second rank, respectively. Such a ranking differs with the ranking based only on mean data of sucrose content (Table 8.6). Considering top high sucrose and stable genotype, CoSe 12453 and CoP 12438 were superior entry. These entries were also superior than the best standard CoP 9301.

From the above analysis, it may be concluded that the only entry CoP 12438 was most stable and high cane yielding, ccs(t/ha) and sucrose (%) in midlate maturity group of North Central Zone. This entry was also superior than the best standard BO 91.

Table 8.4- Ranking of genotypes of AVT (M) of North Central Zone according to their (i) mean performance, (ii) stability and (iii) simultaneous index value in respect of CCS (t/ha)

Variety	Estimated value			Rank based on estimated value		
	Index Value	CCS (t/ha) value	Stability value	Index value based rank	CCS (t/ha) based rank	Stability based rank
CoLk 09204	1.24	8.99	3.64	3	4	3
CoLk 12209	1.22	9.35	4.98	5	1	5
CoP 12438	1.45	9.09	2.00	1	3	1
CoSe 12453	1.23	9.19	4.23	4	2	4
Standards						
BO 91	1.26	8.26	2.60	2	6	2
CoP 9301	1.10	8.86	7.51	6	5	6

Table 8.5- Ranking of genotypes of AVT (M) of North Central Zone according to their (i) mean performance, (ii) stability and (iii) simultaneous index value in respect of cane yield (t/ha)

Variety	Estimated value			Rank based on estimated value		
	Index Value	Cane yield (t/ha) value	Stability value	Index value based rank	Cane Yield (t/ha) based rank	Stability based rank
CoLk 09204	0.29	76.08	177.09	2	3	3
CoLk 12209	1.22	76.52	250.92	4	2	4
CoP 12438	1.52	76.59	95.96	1	1	1
CoSe 12453	1.19	75.67	278.02	5	4	5
Standards						
BO 91	1.22	66.48	144.09	3	6	2
CoP 9301	1.06	71.60	540.31	6	5	6

Table 8.6 - Ranking of genotypes of AVT (M) of North Central Zone according to their (i) mean performance, (ii) stability and (iii) simultaneous index value in respect of sucrose (%)

Variety	Estimated value			Rank based on estimated value		
	Index Value	Sucrose (%) value	Stability value	Index value based rank	Sucrose (%) based rank	Stability based rank
CoLk 09204	1.21	17.02	3.22	5	5	4
CoLk 12209	1.29	17.69	2.73	3	1	3
CoP 12438	1.32	17.06	2.20	2	4	2
CoSe 12453	1.35	17.39	2.13	1	3	1
Standards						
BO 91	1.08	17.01	7.29	6	6	6
CoP 9301	1.25	17.67	3.23	4	2	5

5.9. INITIAL VARIETAL TRIAL (MIDLATE)

Centers (6)	Bethuadahari, Buralikson, Gorakhpur, Motipur, Pusa and Seorahi
Entries (9)	CoBln 14502, CoLk 14208, CoLk 14209, CoLk 14210, CoP 14438, CoP 14439, CoSe 14452, CoSe 14455 and CoSe 14456
Standards (3)	BO 91, CoP 9301 and CoP 06436
Design	RBD
Replications	Three
Plot size	Gross : 6m x 6r x 0.90m Net : 5m x 4r x 0.90m
Seed rate	12 buds per meter
Date of planting	February - March, 2017
Crop duration	12 months

Results of the previous year:

The test entries viz., CoBln 14502, CoLk 14208, CoLk 14209, CoLk 14210, CoP 14438, CoP 14439, CoSe 14452, CoSe 14455 and CoSe 14456 along with three standards BO 91, CoP 9301 and CoP 06436 were under multiplication.

Results of the current year:

Gorakhpur and Buralikson centres did not conducted the trial. The data on cane yield and juice quality of nine test entries and three standards were presented in tables 5.9.1 to 5.9.20. CoP 9301 was the best standard for commercial cane sugar yield (9.12 t/ha), cane yield (74.07 t/ha), CCS % (12.37) and juice sucrose % (17.99). The entry CoP 14439 (10.74 t/ha) was ranked top for CCS (t/ha) followed by CoLk 14209 (10.20 t/ha) and CoSe 14455 (10.19 t/ha). The test entries CoP 14439, CoLk 14209 and CoP 14438 recorded more than 10 per cent improvement over the best standard at two locations each. The entries CoP 14439, CoLk 14209 and CoSe 14455 recorded more than 10 per cent improvement over the best standard for CCS (t/ha) across locations. The entry CoP 14439 (90.00) was ranked top for cane yield (t/ha) followed by CoLk 14209 (86.34) and CoSe 14452 (81.43). The entry CoLk 14209 recorded more than 10 per cent improvement over the best standard at Motipur and Pusa centre. The test entries CoP 14439, CoSe 14452, CoP 14438, CoSe 14455 and CoLk 14210 recorded more than 10 per cent improvement over the best standard at one location each. The entries CoP 14439 and CoLk 14209 recorded more than 10 per cent improvement over the best standard for cane yield across locations. None of the test entries performed better than the best standard CoP 9301 for sucrose (17.99 %) and CCS (12.37 %). The test entry CoP 14438 (17.67 %) ranked second in the zone for sucrose % and numerically higher than the standard (CoP 9301) at both Seorahi and Pusa. Among the test entries, CoP 14439 performed better for commercial cane sugar yield and cane yield. None of the entries was identified as a qualifying entry across the location.

Table 5.9.1. CCS at harvest (t/ha)

S. No.	Entries	Seorahi	Pusa	Motipur	Bethuad ahari	Mean	Overall rank
1	CoBln 14502	7.81	2.24	8.38	7.82	6.56	
2	CoLk 14208	9.99*	10.87	9.52	6.04	9.11	
3	CoLk 14209	11.04*	11.99*	10.69	7.08	10.20	2
4	CoLk 14210	9.76*	8.43	8.94	8.89	9.01	
5	CoP 14438	11.01*	14.09*	8.77	5.92	9.95	4
6	CoP 14439	10.58*	14.48*	9.97	7.91	10.74	1
7	CoSe 14452	10.56*	12.94*	9.83	6.42	9.94	5
8	CoSe 14455	11.75*	11.57	9.26	8.19	10.19	3
9	CoSe 14456	10.38*	11.53	6.19	-	9.37	
	Standards						
1	BO 91	8.64	8.26	8.02	7.65	8.14	
2	CoP 9301	8.97	9.97	8.99	8.55	9.12	
3	CoP 06436	9.04	10.50	6.87	8.92	8.83	
	GM	9.96	10.57	8.79	7.58		
	SE	0.04	0.46	1.09	0.60		
	CD	0.12	1.35	-	1.78		
	CV	-	7.50	21.47	5.48		
	Qualifying entries at each location						
	1	CoSe 14455	CoP 14439	CoLk 14209	-	CoP 14439	
	2	CoLk 14209	CoP 14438	CoP 14439	-	CoLk 14209	
	3	CoP 14438	CoSe 14452	-	-	CoSe 14455	

No. of locations where an entry recorded >10% improvement: CoP 14439 (2), CoLk 14209 (2), CoP 14438 (2), CoSe 14455 (1) and CoSe 14452 (1)

Performance across the locations:

The best standard CoP 9301 recorded 9.12 t/ha for commercial cane sugar yield. The entry CoP 14439 (10.74 t/ha) top ranked for CCS (t/ha) followed by CoLk 14209 (10.20 t/ha) and CoSe 14455 (10.19 t/ha). The test entries CoP 14439, CoLk 14209 and CoP 14438 recorded more than 10 per cent improvement over the best standard at two locations each. The entries CoSe 14455 and CoSe 14452 recorded more than 10 per cent improvement over the best standard at Seorahi and Pusa centre respectively. The entries CoP 14439, CoLk 14209 and CoSe 14455 recorded more than 10 per cent improvement over the best standard for CCS (t/ha) across locations.

Table 5.9.2. Cane Yield at harvest (t/ha)

S. No.	Entries	Seorahi	Pusa	Motipur	Bethuad ahari	Mean	Overall rank
1	CoBln 14502	75.37*	22.65	70.78	71.20	60.00	
2	CoLk 14208	79.44*	89.41	77.81	51.76	74.61	
3	CoLk 14209	84.07*	112.97*	87.17	61.13	86.34	2
4	CoLk 14210	86.48*	80.01	77.83	73.46	79.45	
5	CoP 14438	80.19*	114.77*	75.97	54.43	81.34	4
6	CoP 14439	84.99*	121.20*	85.34	68.46	90.00	1
7	CoSe 14452	87.22*	105.60*	78.58	54.33	81.43	3
8	CoSe 14455	87.96*	97.37	65.61	72.46	80.85	5
9	CoSe 14456	83.14*	98.85*	51.58	-	77.86	
	Standards						
1	BO 91	67.96	75.76	78.33	63.53	71.40	
2	CoP 9301	66.11	83.55	77.48	69.13	74.07	
3	CoP 06436	70.37	89.97	54.08	74.36	72.20	
	GM	79.44	91.01	73.38	64.93		
	SE	0.04	3.80	8.95	3.40		
	CD	0.12	7.94	-	10.19		
	CV	7.33	5.12	21.29	5.37		
	Qualifying entries at each location						
	1	CoSe 14455	CoP 14439	CoLk 14209	-	CoP 14439	
	2	CoSe 14452	CoP 14438	-	-	CoLk 14209	
	3	CoLk 14210	CoLk 14209	-	-	-	

No. of locations where an entry recorded >10% improvement: CoLk 14209 (2), CoP 14439 (1), CoSe 14452 (1), CoP 14438(1), CoSe 14455 (1) and CoLk 14210 (1)

Performance across the locations:

The best standard CoP 9301 recorded 74.07 t/ha for cane yield across the zone. The entry CoP 14439 (90.00 t/ha) top ranked for cane yield (t/ha) followed by CoLk 14209 (86.34 t/ha) and CoSe 14452 (81.43 t/ha). The entry CoLk 14209 recorded more than 10 per cent improvement over the best standard at Motipur and Pusa centres. The test entries CoP 14439, CoSe 14452, CoP 14438, CoSe 14455 and CoLk 14210 recorded more than 10 per cent improvement over the best standard at one location each. The entries CoP 14439 and CoLk 14209 recorded more than 10 per cent improvement over the best standard for cane yield across locations.

Table 5.9.3. CCS (%) at harvest

S. No.	Entries	Seorahi	Pusa	Motipur	Bethuadahari	Mean	Overall rank
1	CoBln 14502	10.36	9.88	11.86	10.98	10.77	
2	CoLk 14208	12.58	12.25	12.07	11.68	12.15	4
3	CoLk 14209	13.14	10.61	12.27	11.57	11.90	
4	CoLk 14210	11.28	10.53	11.09	12.10	11.25	
5	CoP 14438	13.73	12.28	11.46	10.93	12.10	5
6	CoP 14439	12.46	11.93	11.78	11.56	11.93	
7	CoSe 14452	12.11	12.24	12.67	11.83	12.21	3
8	CoSe 14455	13.36	11.88	12.84	11.33	12.35	2
9	CoSe 14456	12.49	11.67	12.06	-	12.07	
	Standards						
1	BO 91	12.71	10.91	12.17	12.04	11.96	
2	CoP 9301	13.57	11.94	11.60	12.38	12.37	1
3	CoP 06436	12.84	11.67	8.48	12.01	11.25	
	GM	12.55	11.48	11.70	11.67		
	SE	4.63	0.25	1.23	-		
	CD	-	0.73	-	NS		
	CV	-	3.72	18.28	5.42		
Qualifying entries at each location							
	1	-	-	CoSe 14455	-	-	-
	2	-	-	-	-	-	-
	3	-	-	-	-	-	-

No. of locations where an entry recorded >5% improvement: CoSe 14455 (1)

Performance across the locations:

For CCS %, the best standard CoP 9301 recorded 12.37 % in this zone and none of the test entries performed better than this standard in the zone.

Table 5.9.4. Sucrose (%) at harvest

S. No.	Entries	Seorahi	Pusa	Motipur	Bethuad ahari	Mean	Overall rank
1	CoBln 14502	15.12	14.41	16.78	15.94	15.56	
2	CoLk 14208	18.39	17.72	17.42	16.94	17.62	3
3	CoLk 14209	19.12	15.44	16.54	16.79	16.97	
4	CoLk 14210	16.45	15.37	16.90	17.48	16.55	
5	CoP 14438	20.01	17.66	17.04	15.96	17.67	2
6	CoP 14439	17.99	17.20	16.68	16.76	17.16	
7	CoSe 14452	17.65	17.59	15.80	17.10	17.04	
8	CoSe 14455	19.34	17.19	16.90	16.56	17.50	4
9	CoSe 14456	18.18	16.88	16.92	-	17.33	5
	Standards						
1	BO 91	18.43	15.87	16.48	17.44	17.06	
2	CoP 9301	19.64	17.19	17.20	17.93	17.99	1
3	CoP 06436	18.67	16.92	10.90	17.33	15.96	
	GM	18.25	16.62	16.30	16.93		
	SE	0.26	0.30	1.61	0.42		
	CD	0.78	0.89	-	1.25		
	CV	2.54	3.15	17.07	5.05		
	Qualifying entries at each location						
	1	-	-	-	-	-	
	2	-	-	-	-	-	
	3	-	-	-	-	-	

No. of locations where an entry recorded >5% improvement: Nil

Performance across the locations:

The best standard CoP 9301 recorded 17.99 % in the zone and none of the test entries recorded sucrose % higher than this standard in the zone.

Table 5.9.5. Brix (%) at harvest

S. No.	Entries	Seorahi	Pusa	Motipur	Bethuad ahari	Mean
1	CoBln 14502	17.43	16.60	18.90	18.20	17.78
2	CoLk 14208	21.23	20.07	20.07	19.30	20.17
3	CoLk 14209	21.90	17.70	18.40	19.13	19.28
4	CoLk 14210	18.91	17.73	18.40	19.73	18.69
5	CoP 14438	22.99	19.73	19.14	18.43	20.07
6	CoP 14439	20.54	19.33	18.94	19.06	19.47
7	CoSe 14452	20.31	19.67	17.08	19.33	19.10
8	CoSe 14455	21.91	19.47	18.87	19.13	19.85
9	CoSe 14456	20.84	19.13	18.14	-	19.37
	Standards					
1	BO 91	20.97	18.20	19.04	19.80	19.50
2	CoP 9301	22.25	19.27	19.71	20.36	20.40
3	CoP 06436	21.37	19.27	12.55	19.53	18.18
	GM	20.89	18.85	18.27	19.27	
	SE	0.28	0.26	1.84	0.43	
	CD	0.84	0.77	-	1.30	
	CV	2.39	2.40	17.41	5.81	

Table 5.9.6. Purity (%) at harvest

S. No.	Entries	Seorahi	Pusa	Motipur	Bethuad ahari	Mean
1	CoBln 14502	86.72	82.30	88.76	87.60	86.35
2	CoLk 14208	86.61	89.97	86.67	87.83	87.77
3	CoLk 14209	87.25	87.23	89.92	87.80	88.05
4	CoLk 14210	86.97	86.67	89.96	88.60	88.05
5	CoP 14438	87.02	89.47	89.04	86.53	88.02
6	CoP 14439	87.60	88.93	88.25	87.93	88.18
7	CoSe 14452	86.91	89.40	89.29	88.50	88.53
8	CoSe 14455	88.29	88.63	89.60	86.60	88.28
9	CoSe 14456	87.24	88.23	90.49	-	88.65
	Standards					
1	BO 91	87.89	87.20	86.54	88.10	87.43
2	CoP 9301	88.29	88.87	87.29	88.06	88.13
3	CoP 06436	87.36	87.80	54.68	88.76	79.65
	GM	87.35	87.89	85.87	87.85	
	SE	0.41	1.20	8.65	-	
	CD	NS	3.53	-	NS	
	CV	0.81	2.36	17.37	6.79	

Table 5.9.7. Pol % cane at harvest

S. No.	Entries	Seorahi	Pusa	Motipur	Bethuada hari	Mean
1	CoBln 14502	11.44	11.46	-	-	11.45
2	CoLk 14208	13.62	13.89	-	-	13.76
3	CoLk 14209	13.96	12.51	-	-	13.24
4	CoLk 14210	12.54	12.23	-	-	12.39
5	CoP 14438	13.89	13.82	-	-	13.86
6	CoP 14439	13.36	14.07	-	-	13.72
7	CoSe 14452	13.15	13.93	-	-	13.54
8	CoSe 14455	14.12	13.95	-	-	14.04
9	CoSe 14456	13.46	13.65	-	-	13.56
	Standards					
1	BO 91	13.65	13.03	-	-	13.34
2	CoP 9301	14.02	14.19	-	-	14.11
3	CoP 06436	13.81	14.21	-	-	14.01
	GM	13.42	13.41	-	-	
	SE	-	0.26	-	-	
	CD	-	0.78	-	-	
	CV	-	3.41	-	-	

Table 5.9.8. Extraction (%) at harvest

S. No.	Entries	Seorahi	Pusa	Motipur	Bethuada hari	Mean
1	CoBln 14502	58.64	53.20	58.53	-	56.79
2	CoLk 14208	58.12	59.40	52.76	-	56.76
3	CoLk 14209	61.42	60.20	60.62	-	60.75
4	CoLk 14210	62.65	58.60	57.32	-	59.52
5	CoP 14438	63.43	59.20	56.81	-	59.81
6	CoP 14439	63.60	62.50	58.04	-	61.38
7	CoSe 14452	64.18	56.80	60.01	-	60.33
8	CoSe 14455	62.40	59.20	60.36	-	60.65
9	CoSe 14456	61.12	61.40	61.92	-	61.48
	Standards					
1	BO 91	61.13	57.20	59.01	-	59.11
2	CoP 9301	59.66	59.80	57.48	-	58.98
3	CoP 06436	61.38	61.20	38.87	-	53.82
	GM	61.48	59.06	56.81	-	
	SE	-	1.99	5.89	-	
	CD	-	5.80	-	-	
	CV	-	5.83	17.98	-	

Table 5.9.9. Fibre (%) at harvest

S. No.	Entries	Seorahi	Pusa	Motipur	Bethuad ahari	Mean
1	CoBln 14502	13.08	15.46	11.87	-	13.47
2	CoLk 14208	12.96	16.61	12.38	-	13.98
3	CoLk 14209	13.70	13.98	12.43	-	13.37
4	CoLk 14210	13.97	15.42	12.64	-	14.01
5	CoP 14438	14.15	16.72	12.88	-	14.58
6	CoP 14439	14.18	13.21	12.67	-	13.35
7	CoSe 14452	14.31	15.83	12.43	-	14.19
8	CoSe 14455	13.92	13.82	13.02	-	13.59
9	CoSe 14456	13.60	14.13	11.84		13.19
	Standards					
1	BO 91	13.75	12.69	11.66	-	12.70
2	CoP 9301	13.31	12.43	11.91	-	12.55
3	CoP 06436	13.69	12.27	8.46	-	11.47
	GM	13.72	14.38	12.02	-	
	SE	-	0.38	1.25	-	
	CD	-	1.13	-	-	
	CV	-	4.63	17.99	-	

Table 5.9.10. Number of Millable Canes ('000/ha) at harvest

S. No.	Entries	Seorahi	Pusa	Motipur	Bethuad ahari	Mean
1	CoBln 14502	98.00	29.20	86.73	86.50	75.11
2	CoLk 14208	113.00	105.30	98.31	87.46	101.02
3	CoLk 14209	108.00	102.10	94.23	77.53	95.47
4	CoLk 14210	108.00	95.35	83.61	84.66	92.91
5	CoP 14438	124.00	113.82	94.01	76.03	101.97
6	CoP 14439	125.00	108.53	102.32	93.83	107.42
7	CoSe 14452	124.00	101.50	110.96	59.46	98.98
8	CoSe 14455	122.00	109.66	78.98	122.50	108.29
9	CoSe 14456	112.00	94.32	54.94	-	87.09
	Standards					
1	BO 91	108.00	102.50	96.97	99.80	101.82
2	CoP 9301	104.00	91.20	90.18	100.70	96.52
3	CoP 06436	111.00	97.97	60.89	113.13	95.75
	GM	113.08	95.95	87.68	91.05	
	SE	3.83	2.85	12.09	3.55	
	CD	1.12	8.42	-	10.65	
	CV	5.84	5.15	23.89	5.80	

Table 5.9.11. Stalk Length (cm) at harvest

S. No.	Entries	Seorahi	Pusa	Motipur	Bethuad ahari	Mean
1	CoBln 14502	167.00	299.00	270.00	255.00	247.75
2	CoLk 14208	213.00	272.67	260.33	226.60	243.15
3	CoLk 14209	215.00	274.00	248.33	225.00	240.58
4	CoLk 14210	217.00	242.67	249.33	256.60	241.40
5	CoP 14438	211.00	323.33	243.33	243.30	255.24
6	CoP 14439	216.00	300.67	293.33	265.60	268.90
7	CoSe 14452	214.00	305.33	283.33	264.60	266.82
8	CoSe 14455	218.00	290.67	286.67	285.60	270.24
9	CoSe 14456	205.00	255.00	296.67	-	252.22
	Standards					
1	BO 91	181.00	276.67	253.33	214.30	231.33
2	CoP 9301	187.00	269.33	253.33	255.00	241.17
3	CoP 06436	166.00	318.33	190.00	262.30	234.16
	GM	200.83	285.64	260.67	250.35	
	SE	4.63	6.67	30.86	6.76	
	CD	13.60	19.68	-	20.27	
	CV	3.99	4.04	25.51	6.89	

Table 5.9.12. Stalk Diameter (cm) at harvest

S. No.	Entries	Seorahi	Pusa	Motipur	Bethuad ahari	Mean
1	CoBln 14502	1.90	2.43	2.33	2.38	2.26
2	CoLk 14208	2.10	2.25	2.30	1.79	2.11
3	CoLk 14209	2.20	2.49	2.23	2.20	2.28
4	CoLk 14210	2.20	2.14	2.37	2.33	2.26
5	CoP 14438	2.00	2.13	2.17	2.06	2.09
6	CoP 14439	2.20	2.46	2.40	2.32	2.35
7	CoSe 14452	2.20	2.15	2.10	2.21	2.17
8	CoSe 14455	2.30	2.26	2.23	1.90	2.17
9	CoSe 14456	2.10	2.17	2.43	-	2.23
	Standards					
1	BO 91	2.00	1.79	1.87	1.88	1.89
2	CoP 9301	1.80	2.32	2.40	2.05	2.14
3	CoP 06436	2.10	2.44	1.47	2.16	2.04
	GM	2.09	2.25	2.19	2.12	
	SE	0.05	0.10	0.25	0.03	
	CD	0.16	0.28	-	0.09	
	CV	4.74	7.33	19.82	5.08	

Table 5.9.13. Single Cane Weight (kg.) at harvest

S. No.	Entries	Seorahi	Pusa	Motipur	Bethuada hari	Mean
1	CoBln 14502	0.76	0.78	1.07	1.06	0.92
2	CoLk 14208	0.70	0.85	0.89	0.57	0.75
3	CoLk 14209	0.78	1.11	1.12	0.87	0.97
4	CoLk 14210	0.80	0.84	1.17	1.23	1.01
5	CoP 14438	0.64	1.01	0.91	0.71	0.82
6	CoP 14439	0.68	1.10	1.21	0.95	0.98
7	CoSe 14452	0.70	1.04	0.98	0.93	0.91
8	CoSe 14455	0.71	0.89	1.04	0.90	0.88
9	CoSe 14456	0.74	1.05	1.34	-	1.04
	Standards					
1	BO 91	0.63	0.74	0.77	0.65	0.70
2	CoP 9301	0.63	0.91	1.03	0.86	0.86
3	CoP 06436	0.63	0.92	0.75	0.94	0.81
	GM	0.70	0.94	1.02	0.88	
	SE	0.01	0.04	0.15	0.01	
	CD	0.03	0.11	-	0.15	
	CV	2.16	6.91	24.36	5.83	

Table 5.9.14. CCS (%) at 300 days

S. No.	Entries	Seorahi	Pusa	Motipur	Bethuada hari	Mean
1	CoBln 14502	11.02	11.28	11.61	8.36	10.57
2	CoLk 14208	10.76	10.85	11.47	10.70	10.95
3	CoLk 14209	11.49	11.17	11.35	9.73	10.94
4	CoLk 14210	10.55	9.96	11.26	8.58	10.09
5	CoP 14438	12.65	11.23	11.46	9.86	11.30
6	CoP 14439	10.80	11.01	11.67	9.47	10.74
7	CoSe 14452	10.92	10.75	11.35	7.88	10.23
8	CoSe 14455	10.68	11.42	11.63	7.77	10.38
9	CoSe 14456	11.32	10.93	11.38	-	11.21
	Standards					
1	BO 91	10.59	11.29	12.01	9.75	10.91
2	CoP 9301	10.90	11.51	11.77	9.02	10.80
3	CoP 06436	11.25	11.37	7.49	8.59	9.68
	GM	11.08	11.06	11.20	9.06	
	SE	0.24	0.42	1.08	0.41	
	CD	0.71	1.08	-	1.23	
	CV	3.81	6.50	16.75	6.83	

Table 5.9.15. Sucrose (%) at 300 days

S. No.	Entries	Seorahi	Pusa	Motipur	Bethuada hari	Mean
1	CoBln 14502	15.97	16.03	16.76	12.77	15.38
2	CoLk 14208	15.65	16.30	16.82	16.22	16.25
3	CoLk 14209	16.57	16.10	16.26	14.70	15.91
4	CoLk 14210	15.28	14.66	16.18	12.86	14.75
5	CoP 14438	18.19	16.21	16.52	14.85	16.44
6	CoP 14439	15.68	16.01	16.88	14.33	15.73
7	CoSe 14452	15.90	16.21	16.46	12.01	15.15
8	CoSe 14455	15.47	16.34	16.82	11.68	15.08
9	CoSe 14456	16.34	15.76	16.54	-	16.21
	Standards					
1	BO 91	15.41	16.09	17.44	14.65	15.90
2	CoP 9301	16.27	16.71	17.23	13.70	15.98
3	CoP 06436	15.81	16.16	10.90	12.24	13.78
	GM	16.05	16.05	16.23	13.64	
	SE	0.31	0.42	1.58	0.39	
	CD	0.90	1.09	-	1.17	
	CV	3.32	4.51	16.89	6.21	

Table 5.9.16. Brix (%) at 300 days

S. No.	Entries	Seorahi	Pusa	Motipur	Bethuada hari	Mean
1	CoBln 14502	18.18	17.73	18.91	16.08	17.73
2	CoLk 14208	17.92	18.13	19.58	20.12	18.94
3	CoLk 14209	18.65	18.07	18.05	18.13	18.23
4	CoLk 14210	17.35	17.20	18.08	15.62	17.06
5	CoP 14438	20.35	18.27	18.57	18.21	18.85
6	CoP 14439	17.86	18.33	19.11	17.73	18.26
7	CoSe 14452	18.25	18.40	18.71	15.04	17.60
8	CoSe 14455	17.58	18.07	19.05	14.27	17.24
9	CoSe 14456	18.45	17.73	18.91	-	18.36
	Standards					
1	BO 91	17.68	17.63	19.91	17.86	18.27
2	CoP 9301	18.01	19.07	20.01	17.06	18.54
3	CoP 06436	18.42	17.60	12.48	14.93	15.86
	GM	18.23	18.02	18.45	16.82	
	SE	0.32	0.44	1.84	0.42	
	CD	0.95	1.15	-	1.25	
	CV	3.09	4.25	17.34	5.37	

Table 5.9.17 Purity (%) at 300 days

S. No.	Entries	Seorahi	Pusa	Motipur	Bethuada hari	Mean
1	CoBln 14502	87.83	86.27	88.63	79.40	85.53
2	CoLk 14208	87.26	87.93	85.97	80.60	85.44
3	CoLk 14209	88.83	86.53	90.24	81.10	86.68
4	CoLk 14210	88.07	85.90	89.50	82.36	86.46
5	CoP 14438	89.34	85.83	88.99	81.60	86.44
6	CoP 14439	87.77	86.83	88.32	80.86	85.95
7	CoSe 14452	87.98	87.10	87.96	79.80	85.71
8	CoSe 14455	87.99	86.77	88.32	81.86	86.24
9	CoSe 14456	88.56	86.40	87.51	-	87.49
	Standards					
1	BO 91	87.18	86.53	87.73	82.03	85.87
2	CoP 9301	88.31	86.43	86.14	80.23	85.28
3	CoP 06436	87.79	86.33	58.19	81.96	78.57
	GM	88.08	86.57	85.63	81.07	
	SE	0.41	0.64	8.43	-	
	CD	1.23	1.67	-	NS	
	CV	0.82	1.28	17.07	5.78	

Table 5.9.18. Number of Shoots ('000/ha) at 240 days

S. No.	Entries	Seorahi	Pusa	Motipur	Bethuad ahari	Mean
1	CoBln 14502	-	42.80	84.26	106.48	77.85
2	CoLk 14208	-	130.56	96.68	115.73	114.32
3	CoLk 14209	-	135.70	78.16	96.75	103.54
4	CoLk 14210	-	103.82	74.53	105.55	94.63
5	CoP 14438	-	145.20	85.53	99.22	109.98
6	CoP 14439	-	128.58	87.81	126.69	114.36
7	CoSe 14452	-	131.62	98.62	83.94	104.73
8	CoSe 14455	-	135.87	76.30	168.05	126.74
9	CoSe 14456	-	122.59	56.79	-	89.69
	Standards					
1	BO 91	-	138.28	87.63	115.73	113.88
2	CoP 9301	-	129.62	89.99	117.12	112.24
3	CoP 06436	-	130.53	61.03	145.06	112.21
	GM	-	122.93	81.44	116.39	
	SE	-	3.75	11.92	3.76	
	CD	-	11.06	-	11.27	
	CV	-	5.28	24.34	5.65	

Table 5.9.19. Number of Tillers ('000/ha) at 120 days

S. No.	Entries	Seorahi	Pusa	Motipur	Bethuada hari	Mean
1	CoBln 14502	159.00	28.26	110.87	49.54	86.92
2	CoLk 14208	174.00	147.80	127.08	116.97	141.46
3	CoLk 14209	171.00	148.83	104.63	57.71	120.54
4	CoLk 14210	168.00	74.27	89.80	47.37	94.86
5	CoP 14438	178.00	121.56	103.68	48.46	112.93
6	CoP 14439	176.00	117.30	108.39	40.89	110.65
7	CoSe 14452	185.00	131.77	117.13	39.97	118.47
8	CoSe 14455	179.00	150.60	99.30	83.79	128.17
9	CoSe 14456	176.00	112.67	76.33	-	121.67
	Standards					
1	BO 91	177.00	163.63	118.15	44.17	125.74
2	CoP 9301	161.00	127.10	86.42	60.95	108.87
3	CoP 06436	173.00	152.53	63.22	84.87	118.41
	GM	173.08	123.03	100.42	61.34	
	SE	5.89	13.50	13.11	4.06	
	CD	NS	28.18	-	12.19	
	CV	5.88	13.44	22.62	5.81	

Table 5.9.20. Germination (%) at 45 days

S. No.	Entries	Seorahi	Pusa	Motipur	Bethuada hari	Mean
1	CoBln 14502	43.06	12.74	29.39	9.37	23.64
2	CoLk 14208	44.72	35.17	32.86	24.53	34.32
3	CoLk 14209	41.94	36.10	28.70	19.09	31.46
4	CoLk 14210	45.13	35.27	19.05	21.52	30.24
5	CoP 14438	43.89	33.23	28.58	16.28	30.50
6	CoP 14439	47.78	34.43	36.45	32.52	37.80
7	CoSe 14452	56.81	33.30	29.62	12.72	33.11
8	CoSe 14455	53.47	29.70	22.95	38.07	36.05
9	CoSe 14456	47.63	31.33	22.61	-	33.86
	Standards					
1	BO 91	50.13	36.03	30.55	16.43	33.29
2	CoP 9301	45.27	34.03	31.14	18.05	32.12
3	CoP 06436	50.27	33.24	16.02	40.27	34.95
	GM	47.51	32.05	27.33	22.62	
	SE	0.99	1.75	4.28	1.78	
	CD	NS	5.17	-	5.35	
	CV	10.90	9.46	24.16	5.37	

Table 5.9.21. Assessment of entries by monitoring team constituted by AICRP(S)

Entry	Seorahi	Pusa	Motipur	Bethuadhari	Buralikson *
CoBln 14502	Poor	Poor	Good	Poor	
CoLk 14208	Very Good	Very Good	Very Good	Poor	
CoLk 14209	Very Good	Very Good	Very Good	Poor	
CoLk 14210	Good	Poor	Very Good	Good	
CoP14438	Good	Average	Good	Good	
CoP14439	Very Good	Good	Good	Very Good	
CoSe 14452	Poor	Very Good	Good	Good	
CoSe 14455	Good	Very Good	Good	Very Good	
CoSe 14456	Average	Good	Poor	Not Planted	
Standards BO 91	Good	Good	Average	Poor	
CoP 9301	Poor	Good	Average	Very Good	
CoP 06436	Very Good	Very Good	Good	Good	
Overall Performance of the Experiment	Very Good	Very Good	Excellent	Good	

6. FLUFF SUPPLY AND NATIONAL HYBRIDIZATION PROGRAMME

National Hybridisation Garden (NHG) with cafeteria of 607 parents for the breeders of 24 participating centers of fluff supply programme was maintained in healthy and pests and diseases free condition. The flowering was delayed by more than 15 days and the first flowering was noticed in LG 99122 and CoLk 7901 on 20th October, 2017 followed by CoJ 46 on 25th October 2017. The data on flowering of parental clones were collected and the same were hosted and updated at weekly interval in the ICAR-SBI website. Out of 607 parents, only 263 flowered and the per cent of clones flowered during 2017 was 43.33 % against 52.46 % during 2016 and 58.26 % during 2015 flowering season.

Among 24 participating centers of Fluff supply / National Hybridization programme, 21 attended the crossing programme 2017-18. Hybridization work was initiated on 4th November 2017 and concluded on 8th December 2017. Out of 263 parents flowered during 2017 flowering season, 103 females and 69 male parents were utilised for generating genetic variability for different agronomic traits. Co 98008 was the frequently used female parent in the crossing programme. This was followed by Co 0238 (19 crosses) and CoC 671 (18 crosses). Other female parents which were used more than 10 crosses were Co 1158 (11), Co 86002 (11), CoLk 8102 (11), CoS 8436 (11), Co 98010 (12), CoA 13327 (12), CoH 110 (12) and CoN 05071 (12). Similarly Co 62198 (60) was the most frequently used male parent because of its longer duration of flowering making the flowers available to the breeders of both tropical and subtropical regions. This was followed by Co 1148 (31), BO 130 (24), CoH 70 (24), CoPant 97222 (23) and CoS 88216 (20) which were utilized more than 20 times in the crossing programme. Maximum number of bi-parental crosses was effected by the Shahjahanpur centre (36) followed by Pusa (34). The centers were facilitated to make 453 bi-parental crosses and 2 selfs, eight poly crosses and 187 general collections of open pollinated fluff (GCs) at NHG, ICAR-SBI, Coimbatore. Further, 12 centers were facilitated to effect 55 bi-parental crosses and 24 general collections at National Distant Hybridization Facility (NDHF) available at ICAR-SBI RC, Agali.

The Parental Diversity Index (PDI) and Parental Utilization Index (PUI) of crosses effected by the 21 centers were analyzed by classifying the source of the parental clones into eight categories viz., parents developed by ICAR-SBI (Coimbatore canes), parents from the particular center, parents from the zone in which the respective center is located, parents from others four zones, exotic parents and interspecific hybrids. Accordingly, the PDI was found ranged from 56.94 % (Shahjahanpur) to 85.71 % (Nayagarh) which was significantly higher than that of crosses effected during 2016 where the two centers had PDI of less than 50 % (Seorahi - 47.1% and Navsari- 47.4%). Pattern of utilization of parents by the Pune centre effecting number crosses with higher PDI is depicted in Fig. 1. The PDI and PUI of the crosses done by the participating centers during 2017 flowering season are presented in table 1.

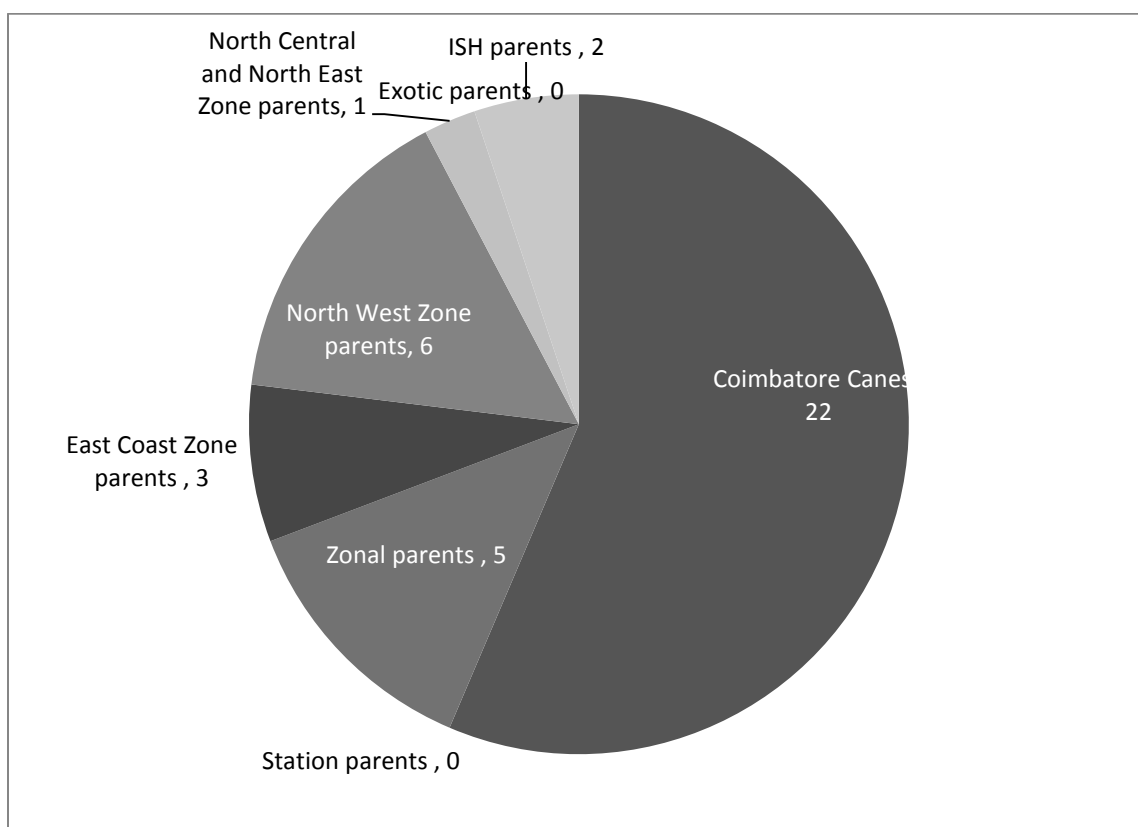


Fig. 1. Utilization pattern of parental clones by the Pune centre

Table 1. Parental diversity index of crosses done by the fluff receiving centers during 2017-18

Peninsular Zone	PDI	PUI*	North West Zone	PDI	PUI*
Mandya	79.16	49.48	Faridkot	77.08	57.81
Navasari	72.22	54.17	Kapurthala	66.67	50.00
Padegaon	70.00	61.25	Lucknow	65.91	49.43
Perumalapalle	78.13	48.83	Shajahanpur	56.94	57.81
Pune	84.78	63.59	Pantnagar	77.08	42.70
Rudrur	77.78	58.33	Uchani	70.00	52.50
Sankeshwar	75.00	56.25	East Coast Zone		
Thiruvalla	82.35	51.47	Anakapalle	67.24	58.83
North central Zone			Cuddalore	72.41	63.36
Motipur	57.5	43.13	Nayagarh	85.71	64.29
Seorahi	60.71	45.54	Vuyyuru	75.00	37.50
Pusa	58.82	44.12			

* PUI nearing PDI indicate utilization of parental from all classes of parents

The germination potential of the crosses was assessed. Higher number of germinates per gram of fluff was noticed in Co 98008 x CoPant 97222 (400), Co 98008 x CoA 13327 (360), CoV 89101 x CoS 90269 (360), CoM 6806 x CoC 1148 (324), Co 98008 x Co775 (308) among the bi-parental crosses. General collections from CoL 29 (480), CoS 07233 (336), CoPant 8829 (320), Co 98003 (304), LG 99118 (272) and BO 137 (224) recorded relatively higher number of germinates per gram of fluff.

Fluff weighing 17.26 kg of crosses made at NHG and NDHF during 2017 flowering season was supplied to the 23 participating centers of fluff supply programme. The fluff was sent to Bethudahari and Buralikson centers on special request. Maximum quantity of 6.11 kg of fluff was sent to North West Zone followed by North Central and North East Zone (4.46), Peninsular Zone (4.42) and East Coast Zone (2.27)

6.1 Receipt of fluff and seedlings raising by the participating centres during 2017-18

6.1.1 Peninsular Zone

6.1.1.1 Padegaon

Seedlings generated from the Fluff Supply and National Hybridization Programme 2017-18

Crosses	No. of crosses sown	Fluff weight (g)	No. of seedlings	No. of seedlings obtained / g of fluff
Station Crosses	34	763	5877	7.70
Polycrosses	7	46.5	880	18.92
General collections	6	50.5	8	0.16
Agali Station crosses	10	154.5	5	0.03
Agali GCs	8	189.5	990	5.22
Grand Total	65	1204.0	7760	6.45

6.1.1.2 Mandya

Sowing of fluff was taken up on 12.03. 2018. The fluff sowing was delayed due to severe drought during 2017.

6.1.1.3 Navsari

Seedlings generated from the Fluff Supply and National Hybridization Programme 2017-18

Crosses	No. of crosses sown	Fluff weight (g)	No. of seedlings	No. of seedlings obtained / g of fluff
Station Crosses	18	280	986	3.52
Polycrosses	3	16	46	2.88
General collections	10	134.5	238	1.77
Agali Station crosses	3	51	69	1.35
Grand Total	65	481.5	1339	2.78

6.1.1.4 Perumalapalle

Seedlings generated from the Fluff Supply and National Hybridization Programme 2017-18

Crosses	No. of crosses sown	Fluff weight (g)	No. of seedlings	No. of seedlings obtained / g of fluff
Station Crosses	26	469.5	1112	2.37
Polycrosses	7	94.5	720	7.62
General collections	16	312.0	2213	7.09
Grand Total	49	876.0	4045	4.62

6.1.1.5 Pune

Seedlings generated from the Fluff Supply and National Hybridization Programme 2017-18

Crosses	No. of crosses sown	Fluff weight (g)	No. of seedlings	No. of seedlings obtained / g of fluff
Station Crosses	23	432.0	1813	4.20
Polycrosses	3	18.0	23	1.28
General collections	4	54.0	67	1.24
Agali Crosses	5	137.0	239	1.74
Grand Total	35	641.0	2141	3.34

6.1.1.6 Rudrur

Seedlings generated from the Fluff Supply and National Hybridization Programme 2017-18

Crosses	No. of crosses sown	Fluff weight (g)	No. of seedlings	No. of seedlings obtained / g of fluff
Station Crosses	21	556.0	1865	3.35
Polycrosses	3	49.0	51	1.04
General collections	4	139.5	272	1.94
Grand Total	28	744.5	2188	2.94

6.1.1.7 Sankeshwar

Number of seedlings being evaluated in ground nursery 2017-18 was 656

6.1.1.8 Thiruvalla

All the seedlings in the ground nursery have been lost completely due to heavy flood occurred during 15th to 20th of July 2018

6.1.2 East Coast Zone

6.1.2.1 Anakapalle

Seedlings generated from the Fluff Supply and National Hybridization Programme 2017-18

Crosses	No. of crosses sown	Fluff weight (g)	No. of seedlings	No. of seedlings obtained / g of fluff
Station Crosses	29	489.0	3100	6.34
Polycrosses	3	18.5	100	5.4
General collections	21	233.0	1333	5.72
Grand Total	53	740.5	4533	6.12

6.1.2.2 Cuddalore

Seedlings generated from the Fluff Supply and National Hybridization Programme 2017-18

Crosses	No. of crosses sown	Fluff weight (g)	No. of seedlings	No. of seedlings obtained / g of fluff
Station Crosses	23	-	3.021	-
General collections	15	-	214	-
Grand Total	38	-	3235	-

6.1.2.4 Vuyyuru

Seedlings generated from the Fluff Supply and National Hybridization Programme 2017-18

Crosses	No. of crosses sown	Fluff weight (g)	No. of seedlings	No. of seedlings obtained / g of fluff
Station Crosses	12	181.0	1903	10.51
Polycrosses	3	15.0	20	1.3
General collections	9	94.5	281	2.97
Grand Total	24	290.5	2204	7.59

6.1.3 North West Zone

6.1.3.1 Faridkot

Total 696 g fluffs of crosses attempted at NHG during November 2017 were obtained from 24 Bi- parental crosses, 15 GCs and 5 PCs. The fluff was stored at -20°C and seedlings will be raised in July and October, 2018.

6.1.3.2 Kapurthala

Fluff of 62 cross combinations (BIPs, PCs, GCs and Selves) effected during 2017 flowering season was received from ICAR-SBI, Coimbatore in March and was sown in April, 2018. Nine cross combinations did not germinate while in 18 cross combinations, the number of seedlings ranged from 2-20. Remaining 35 crosses exhibited good germination and a total of about 6250 seedlings have been raised for 2018-19 crop season.

6.1.3.3 Lucknow

Seedlings generated from the Fluff Supply and National Hybridization Programme 2017-18

Crosses	No. of crosses sown	Fluff weight (g)	No. of seedlings	No. of seedlings obtained / g of fluff
Station Crosses	40	-	5475	-
Selves	3	-	348	-
Polycrosses	6	-	2784	-
General collections	38	-	15822	-
Grand Total	85		24429	

6.1.3.4 Uchani

Out of 52 crosses, the fluff of 21 crosses germinated which were planted in July 2016 and harvested in January 2017. Selection was practiced in ratoon seedlings (9708/12706) in October 2017 and 503 seedlings were selected for evaluation in settling stage -1 during 2018-19

6.1.3.5 Pantnagar

The fluff received during February, 2018 was sown on June 25, 2018.

Seedlings generated from the Fluff Supply and National Hybridization Programme 2016-17

Crosses	No. of crosses sown	Fluff weight (g)	No. of seedlings	No. of seedlings obtained / g of fluff
Station Crosses	16	339.5	1392	4.16
Polycrosses	5	43.5	95	1.49
Grand Total	21	483.0	1487	3.08

6.1.3.6 Shahjahanpur

Seedlings generated from the Fluff Supply and National Hybridization Programme 2017-18

Crosses	No. of crosses sown	Fluff weight (g)	No. of seedlings	No. of seedlings obtained / g of fluff
Station Crosses	36	755.5	1856	2.46
Polycrosses	5	30.0	16	0.53
General collections	40	719.0	2155	3.00
Agali crosses	4	47.5	5	0.11
Grand Total	85	1552.0	4032	2.60

6.1.4 North Central and North east Zone

6.1.4.1 Bethuadahari

Seedlings generated from the Fluff Supply and National Hybridization Programme 2017-18

Crosses	No. of crosses sown	Fluff weight (g)	No. of seedlings	No. of seedlings obtained / g of fluff
Station Crosses	5	110.5	314	2.84
Polycrosses	1	22.0	27	1.22
General collections	12	295.0	1462	4.95
Grand Total	18	427.5	1803	4.22

6.1.4.2 Buralikson

Seedlings generated from the Fluff Supply and National Hybridization Programme 2017-18

Crosses	No. of crosses sown	Fluff weight (g)	No. of seedlings	No. of seedlings obtained / g of fluff
General collections	16	394	535	1..36
Selfs	2	43	2	0.05
Grand Total	18	437	537	1.23

6.1.4.3 Motipur

Seedlings generated from the Fluff Supply and National Hybridization Programme 2017-18

Crosses	No. of crosses sown	Fluff weight (g)	No. of seedlings	No. of seedlings obtained / g of fluff
Station Crosses	24	-	851	-
General collections	8	-	975	-
Polycrosses	8	-	0	-
Grand Total	40	-	1826	-

6.1.4.4 Pusa

Seedlings generated from the Fluff Supply and National Hybridization Programme 2017-18

Crosses	No. of crosses sown	Fluff weight (g)	No. of seedlings	No. of seedlings obtained / g of fluff
Station Crosses	34	802.0	12806	15.97
Polycrosses	5	32.0	90	2.81
General collections	34	639.5	5619	8.79
Agali station crosses	6	104.0	22	0.21
Agali General collections	3	33.0	50	1.51
Grand Total	84	1610.5	18587	11.54

6.1.4.5. Seorahi

Seedlings generated from the Fluff Supply and National Hybridization Programme 2017-18

Crosses	No. of crosses sown	Fluff weight (g)	No. of seedlings	No. of seedlings obtained / g of fluff
Station Crosses	28	659.0	2021	3.07
Polycrosses	5	32.0	17	0.53
General collections	8	252.0	1355	5.04
Agali station crosses	3	89.0	2	0.02
	44	1032	3395	3.29

6.2 Summary of the work done under National Hybridization and fluff supply programme - 2017-18

Centre / Zone	Crosses effected at NHG		Crosses effected at NDHF		Total quantity of fluff (g)	Rate of germination of crosses	Rate of germination of GCs	Expected no. of seedlings	No. of seedlings reported
	BC+PC+GC	Fluff weight (g)	BC+GC	Fluff weight (g)					
Peninzular zone									
Mandya	12+3+0	174.0	3+0	47.0	221	67.23	-	10622	NR
Navasari	18+3+10	430.5	3+0	51.0	481.5	9.8	2.48	3244	1339
Padegaon	25+3+7	592.5	5+4	148.0	740.5	41.24	2.53	21132	7760
Perumalapalle	16+3+12	555.5	-	-	555.5	10.51	41.90	12210	4045
Pune	23+3+4	504.0	5+0	137.0	641	21.57	0.0	9318	2141
Rudrur	18+3+14	745.0	-	-	745	29.46	9.72	15522	2188
Sankeshwar	16+3+5	302.5	2+7	106.5	409	18.56	2.39	4268	NR
Thiruvalla	17+3+10	590.5	2+1	41.0	631	44.96	11.80	20726	*
Total					4424.5			97042	17473
East Coast Zone									
Anakapalle	29+3+21	740.5	-	-	740.5	24.72	14.47	15727	4533
Cuddalore	29+0+16	841.5	3+6	119.5	961	29.71	20.47	24218	3235
Nayagarh	7+3+10	281.5	-	-	281.5	41.91	10.77	6675	NR
Vuyyuru	12+3+9	290.5	-	-	290.5	37.47	17.29	8675	2204
Total					2273.5			55295	

North West Zone									
Faridkot	24+5+15	696.0	-	-	696	28.25	5.98	12402	Stored
Kapurthala	27+5+25	1139.5	5+0	77.0	1216.5	15.64	8.51	14784	6250
Uchani	20+5+18	707.0	2+3	61.0	768	27.46	7.01	11212	NR
Lucknow	22+5+57	1366.5	2+0	30.0	1396.5	20.07	33.29	41367	24429
Shajahanpur	36+5+40	1504.5	4+0	47.5	1552	26.52	38.55	50741	4032
Pantnagar	8+5+14	438.0	3+0	45.0	483	22.01	38.16	14830	1487
Total					6112			145336	36198
North East and North Central Zone									
Motipur	20+5+10	480.5	7+0	113.0	868.5	39.75	19.48	26658	1826
Seorahi	28+5+8	659.0	3+0	89.0	1032	28.81	104.47	57953	3395
Pusa	34+5+34	802.0	6+3	137.0	1610.5	38.67	15.72	43723	18587
Burlikson	6+5+16	127.0	-	-	521	-	-	-	537
Bethudahari	6+5+12	132.5	-	-	427.5	-	-	-	1803
Total					4459.5	-	-	128334	26148
Grand total	453+8+18 7	8866.0	55+24	1249.5	17269.5	-	-	426007	89791

*Seedlings were lost due to flood during July 2018: NR- Not reported

6.3 Evaluation of station crosses and Identification of proven crosses

6.3.1 Peninsular Zone

6.3.1.1 Mandya

Performance of crosses in ground nursery: Nine hundred fifty six seedlings from the 15 crosses viz., Co 8371 x Co 62198 (200), Co 8371 x Co 775 (170), ISH 100 x CoA 7602 (50), Co 2000-10 x ISH 69 (12), Co 06022 x CoH 70 (70), CoA 14324 x Co 89003 (10), Co 88025 x Co 94008 (60), ISH 100 x CoA 7602 (30), MS 68/47 x Co 89003 (26), UP 05125 x85 R 186 (90), Co 94012 x Co 7602 (8), Co 6304 x Co 94008 (50), Co 98010 x Co 97015 (100), Co 06022 x Co 775 (60), Co 2000-10 x Co 94008 (20), 50 seedlings from a cross effected at the ICAR-SBI RC, Agali (CoC 671 x CoA 7602), thirty seedlings of three general collections viz., Co 99008 GC (28), ISH 100 GC (6) and Co 775 GC (2) and 245 seedlings of seven poly-crosses viz., CoV 89101PC (120), CoA 7602PC (30), Co 2000-10PC (7), ISH 100PC (28), CoV 94101PC (20), Co 85002PC (2) and Co 8371PC (38) are in evaluation in ground nursery planting of which was delayed due to severe drought during the year 2017.

Performance of crosses in first clonal trial

Cross combination	No of clones planted	HR brix at 8 th month (HRB-8)		HR brix at 10 th month (HRB-10)		HR brix at 12 th month (HRB-12)		Number of millable canes (NMC)		Cane diameter in cm (DIA)		No. of clones selected
		Mean	Range	Mean	Range	Mean	Range	Mean	Range	Mean	Range	
CoC 671 x Co 94008	5			18.1	16.0-20.9							
ISH 100 x CoH 70	8			15.5	13.0-17.3							
CoA 11324 x Co 1158	3			16.4	14.0-17.0							

Co 8371 x Co 775	33			15.8	13.0-18.0						
CP 52-68PC	5			17.8	16.0-18.0						
Co 7201 PC	3			16.4	15.0-16.0						
CoV 89101 PC	19			17.1	14.0-20.0						
Total	76										

Performance of crosses in second clonal trials : 79 clones of 14 crosses including five bi-parental crosses viz., Co 86002 x Co 1148 (2), Co 86011 x CoT 8201 (31), Co 8371 x Co 94008 (1), Co 8013 x ISH 229 (1), Co 86032 x Co 86011 (31) and nine poly-crosses viz., ISH 100PC (2), Co 85002PC (1), CoA 7602PC (2), CoV 94101PC (1), CP 52-68PC (1), Co 2000-10PC (2), Co 7201 PC (2), Co 8371PC (1) and CoV 89101 (1) were evaluated in second clonal trial. Among the clones tested, two selections of the cross Co 86032 x Co 86011 recorded more than 22 % sucrose at 360 days and 28 clones were with cane thickness of more 2.5cm. Twenty six clones of the cross Co 86011 x CoT 8201 were with more than 2.5cm cane thickness. Three poly-crosses viz., ISH 100PC (1), Co 200-10PC (2) and Co 7201PC (1) gave selection with cane thickness of more than 2.5cm.

6.3.1.2 Navsari

Performance of crosses in ground nursery (2017)

Cross combination	Quantity of fluff sown	No of seedlings produced	Total number of seedlings evaluated	HR brix (%)		NMC		DIA		No. of seedlings selected
				Mean	Range	Mean	Range	Mean	Range	
CoVc 89101PC	10	1890	1840	20.4	16-23	97	80-127	2.10	1.80-2.46	122
Co 8371 PC	9	858	825	20.0	15-23	103	82-132	2.20	1.92-2.70	54
Co 92013 x CoS 510	24	122	120	20.6	16-24	93	78-140	2.28	1.95-2.73	39

Performance of crosses in first clonal trial (2016)

Cross combination	No of clones planted	HRB-8		HRB-10		HRB-12		NMC		DIA		No. of clones selected
		Mean	Range	Mean	Range	Mean	Range	Mean	Range	Mean	Range	
Co 98008PC	176	14.0	12-18.0	17.5	15-24	22.6	18-26	105.2	81-120	2.45	2.21-2.73	18
97 R 401 GC	150	13.2	11-17.5	17.3	15-23	22.4	17-25	112.0	91-127	2.51	2.25-2.70	29
ISH 306 GC	150	13.4	11-18.0	17.0	15-24	21.8	17-26	98.0	85-115	2.20	2.10-2.21	13

Performance of crosses in second clonal trial-II (2015)

Cross combination	No. of clones planted	No. of clones with > 20% sucrose at 240 days	No. of clones with > 22% sucrose at 300 days	No. of clones with > 22% sucrose at 360 days	No. of clones with > 70NM C /20' row	No. of clones with > 2.5 cm cane thickness	No. of red resistant clones	Superiority of the cross (Sucrose (a)/NMC (b)/ cane dia (c)/ red rot resistance (d))	No. of clones selected
Co 99006 x Co 94008	465	1	3	4	12	5	4	b	15
Co 86002 x Co 86011	213	2	4	5	14	4	3	a & b	9
CoC 90063 x CoN 91132	208	2	6	4	9	3	3	d	2

6.3.1.3 Padegaon

Performance of crosses in ground nursery (2015-16): Thirty five crosses including 19 bi-parental crosses, seven poly-crosses and nine general collections were evaluated in ground nursery. All the crosses gave rise to at least one selections each. Nineteen crosses gave more than five selections per crosses performance of which are presented below. Sixteen crosses with less than or equal to 5 selections were CoC 671 x Co 94008 (1), Co 86032 x Co 94005 (1), Co Lk 8102 x Co 62198 (1), Co 8353 x Co 62198 (3), BO 91 x Co 62198 (4), LG 95053 x Co 1158 (5), CoH 104 x BO 17 (3), CoC 671 x CoH 70 (1), BO 99 x CoM 9217 (1), Co 94012PC (1), CoV 94101 PC (1), Co 85002 PC (2), CoM 9220 GC (3), Co Or 05346 GC (2) C 87271 GC (3) and Co 8341 GC (1)

Cross combination	Quantity of fluff sown (g)	Total no. of seedlings produced	No. of seedlings evaluated	HR brix (%)		NMC		DIA		No. of selections
				Mean	Range	Mean	Range	Mean	Range	
ISH 41 x Co 94008	9.5	180	180	20.4	18.6-24.1	7.0	3-9	2.8	2.2-3.5	9
Co 0312 X Co 0209	9.5	180	180	18.7	13.6-21.2	6.0	3.1-12.0	2.6	2.1-3.4	6
BO 91 x CoPant 97222	14.5	415	415	20.6	18.2-24.8	7.6	4.4-13.0	2.6	2.2-3.2	82
ISH 100 x Co 1158	11.5	60	60	21.5	18.4-25.3	8.0	4.1-16.0	2.5	2.1-2.9	7
Co 92013 x CoH 104	16.5	120	120	19.8	17.2-23.1	7.4	4.2-13.0	2.6	2.0-2.8	6
CoM 6806 x Co 775	6.5	360	360	21.6	18.6-23.9	7.4	3.4-12.0	2.8	2.4-3.2	15
CoM 9217 x Co 1148	20.0	600	600	21.7	18.6-24.4	9.2	4.3-22.0	2.7	2.1-3.3	36
CoM 6806 x CoH 104	23.0	730	730	22.6	19.2-25.8	6.8	3.1-14.0	2.7	2.0-3.2	31
CoM 9217 x BO 17	16.0	640	640	22.3	19.5-25.0	7.3	2.8-17.0	2.6	2.1-3.1	47
CoM 9220 x CoH 70	15.0	180	180	22.2	17.5-24.3	6.2	3.1-10.0	2.7	2.2-3.0	10
CoV 89101PC	16.0	840	840	22.9	20.5-24.0	7.2	5.4-19.0	2.6	2.1-2.9	22
Co 7201PC	10.5	240	240	20.7	17.1-24.6	5.1	3.2-9.0	2.6	2.2-3.0	11
CoA 7602PC	10.5	60	60	20.6	17.8-23.5	5.3	4.1-8.0	2.7	2.0-2.9	7
Co 8371PC	5.5	480	480	22.4	19.4-23.2	8.6	6.5-18.0	2.7	2.3-3.1	9
Co 87001 GC	5.5	600	600	21.7	18.2-26.1	6.3	4.2-13.0	2.6	2.1-2.9	40
Co 8013 GC	13.5	200	200	22.1	18.6-26.3	7.8	4.1-14.0	2.7	2.0-3.0	15
CoT 8201 GC	16.0	350	350	21.5	18.2-24.0	6.2	3.1-12.0	2.8	2.2-3.2	11
ISH 301GC	6.6	180	180	20.3	17.6-23.4	6.2	4.1-12.0	2.7	2.1-2.9	10
CoSi6 GC	10.5	240	240	20.4	17.6-22.3	5.9	3.1-10.0	2.6	2.2-2.9	14

Performance of crosses in first clonal trial

Cross	No. of clones planted	HRB -10		HRB-12		DIA		NMC		No. of clones selected
		Mean	Range	Mean	Range	Mean	Range	Mean	Range	
CoV 89101PC	10	17.29	16.3-18.6	22.8	20.6-23.7	3.2	3.0-3.3	7	4-10	2
Co 86032 x Co 86250	4	18.05	17.7-19.2	21.1	20.3-21.8	3.6	3.4-3.8	8	6-10	1
C 79180 x Co 1307	12	18.45	16.5-20.0	22.1	20.2-22.4	3.0	2.8-3.2	5	4-7	3
CoSnk 05103 x Co 775	70	19.10	17.4-19.8	22.2	21.6-22.8	2.8	2.4-3.2	6	5-8	2
ISH 100 x Co 89029	40	18.75	17.7-20.6	21.7	20.5-23.4	2.9	2.6-3.2	7	5-9	1
Co 0240 x Co 62198	21	17.85	16.7-18.5	21.2	19.0-22.4	3.2	2.9-4.0	6	4-10	2
Co 0240 x Co 99006	5	18.35	16.5-19.1	21.7	20.6-22.5	2.6	2.3-2.8	5	3-9	1
ISH 100 PC	4	17.45	16.3-18.7	20.1	19.6-21.1	2.9	2.8-3.2	7	5-11	1
Co 94012 x Co 94008	4	19.75	18.4-20.3	22.6	21.4-23.9	2.7	2.6-2.8	9	7-13	1
Co 8371 x CoC 671	6	19.85	18.8-20.3	21.7	20.6-22.1	2.8	2.7-3.2	6	5-8	1
CoM 0265 x CoC 671	3	20.15	19.8-21.4	22.7	21.7-24.3	2.9	2.7-3.2	8	5-11	1
Co 7201 PC	4	17.45	16.6-18.2	19.8	19.6-20.2	2.8	2.6-3.2	7	5-10	1
CoA 7602PC	10	17.49	16.6-18.2	20.7	19.6-21.0	2.8	2.6-3.2	7	5-11	1
Co 0312 x Co 0209	2	17.75	17.6-18.2	19.9	19.3-20.6	2.7	2.7-3.2	8	6-10	1

Performance of crosses in second clonal trial: Second clonal trial was not planted; seventeen clones selected in first clonal trial were directly planted in station trial.

6.3.1.4 Perumalapalle

Performance of crosses in ground nursery (2015-16): Sixty four crosses including 20 general collections, 10 poly crosses and 34 bi-parental crosses were evaluated in ground nursery. All the crosses gave rise to selections. Crosses with less than or equal to five selections per cross were 97 R 129 GC (4), Co 86002 GC (3), ISH 100 GC (5), Co 94012 PC(1), Co 8371 x Co 99006 (2), CoC 671 x Co 86249 (5), Co 7201 PC (1), ISH 229 GC (2), CoLk 8102 GC (1), Co 99006 GC (5), MS 68/47 x CoT 8201 (1), CoV 94101 PC (1), Co 86002 x Co 1148 (1), Co 98006 x CoS 8376 (3), CoM 6806 x 85 R 186 (2), Co 86032 GC (1), Co 0238 GC (1), Co 98007 x CoC 8011 (1), Co 2000 - 10 PC (1), Co 92013 GC (1), Co 06036 x Co 1158 (1), CoH 110 x B0 91 (1), CoA 7602 GC (4), Co 92002 GC (1), Co 86032 x Co 94005 (1), Co 06012 GC (3), CoH 106 x Co 89003 (1), CoC 671 x CoT 8201 (3), Co 11324 x ISH 69 (1), Co 85002 x CoH 106 (2), CoH 114 GC (2), ISH 41 x Co 94008 (3), CoM 6806 x CoH 104 (3), Co 8213 x CoH 12 (4), CoH 106 GC (3), Co 97009 x CoH 106 (4), ISH 100 x Co 1158 (1), ISH 20 x CoH 70 (1), Co 8213 x ISH 69 (2), ISH 100 x Co 775 (4), CoS 07231 GC (2), Co 85002 PC (3), Co 0312 x Co 0209 (2), Co 0635 x Co 1148 (4), CoA 7602 PC (3), CoH 12 x Co 1148 (2), Co 871 PC (5) and CoH 111 GC (4). The following 15 crosses gave rise to more than five selections per cross.

Cross combination	Quantity of fluff sown	No. of seedlings produced	No. of seedlings evaluated	HR brix (%)			NMC			DIA			No. of seedlings selected
				Mean	Range (min. and max.)		Mean	Range (min. & max.)		Mean	Range (min. & max.)		
CoH 110 GC	20	280	270	15.8	11.5	19.2	5	3	9	3.3	3.1	3.6	6
Co 8371 PC	15	200	189	15.1	9.4	20.8	5	2	18	2.9	2.4	3.4	20
Co 85002 PC	5	80	62	13.2	8.6	17.3	4	2	6	2.9	2.5	3.5	6
97 R 401 GC	15	45	40	17.7	15.2	19.9	5	4	7	3.1	2.5	3.7	9
Co 8213 x Co 86011	16	37	31	17.1	14.1	20.2	6	2	16	3	2.7	3.7	8
ISH 100 x ISH 229	22	65	57	16.7	12.5	19.5	6	4	10	3	2.5	3.5	6
Co 8371 x Co 94008	11	45	38	17.8	15.8	20.9	5	3	9	3.5	2.9	4.5	8

CoH 110 x CoT 8201	21	45	36	17.7	14.1	20.9	6	4	10	3	2.7	3.4	7
Co 85002 x CoH 13	15	100	92	17.6	15.4	20.8	7	4	8	2.8	2.5	3.1	6
Co 8371 x Coc 92061	11.5	80	70	16.9	9.3	21.3	6	2	12	2.8	2.4	3.6	7
Co 98006 x CoH 70	20	250	236	16.5	13.4	20.6	6	4	8	2.9	2.4	3.4	8
CoN 0571 x Co 0331	18	240	220	17.4	11.9	20.4	6	4	10	2.9	1.5	3.7	11
CoV 89101 PC	35	300	263	17.4	13.3	21.4	5	3	9	2.8	1.5	3.7	63
Co 387 GC	15	35	30	16.4	4.6	21.2	7	4	12	2.6	2	2.9	10
CoM 6806 GC	44.5	1000	978	15.5	10.4	18.6	7	3	12	2.7	2.2	3	15

Performance of crosses in first clonal trial: Two hundred and twenty clones of different kind of crosses including seven poly crosses, 11 general collections and five bi-parental crosses were evaluated in first clonal trial. No superior clone was selected from the nine crosses viz., Co 2000-10 x Co 94008, Co 7201 PC, CoC 90063 x CoT 8201, Co 94012 PC, CoJn 80141 GC, CoV 94101 x Co 97015, ISH 100 PC, ISH 100 x ISH 229 and ISH 229 GC. Totally 54 clones were selected from the 220 clones evaluated in first the trial. Performance of crosses with at least one selection each was given in the following table.

Cross combination	No. of clones planted	HRB -8		HRB -10		HRB-12		NMC		DIA		No. of clones selected
		Mean	Range	Mean	Range	Mean	Range	Mean	Range	Mean	Range	
86 V 96 PC	7	17.2	15.3-18.9	19.2	16.4-21.5	22.0	19.1-24.2	90.9	76-107.5	2.7	2.4-3.1	7
97 R 129 GC	4	13.9	12.4-16.9	15.4	14.3-18.2	17.7	16.1-21.4	69.9	58-98.5	2.3	2-3	1
97 R 401 GC	26	12.2	8.7-18.8	14.0	10.5-20.4	16.1	12.1-22.7	63.0	40-105.6	2.5	1.9-3.1	7
Co 8371 PC	17	11.0	8.8-14.1	12.5	9.8-17.4	14.3	11.4-20.2	57.0	40-95.5	2.3	1.8-3.1	1
Co 85002 GC	11	11.9	8.6-16.9	13.2	9.9-17.5	15.1	11.4-20.6	59.9	42-90.6	2.4	1.9-3	2
Co 85002 PC	19	11.4	8.6-17.6	13.0	9.6-19.1	14.9	11.0-22.0	61.0	43-97.7	2.2	1.9-3.2	1
Co 86002 GC	12	13.1	9.5-17.3	14.9	10.8-18.8	17.1	12.2-21.6	76.7	45-100.4	2.5	1.9-3.1	6
Co 86249 GC	23	13.0	8.7-17.8	14.6	9.7-19.8	16.6	11.2-22.5	69.2	40-103.7	2.3	1.5-3	10
Co 99006 GC	1	14.4	---	15.6	---	18.4	---	87.2	---	2.9	---	1
Co H 110 GC	6	17.5	14.8-19.1	19.7	18.7-20.3	22.6	21.2-23.9	96.5	88.7-104.7	2.8	2.6-2.9	6
Co H 110 X Co T 8201	2	13.1	11.1-15.1	14.1	11.6-16.7	16.2	13-19.4	70.8	47-94.6	3.1	3-3.2	1
Co Jaw 270 GC	12	11.2	8.5-14.1	12.6	9.0-17.7	14.4	10.2-19.9	59.1	45-92.7	2.2	1.9-2.7	1
Co Lk 8102 GC	29	12.6	10.5-19.0	14.1	12.4-21.0	16.1	14.2-24.4	59.7	41-96.7	2.3	1.8-3.2	4
Co V 89101 PC	30	11.8	8.7-16.6	13.3	8.8-19.4	15.2	10.2-22.1	64.0	40-110	2.2	1.8-3	6

Performance of crosses in second clonal trial: Ninety six selections from the 26 crosses were evaluated in second clonal trial. No selection was effected in the 13 crosses viz., 97 R 129 GC, Co 8371 PC, Co 86002 x CoT 8201, Co 94012 PC, Co A 7602 PC, CoH 133 x Co 94008, Co H 70 GC, Co Lk 8102 GC, CoM 0265 x Co 775, Co V 92102 GC, ISH 100 PC, ISH 100 X ISH 229 and MS 68/47 x Co 94008. From the 96 clones 20 clones were selected for further study. Crosses with at least one selection each are presented below.

Cross combination	No. of clones planted	No. of clones with >20% sucrose at 240 days	No. of clones with >22% sucrose at 300 days	No. of clones with >22% sucrose at 360 days	No. of clones with > 70 NMC /20' row	No. of clones with > 2.5 cm cane thickness	No. of red rot resistant clones	Superiority of the cross (sucrose (a)/ NMC (b)/ cane dia (c)/ Red rot resistance (d)	No. of clones selected
Co 62174 GC	3	0	0	0	3	3	--	b & c	1
Co 740 GC	3	0	0	0	2	2	--	b & c	1
Co 8213 X Co T 8201	4	0	0	0	1	3	--	c	1
Co 8371 X Co 86011	4	0	0	0	2	4	--	c	1
Co 8371 x Co A 7602	5	0	0	0	3	5	--	c	2
Co 85002 PC	1	0	0	0	1	1	--	b & c	1
Co 85002 X Co 62174	2	0	0	0	2	2	--	b & c	1
Co 86002 GC	1	0	0	0	1	0	--	b	1
Co 86032 X Co T 8201	2	0	0	0	2	2	--	b & c	1
Co 88028 X Co 94008	2	0	0	0	2	2	--	b & c	2
Co M 6806 X 85 R 186	12	0	0	0	7	7	--	b & c	1
Co T 8201 PC	14	0	0	0	8	12	--	c	2

6.3.1.5 Pune

Performance of crosses in ground nursery: Eighteen thousand and thirty seven seedlings of 15 station crosses (8730), seven zonal crosses (1332), 13 polycrosses (2053) and seven general collections (1153) and ten crosses effected at ICAR-SBIRC, Agali (625), were evaluated in ground nursery. No superior progenies were observed in the crosses effected at Agali (IK 76-99 x Co 775, IK 76-99 x Co 89003, Co 86011 x 57 NG 136, CoC 671 x E. procerous, E. procerous x Co 775, CoM 0265 x E. bengalensis, Co 87263 x Co 97009, Co 8340 x Co 97015, CP 92-1641 x CoC 771 and IK 76-81 x CoC 671), 13 poly-crosses (Co 94012 PC, CP 52-68 PC, CoC 90063 PC, CoV 89101 PC, Co 7201PC, CoA 7602 PC, Co 2000-10 PC, ISH 100 PC, CoV 94101 PC, Co 671 PC, CoM 0265 PC, Co 85002 PC and Co 8371 PC) and seven general collections (97 R 401 GC, Co 06037 GC, Co 11001 GC, Co 85002 GC, CoC 671 GC, Co 1148 GC and Co 62198 GC). Altogether 49 selections were effected of which 38 were from station crosses and 11 from proven crosses. Among the 15 station crosses no selection was effected in five crosses viz., Co 89036 x Co 87268, Co 92013 x Co 06037, Co 0331 x CoH 70, Co 7201 x Co 0331 and Co 85246 x Co 89003. Similarly two zonal crosses viz., CoV 94101 x Co 97015 and CoM 0265 x CoC 671 did not produce any selectable progenies. Performance of 15 crosses giving atleast one selections is presented in the following table.

Name of cross / PC / GC (Effected during November 2015)	Quantity of fluff sown	No of seedlings produced	No of seedlings evaluated	HR Brix		NMC		DIA		No. of seedlings selected
				Mean	Range	Mean	Range	Mean	Range	
Co 11001 x Co 62198	23.5	518	472	21.6	21.4-22.4	13.67	8-17	2.83	2.7-3.0	03
Co 7915 x Co 1148	18.5	884	783	20.1		12		3.4		01
Co 11001 x Co 06037	18.0	711	625	22.4		8		3.2		01
Co 06035x Co 1148	9.0	265	243	21.4	20.6-22.4	13	9-17	2.85	2.8-2.9	02
Co 92013 x Co 1158	38.0	125	100	21.2	20.2-22.0	11	10-12	2.95	2.9-3.0	02
Co 98010 x Co 0331	17.0	1013	991	21.8	21.2-22.6	15.33	10.17	2.92	2.6-3.3	06
Co 8213 x Co 0327	30.5	1416	1372	22.2		16		2.5		01
CoV 89101 x Co 8210	29.0	2117	2044	21.80	21-23.0	13.6	10-17	3.71	2.5-4.2	05
Co 8208 x Co 775	27.5	891	872	22.20	21-24	10.6	9-12	3.02	2.8-3.3	12
CoV 89101 x Co 89003	16.0	830	720	22.4	20-26	15.0	14-20	3.20	2.8-3.6	05
ISH 41 x Co 94008	9.0	458	420	20.4	19.2-21.6	16.5	12-21	2.95	2.9-3.0	02
Co 0312 x Co 0209	9.5	410	358	20.2		13		2.9		01

CoC 671 x CoT 8201	6.0	73	66	22.6		18		3.2		01
CoC 671 x Co 94008	8.0	180	152	22.52	22.2-23.0	11.22	12-15	3.06	2.9-3.3	05
Co 86032 x Co 94005	5.0	411	336	22.4	22.2-22.6	11.5	9-14	3.15	3.0-3.3	02

Performance of crosses in first clonal trial

Cross combination	No. of clones planted	HRB-12		NMC		DIA		No. of clones selected
		Mean	Range	Mean	Range	Mean	Range	
Co 86002 x Co 99006	13	20.91	18-23.42	79.03	53.57-108.14	3.09	2.90-3.40	02
Co 8371 x Co 86011	04	22.35	19.20-24.60	73.97	59.71-81.14	3.05	2.82-3.20	02
Co 6304 x Co 97009	03	21.55	20.65-22.86	76.66	60.33-86.33	3.07	2.95-3.20	02
Co 99006 x Co 94008	04	19.59	18.65-20.10	74.24	63.21-84.36	2.09	2.82-2.95	00
ISH 100 x Co 99006	02	22.24	21.85-22.64	79.11	78.67-79.55	3.18	3.16-3.20	02
Co 85002 PC	10	19.95	17.40-23.40	83.59	56.66-103.33	2.60	2.52-3.12	02
CoV 89101 PC	05	19.04	16.00-21.00	74.98	64.35-90.00	2.72	2.08-2.93	00
Co 06036 GC	03	19.60	18.60-20.61	89.07	81.04-102.83	3.03	2.96-3.10	01
Total	44							11

Performance of crosses in second clonal trial (2014 Batch)

Cross combination	No of clones planted	No. of clones with >22% sucrose at 360 days	No. of clones with > 70 NMC/20' row	No. of clones with >2.5 cm cane thickness	No. of red rot resistant clones	Superiority of the cross (Sucrose (a)/NMC (b)/cane dia (c)/ red rot resistance (d))	No. of clones selected
Co 85002 x Co 94008	01	00	01	01	**	b & c	01
Co 98006 x Co 86011	02	00	02	02	**	b & c	01
Co 0235 x ISH 147	01	00	01	01	**	b & c	00
Co 2000-10 x Co 775	04	00	04	04	**	b & c	02
Co 8371 x 85 R 186	02	00	01	02	**	b & c	00
Co 88028 x Co T 8201	02	00	02	02	**	b & c	01
Co 87044 x Co 7717	01	00	01	01	**	b & c	00
Co 85002 x Co 62174	01	00	01	01	**	b & c	01

(** not yet tested)

6.3.1.6 Rudrur

Performance of crosses in ground nursery: Among the 36 crosses sown, no germination was observed in 11 crosses viz., CoA 92081x Co 1148, 85 R 186 x Co 0331, Co 94008 x CoA 90081, 87 R 40 x IS H 69, Co 2000-10 PC, Co 85002 PC, Co 8371 PC, Co 86249 GC, 97 R 401 GC, Co 0233 GC and CoJ 83 GC. Another 11 crosses viz., CoA 7602 x 97 R 401 (2), MS 68/47x Co 775 (4), Co 98010 x IS H 69 (3), Co 85002 x 85 R 186 (4), Co A 7602 x 85 R 186 (4), Co 0118 x Co 88013 (4), ISH 1 x Co 94008 (4), Co A 7602 PC (1), ISH 100 PC (4), CoV 94101 PC (1) and Co 06037 GC (4) gave less than five selections per cross. Performance of crosses giving more number of selections is presented in the following table.

Cross combination	Quantity of fluff sown (g)	No of seedlings produced	Total number of seedlings evaluated	HR brix (%)	DIA	No. of seedlings selected
Co 88025 x Co 12014	11.0	55	50	19.6-23.5	2.2-2.9	12
Co 98008 x Co 0209	25.0	116	110	18.25-24.3	1.6-2.8	35
Co 88025 x Co Pant 97222	13.5	46	42	19.8-20.5	1.3-2.7	18
CoA 92081 x Co 0233	13.5	45	40	19.2-22.35	1.8-3.1	16
CoS 8436 x 85 R 186	20.0	345	330	20.4-22.6	1.9-2.8	86
CoM 6806 x Co Pant 97222	27.0	550	520	22.3-23.1	1.7-3.5	124
CoA 7602 x Co T 8201	23.5	14	10	19.1-22.5	1.7-2.9	6
CoS 8436 x Co 775	34.0	525	500	19.8-20.5	1.3-2.7	146
CoC 671 x Co Pant 97222	14.0	27	20	18.2-22.5	1.9-2.9	8
ISH 1 x Co 775	17.5	28	20	19.2-22.35	1.8-3.1	6
CoV 89101 PC	9.5	26	20	18.3-22.4	2.2-2.7	8
CoH 70 GC	17.0	87	81	19.6-23.5	2.5-2.8	18
Co 98008 GC	7.0	14	10	20.2-24.5	3.0-3.2	6
CoM 9220 GC	18.0	155	150	18.2-24.8	2.6-2.9	76

Performance of crosses in first clonal trial: Eight thousand four hundred and twenty one clones of different kind of crosses including 10 poly crosses, four zonal crosses, two general collections and 31 station crosses were evaluated in first clonal trial. At least one selection per cross were effected in all the crosses. Twenty four crosses viz., CoV 94101 PC (2), Co M 0265 PC (1), Co C 90063 PC (2), Co 7201 PC (2), Co 94012 PC(1), Co 85002 PC(1), Co 2000-10 PC(1), Co V 89101 PC(4), Co C 671 x Co T 8201 (3), CoM 0265 x CoC 671 (2), CoC 671 x Co 94008 (1), ISH 41 x Co 94008 (1), 97 R 401 GC (1), Co 98007 x Co 1148 (2), Co 8213 x Co 1158 (2), 97 R 401 x Co 775(2), Co 0238 x Co 62198 (1), Co 8371 x Co 0209 (3), CoA 11324 x Co H 12 (1), Co 86011 x Co 1148 (1), CoC 671 x Co 1148 (2), Co 0240 x Co 775 (2), Co 1158 x CoH 70 (4) and Co 8371 x Co 1148 (4) gave less than five selections per cross. . Performance of crosses with number of selections was given in the following table. Totally 482 clones were selected from the 8421 clones evaluated in the trial.

Cross / GC/ PC	Clones planted	HRB-12	Cane length (cm)	DIA	Clones selected
Co A 7602 PC	75	16.2-20.8	110-132	1.8-3.2	6
Co 8371 PC	180	16.0-21.0	145-196	1.8-2.0	16
97 R 129 GC	200	14.0-24.0	203-210	1.8-2.3	20
Co H 110 x Co 97015	600	19.4-24.4	220-225	2.3-2.5	81
Co 8213 x Co Pant 97222	400	18.6-24.2	210-244	2.2-2.5	51
Co H-110 x Co 94218	120	20.0-22.2	184-220	1.8-2.1	10
Co 06036 x Co 87268	125	19.0-22.2	192-214	1.9-2.2	9
Co 97015 x Co 94008	300	19.4-24.0	210-224	2.4-2.8	23
Co C 671 x Co 94008	70	21.2-24.4	240-265	2.1-2.6	6
CoSnk 03-044 x Bo 91	220	19.4-23.2	180-232	1.9-2.3	12
Co 85019 x Co 775	45	19.2-24.0	145-210	1.6-2.3	30
Co 06035 x Co Pant 97222	350	20.2-23.2	156-210	1.8-2.2	31
Co 85146 x Co 1148	50	22.4-24.0	188-204	1.9-2.2	6
Co 98008 x Co 775	280	18.4-22.8	210-234	2.4-2.7	20
Co 98006 x 97 R 401	300	20.0-24.0	228-254	2.2-2.4	8
Co 89003 x Co 1148	155	20.0-23.4	210-243	1.9-2.3	7
Co 98008 x Co 1148	190	19.0-21.2	189-231	2.2-2.4	11
Co 97015 x Co 1148	480	19.0-23.3	192-218	2.0-2.2	17

Co 98010 × Co 1148	380	20.0-22.0	198-218	1.8-2.3	12
Co 8371 × Co 97015	100	20.6-22.2	214-246	2.5-2.8	11
Co 97015 × Co 775	450	21.6-22.4	245-254	2.4-2.7	26
Co 88013 × Co 97015	400	22.4-24.4	256-264	2.4-2.6	14
Co H 110 × Co 97015	600	20.8-24.4	184-206	2.4-2.5	9

Performance of crosses in second clonal trial

CLONE NO	Cross combination	Brix (%)	Cane length (cm)	Cane girth (cm)	Single cane weight (kg)	NMC ('000/ ha)	No. Of selection
2016 R 1	Co 8336 X Co T 8201	22.27	230	3.1	1.8	74.17	1
2016 R 5	Co 8336 X Co T 8201	19.63	210	2.8	1.6	74.44	1
2016 R 10	Co v 0213 X Co A 7662	20.60	185	2.8	1.2	84.72	1
2016 R 22	88 R 13 X Co 94008	20.67	210	3.0	1.6	71.94	1
2016 R 24	88 R 13 X Co 94008	21.00	246	3.2	1.8	102.50	1
2016 R 31	83 R 23 X Co 775	19.47	233	3.2	1.8	70.28	1
2016 R 35	83 R 23 X Co 775	19.87	284	2.8	2.4	51.39	1
2016 R 36	83 R 23 X Co 775	20.00	294	3.2	1.8	43.89	1
2016 R 37	83 R 23 X Co 775	20.20	284	3.0	1.8	80.00	1
2016 R 46	ISH 100 X Co 1148	20.27	288	3.2	1.6	87.22	1
2016 R 60	Co C 671 X Co 775	20.93	284	3.6	1.2	79.17	1
2016 R 61	Co C 671 X Co 775	22.13	275	2.8	1.9	99.72	1
2016 R 62	Co C 671 X Co 775	21.27	270	3.2	2.8	72.22	1
2016 R 69	Co C 671 X Co 775	20.00	215	3.2	2.2	73.89	1
2016 R 70	Co C 671 X Co 775	22.47	260	3.0	1.8	96.11	1
2016 R 71	Co 740 X 88 R 278	19.20	284	2.8	1.8	113.06	1
2016 R 74	Co 740 X 88 R 278	22.53	275	2.5	1.8	105.83	1
2016 R 80	Co 740 X 88 R 278	21.20	250	3.3	1.6	92.78	1
2016 R 91	Co 98013 X ISH 229	21.93	290	2.9	1.9	101.94	1
2016 R 95	Co 98013 X ISH 229	20.70	245	3.5	1.9	76.39	1
2016 R 97	Co 98013 X ISH 229	22.27	278	3.3	1.4	83.89	1
2016 R 107	Co 98014 X ISH 12	22.60	243	3.0	1.9	74.72	1

6.3.1.7 Sankeshwar

Performance of crosses in ground nursery (2015-16): Fluff weighing 483.5g of 35 crosses including 13 station crosses, 6 zonal crosses, nine poly-crosses, five general collections and two crosses effected at ICAR-SBI RC, Agali was sown. From these fluff 7055 seedlings were obtained of which 3602 seedlings were established as ground nursery and were evaluated for cane characters. From these, the selections were effected in all the 35 crosses resulting in selections of 642 clones from the ground nursery. Less than five selections were effected in 14 crosses viz., Co 06036 x Co 1148 (1), ISH 100 x Co 92013 (2), CoC 671 x CoT 8201 (3), CoM 0265 x CoC 671 (2), Co 94012 PC (1), CP 52-68 PC (5), CoC 90063 PC (1), Co 7201 PC (5), CoA 7602 PC (3), Co 2000-10 PC (1), Co 8371 PC (5), Co 7201 x Co 97015 (3), 85 R 186 GC (2) and CoA 7602 GC (1). Performance of other crosses which gave more number of selections is presented in the following table.

Cross combinations	Quantity of fluff sown	No of seedlings produced	Total number of seedlings evaluated	HR Brix (%)		NMC		DIA		No. of Seedlings selected
				Mean	Range	Mean	Range	Mean	Range	
ISH 100 x CoH 13	12.0	220	156	-	-	12	1-20	2.1	1.5-2.25	33
ISH 101 x Co 1158	21.5	310	189	--	--	8.2	1-12	2.2	1.3-2.35	46
CoP 06436 x ISH 307	7.5	480	187	-	-	10.8	1-23	2.3	1.5-2.90	23
BO 91 x Co 62198	11.5	750	349	--	-	16.2	1-27	1.82	1.4-2.33	30
Co 8213 x Co 06035	33.0	270	137	-	-	10.7	1-16	2.72	1.4-2.93	28
NB 94-545 x Co 92013	17.0	300	196	--	-	8.1	1-10	2.4	1.67-2.7	78
Co 85002 x Co 1148	18.5	500	346	-	-	11.8	1-17	2.8	1.43-30	30
CoSnk 03044 x Co 1148	3.0	130	100	-	-	14.2	1-18	3.2	1.63-3.7	11
C81615 x Co 775	22.5	1200	350	--	-	8.3	1-13	2.92	1.63-3.20	55
Co 0209 x Co 1148	4.5	250	105	-	-	13.8	1-18	2.8	1.8-3.17	25
Co 92013x CoPant 97222	22.0	110	108	-	-	12.2	1-14	2.6	1.93-2.33	35
Zonal crosses										
ISH 41x Co 94008	9.0	142	142	--	-	9.7	1-13	2.82	1.8-3.1	50
Co 0312 x Co 0209	9.0	120	71	-	-	8.0	1-10	2.95	1.8-3.3	21
CoC 671 x Co 94008	8.0	40	12	-	-	11.2	1-16	2.75	1.90-3.27	08
Co 86032 x Co 94005	4.5	137	137	-	-	7.9	1-11	2.90	1.90-3.03	40
CoV 89101 PC	16.5	900	219	-	-	21.0	1-38	1.98	1.87-2.80	23
Co 85002 PC	6.0	110	76	-	-	11.2	1-19	2.98	1.53-3.30	06
Agali crosses										
Co 7201 x Co 97009	15.5	80	63	-	-	13.9	1-20	2.3	1.70-2.60	25
Co 89003 GC	10.0	300	238	-	-	19.1	1-21	2.15	1.63-2.50	09
Co 87012 GC	20.5	55	14	-	-	10.2	1-14	2.21	1.70-2.70	06
Co 97015 GC	25.0	124	124	-	-	14.1	1-17	2.28	1.70-2.80	25

Performance of crosses in first clonal trial (2014-15)

Cross combination	No of clones planted	HRB-8		HRB-10		HRB-12		NMC		DIA		No. of clones selected
		Mean	Range	Mean	Range	Mean	Range	Mean	Range	Mean	Range	
CoSnk 03632 x Co 97015	24		-	-	-	-	-	12	4-15	3.2	2-34	0
Co8371 x Co 86032	2008		-	-	-	-	-	14	6-17	3.4	2.1-3.6	14
Co 2000-10 x Co 775	308		-	-	-	-	-	11	2-13	3.1	2.4-3.3	28
Co 8371x Co 99006	1407		-	-	-	-	-	13	3-15	3.2	2.5-3.6	13
CoSnk 05103 GC	264	7	-	-	-	-	-	10	7-13	2.9	2.5-3.2	0
	4011											62

Performance of crosses in second clonal trial (2013-14)

Cross combination	No. of clones planted	No. of clones with > 20% sucrose at 240 days	No. of clones with > 22 % sucrose at 300 days	No of clones with > 22% sucrose at 360 days	No. of clones with > 70NMC /20'row	No. of clones with > 2.5 cm cane thickness	No. of red rot resistant clones	Superiority of the cross (Sucrose (a) /NMC (b)/ cane dia (c) / red rot resistance (d)	No. of clones selected
BO 91 X Co 62198	1	-	-	1	-	1	-	-	1
ISH 100 X Co 97015	2	-	-	-	-	2	-	-	2
NB 94-545 X 85 R 186	26	-	-	2	-	26	-	c	24
*Co 7204 X CoPant 97222	56	-	-	23	-	54	-	a	6
CoSnk 03707 X ISH 2	1	-	-	1	-	1	-	-	-
CoSnk 03061 X CoA 7602	6	-	-	1	-	4	-	-	2
Co 86002 X Co 1148	15	-	-	2	-	15	-	c	1
Co 85002 X Co 62174	18	-	-	3	-	13	-	c	3
Co 8213 X Co 86011	1	-	-	1	-	1	-	-	-
Co 8213 X CoT 8201	5	-	-	1	-	5	-	-	2
CoV 94101 X Co 97015	1	-	-	-	-	1	-	-	1
Co 8371 X CoT 8201	22	-	-	-	-	11	-	c	17
Co 8371 X Co 86011	21	-	-	6	-	12	-	c	7
CoM 0265 X Co 775	1	-	-	1	-	1	-	-	-
CoM 0265 PC	1	-	-	-	-	1	-	-	1
ISH 100PC	3	-	-	-	-	2	-	-	-
Co 94012PC	4	-	-	1	-	4	-	-	1
Co 85002OC	15	-	-	3	-	4	-	-	1
CoA 7602PC	3	-	-	1	-	1	-	-	-
CoV 94101PC	1	-	-	1	-	1	-	-	-
Co 2000-10PC	8	-	-	1	-	5	-	-	6
Co 7201PC	1	-	-	-	-	1	-	-	1
Co 8371PC	1	-	-	-	-	1	-	-	-
COTI 85118	14	-	-	3	-	8	-	c	-
CO 8318	2	-	-	-	-	-	-	-	-
CoSnk 05103	4	-	-	1	-	3	-	-	-

*Co 7204 X CoPant 97222: mapping population consisting 226 progenies have been maintained and phenotyped across diverse flower inductive locations of northern Karnataka

6.3.1.8 Thiruvalla

Performance of crosses in ground nursery (2014-15): Fluff weighing 407.5g of 31 crosses including 17 station crosses and 14 zonal crosses was sown. From these fluff, 2625 seedlings were obtained of which 783 seedlings were established as ground nursery and were evaluated for quality and cane characters. Among the 31 crosses, seedlings could not be established for the 13 crosses viz., Co 88025 x Co 86249, CoC 671 x ISH 136, Co 93020 x Co 94005, CoC 671 x ISH 229, Co 94012 x Co 86249, Thirumadhuram x CoT 8201, Co 8341 x SP 80-185, CoM 88121 x SP 80-185, ISH 41 x Co 94008, CoV 94101 x Co 97015, Co 86032 x Co 86250, CoM 0265 x CoC 671 and CoM 0265 x Co 99006 while remaining 18 crosses were evaluated in ground nursery. Three crosses viz., Co 0312 x Co 0209, Co

8213 x Co 86011 and Co 94007 x Co 89003 did not produce any selectable progenies while four crosses viz., Co 86011 x Co 896249 (4), MS 68/47 x CoT 8201 (3), Co 86010 x Co 86249 (2) and Co 8371 x Co 86011 had less than five selections. Performance of other crosses which gave more number of selections is presented in the following table.

Cross combination	Quantity of fluff sown	No of seedlings produced	Total number of seedlings evaluated	HR brix (%)			NMC			DIA			No. of seedlings selected
				Mean	Range		Mean	Range		Mean	Range		
CoC 671 X CoV 92102	10.5	185	59	20.2	19	23.5	2.3	1.7	3.1	5.3	2	12?	6
Co 94012 X CoT 8201	21	98	82	20.6	19	24.8				2.8	2.2	3.5	10
CoC 90063 X Co 97015	11	105	66	20.8	18.5	24.5	5.7	1	15	2.2	1.6	3	10
Co 86032 X CoV 92102	21.5	105	50	21.1	19	25.3	6.1	2	16	2.4	1.5	10.5?	13
Co 87044 X SP 80-1842	34	162	96	20.6	19	25.1	6.8	2	16	2.6	1.8	3.2	9
Co 86002 X Co 1148	8	208	68	20.7	17.6	24.5	8.3	1	18	2.1	1.4	2.9	8
Co 8371 X Co 99006	15	184	48	20.4	19.0	24.6	6.6	1.0	18	2.7	2.0	3.6	8
Co 94012 X Co 94008	15	66	41	20.8	19	25	5.8	1	15	2.3	1.7	2.9	7
CoC 671 X CoT 8201	9.5	55	32	20.9	19	25	5.1	1	9	2.3	1.5	2.9	6
CoC 671 X Co 94008	10.5	70	31	20.8	19	23.5	8.1	2	15	2.4	1.6	3	7
Co 86032 X Co 94005	11	58	32	21.1	18.1	25.5	5.5	1	11	2.5	1.9	3.1	11
Total	507.5	2625	783*										108

*Observations on seedlings with low HR brix were not reported.

Performance of crosses in first clonal trial (2013-14 series)

Cross combination	No of clones planted	HRB- 8		HRB-10		HRB-12		NMC		DIA		No. of clones selected
		Mean	Range	Mean	Range	Mean	Range	Mean	Range	Mean	Range	
Co 0233 x CoC 8001	5	16.8	16.0-17.5	18.9	18.0-19.5	21.3	20.0-23.0	42.6	24.0-62.0	2.4	2.3-2.5	1
Co 88025 x Co 94008	2	18.0	18.0-18.0	19.8	19.5-20.0	22.8	22.5-23.0	35.0	32.0-38.0	2.8	2.7-2.8	2
Co 2000-10 x CoV 92102	6	17.3	16.5-18.0	19.3	18.0-20.0	22.0	21.0-23.0	37.4	22.0-54.0	2.5	2.0-2.9	4
Co 92007 x Co 0233	8	17.1	15-18.5	19.2	17-20.5	22.3	21-23.5	37.3	22-61	2.4	2.2-2.6	5
Co 06033 x Co 94008	7	16.9	16.0-18.0	18.9	18.0-20.0	22.0	21.0-23.0	29.1	22.0-43.0	2.5	2.3-2.8	4
Co 86032 x CoV 92102	6	17.1	16-18	18.8	17.5-19.5	22.0	21-22.5	37.7	14-54	2.5	2.3-2.6	4
Co 86002 x Co 1148	2	18.0	18.0-18.0	19.8	19.5-20.0	22.3	22.0-22.5	23.5	21.0-26.0	2.5	2.4-2.5	2

Co 85002 x Co 62174	1	17	17-17	19.5	19.5-19.5	22	22-22	18	18-18	2.8	2.8-2.8	1
CoC 671 x CoT 8201	7	16.8	15-17.5	18.6	17-19.5	22.4	21-23	23.4	14-32	2.5	2.1-3	5

Performance of crosses in second clonal trial

Twenty eight clones of the nine crosses viz., Co 88025 x Co 94008 (2), Co 2000-10 x CoV 92102 (4), Co 92007 x Co 0233 (5), Co 06033 x Co 94008 (4), Co 86032 x CoV 92102 (4), Co 86002 x Co 1148 (2), Co 85002 x Co 62174 (1) and CoC 671 x CoT 8201(5) were planted in second clonal trial. Due to severe drought the experiment was vitiated and hence the experiment was repeated

6.3.2 East Coast Zone

6.3.2.1 Anakapalle

Performance of crosses in ground nursery: Fluff weighing 883g of 29 bi-parental crosses, one self, seven poly-crosses and five general collections were sown. From these fluff, 5946 seedlings were obtained of which 5273 seedlings were established as ground nursery and were evaluated for quality and cane characters. From this ground nursery 207 selections of 38 crosses were effected and seedlings could not be established for the four crosses viz., CoTl 1153 x CoC 8001, CoV 94101PC, CoV 09356 GC and Co 200-10 PC while 27 crosses viz., Co8353 x Co 62198 (4), CP 52-1 x Co62198 (2), CoV 89101 x Co1158 (1), CoA 10321 x CoH70 (1), CoV89101 x BO 91 (1), CoN05071 x Co1158 (1), Co 0235 x Co62198 (1), Co 92013 x Co62198 (2), CoN 98133 x Co1148 (4), Co0235 x Co87268 (1), CoA 11324 x Co1158 (1), Co 09321 x Co775 (3), ISH100 x CoA7602 (3), CoA 10321 x CoH119 (2), Co8371 x CoA7602 (4), CoA 10321 x Co1158 (1), CoA 92081 x Co 97015 (3), CoN 05072 x Co89003 (1), CoA 7602PC (1), CoT 8201GC (2), 85 R 186 GC (1), CoV 89101PC (5), LG 06602GC (2), Co 85002PC (1), Co8371PC (3), Co98008 GC (2) and ISH100 PC (1) produced less than or equal to five selections per cross. Performance of other crosses which gave more number of selections is presented in the following table.

Cross combination	Quantity of fluff sown (g)	No of seedlings produced	Total number of seedlings evaluated	HR brix (%)		NMC		DIA		No. of seedlings selected
				Mean	Range	Mean	Range	Mean	Range	
CoS 87216x CoH 70	15.0	374	340	22.2	20.4- 24.0	6.38	3-11	2.15	1.90-2.40	21
CoA 92081x Co 62198	9.0	58	49	23.4	22.0-24.8	3.25	2-6	2.26	2.20-2.75	8
CoTl 1153 xB O 91	28.5	92	83	21.4	20.0-22.7	4.50	3-5	2.30	2.00-2.80	8
Co 8371x CoH 70	28.5	825	766	22.0	18.0-24.0	3.96	2-8	2.26	2.00-3.10	56
Co 89036 x CoS 88216	38.0	175	162	21.8	21.0-24.0	4.37	2-7	2.34	2.00-3.10	19
CoA 11324 x Co 62198	42.0	275	260	23.0	21.0-25.0	4.18	3-6	2.06	1.90-2.30	11
CoV 89101 x ISH 69	36.0	89	77	23.1	22.9-23.5	4.83	3-6	2.14	2.00-2.30	6
CoA11324 x CoH15	35.0	75	66	22.2	21.6-24.0	5.50	2-10	2.05	1.90-2.30	6
BO91 x Co 62198	27.5	575	461	21.7	20.0-23.0	5.18	2-13	2.03	1.90-2.20	11
CoV 89101 x Co 62198	21.5	350	342	22.2	21.0-23.0	5.00	4-10	2.08	1.90-2.20	6

Performance of crosses in first clonal trial: The trial was conducted with 582 clones of 29 crosses. Twenty crosses viz., CoA10321 x CoS96260 (4), CoA 10321 x CoH 128 (1), Co 09321 x CoH 70 (1), CoA 13327GC (1), CoOr 03152 x CoS96260 (1), CoLk8102 x Co62198 (2), Co 0235GC (4), Co7202GC (4), CoA 7602GC (1), Co1158 x HR 83-65 (1), CoSnk 05103 x CoH 15 (2), Co 06036 x Co1148 (2), Co8371 PC (1), CoA 11324 x Co775 (1), Co8371PC (1), CoV 89101PC (3), CoV 89101 x ISH 69 (1), Co 8013 x CoC671 (2), Co7201PC (1) and Co 86032 x Co 94008

(1) produced less than five selections per cross. The selfs of CoA 92081 and CoV 92102 did not produce any selectable progenies. Seven crosses were found superior and their performance is presented in the table.

Cross combination	No. of clones planted	HRB-8		HRB-10		HRB-12		NMC		DIA		No. of clones selected
		Mean	Range	Mean	Range	Mean	Range	Mean	Range	Mean	Range	
CoA 12321 x Co 775	77	17.69	14.78-18.35	20.69	18.36-22.15	24.11	22.73-25.17	108.39	95-120	21.12	21.7-24.6	14
Co 88013 x Co 97015	51	16.44	14.26-17.38	19.74	18.21-21.58	23.16	22.00-25.00	95.70	80-120	24.37	21.4-28.7	15
CoA 10321 x CoC 8001	51	17.26	16.15-17.85	20.16	18.25-21.65	23.45	22.00-24.00	82.56	75-92	23.34	21.6-25.4	13
CoA 13327 x CoH 15	31	17.53	16.75-18.36	20.83	18.57-22.36	23.51	22.00-25.00	79.44	78-83	24.89	23.7-28.5	9
CoT 8201 x Co 94008	31	18.64	17.82-19.45	21.54	20.25-22.85	24.13	23.00-25.00	78.39	75-87	26.25	22.4-28.7	9
CoV89101 X CoA 7602	42	17.65	16.92-18.55	20.75	19.24-22.65	23.22	22.00-26.00	78.39	60-88	23.68	21.7-24.6	9
CoV 89101 X CoT 8201	77	17.42	17.15-18.35	21.50	20.41-22.65	23.36	22.00-24.20	81.79	64-92	24.02	22.6-26.4	17

Performance of crosses in second clonal trial: Two hundred and twenty five clones of 22 bi-parental crosses, five poly crosses and 27 general collections were evaluated in second clonal trials. Twenty six crosses viz., Co 93082 x Co 89029, Co 05011 x ISH 176, Co 62198 x Co 8 9029, Co 87272 x CoS 88216, Co 0240 x Co 89029, CoA 11324 x Co 99006, Co 2000-10 x CoV 09356, Co 86032 x CoT 8201, CoA 07321 x ISH 50, CoV 89101 x CoT 8201, CoM 0265 PC, Co 2000-10PC, Co 0118GC, Co 0233 GC, Co 11001 GC, Co 1158 GC, Co 2000-10GC, Co 87044 GC, Co 97015 GC, Co 98008 GC, Co 99006 GC, CoA 05322 GC, CoA 05323 GC, CoA 07321GC, CoA 09321 GC, CoA 90081 GC, CoA 99082 GC, CoV 94101 GC and CoA 11324 GC among the 54 do not show any superior clones. Performance of crosses having better selections for testing in further trials is presented below.

Cross combination	No. of clones planted	No. of clones with > 20% sucrose at 240 days	No. of clones with > 22% sucrose at 300 days	No of clones with > 22% sucrose at 360 days	No. of clones with > 70NM C /20'row	No. of clones with > 2.5 cm cane thickness	No. of red rot resistant clones	Superiority of the cross (Sucrose /NMC/ cane dia / Red rot resistance)	No. of clones selected
Station crosses									
ISH 100 x Co 87268	16	3	1	2	12	3			2016A385
Co 86002 x Co 87268	2	1	1	1	2	1			2016A254
Co A 10321 x Co H 13	3				3	3			2016A238
Co A 10321 x HR 83-65	2	2	1	1	2	1			2016A387
Co 86032 x Co A 7602	10			2	5	5			2016A486
Co 86032 x Co 94008	1	1	1	1	1	1			2016A151
CoV 89101 x ISH 69	1		1	1	1	1			2016A165
Co 94012PC	14				2	2			2016A480
CoV 94101PC	7			1	4	3			2016A728
70 A 5GC	3					3	1		2016A323
Co 8371GC	3					1	1		2016A745
Co A 11323GC	8					8			2016A332

Co A 7602GC	20								2016A291
Co A 93082GC	10								2016A275, 2016A276, 2016A283, 2016A287
Co V 89101GC	9	1			2	4			2016A128, 2016A737, 2016A743

6.3.2.2 Cuddalore

Performance of Crosses in ground nursery (2017-18)

Cross combination	Qty of Fluff Sown (g)	No. of seedlings produced	No. of seedlings evaluated	HR Brix (%)		NMC		DIA		No. of seedlings selected
				Mean	Range	Mean	Range	Mean	Range	
CoC 90063 x Co 97015	31.5	653	625	21.0	18-22.5	4.35	3-10	2.75	2.3-3.1	57
CoC 90063 x Co 1148	25.5	536	526	20.8	18-22	7.85	6-12	2.25	2.5-2.9	42
Co 2000-10 x CoH 70	18.50	227	220	22.7	20-23	6.75	5-8	2.35	2.2-3.0	37
MS 68/47 x Co 94008	23.45	250	241	21.7	20-23	4.60	3-5	2.52	2.6-3.1	28
CoV 94101 x Co 0233	28.65	145	131	20.95	18-22	5.15	4-8	2.64	2.3-3.0	12
ISH 100 x Co 89003	15.23	140	132	20.15	18-23	5.62	4-9	2.75	2.4-3.1	15
Co 89101 x CoC 8201	12.55	10	08	21.20	19-23	4.85	3-7	2.81	2.3-3.0	03
Co 89003 x Co 0233	15.85	25	18	20.90	20-22	5.16	4-6	2.85	2.5-3.1	05
CoA 92081 x Co 02 33	20.14	30	25	20.65	19-22	2.37	4-7	2.52	2.4-2.9	03
Co 98008 x CoC 8001	16.25	532	523	20.52	19-22	5.17	4-8	2.65	2.3-3.1	41
Co 94101 x CoPant 9722	18.25	85	74	20.62	19-21	4.75	4-7	2.71	2.3-2.9	12
Co 0238 x CoH 7602	15.75	18	12	20.71	18-22	4.85	4-8	2.85	2.4-3.0	03
Co 0118 x CoT 8201	17.36	40	31	20.82	18-21	5.42	4-8	2.65	2.3-2.9	08
CoC 90063 x 85 R 186	21.05	22	15	20.75	20-23	4.62	4-7	2.52	2.2-2.8	04
Co 85002 x 97 R 401	17.36	20	11	20.16	19-21.5	4.42	3.6	2.35	2.1-2.9	03
Co 92007 x CoH 70	11.05	10	08	20.16	18-22	4.75	3-7	2.80	2.4-3.2	02
CoH 110 x Co 775	22.5	10	7	20.72	19-23	5.25	3-9	2.71	2.5-3.0	01
CoC 8201 x Co 97015	30.5	315	302	21.65	19-24	6.75	4-8	2.52	2.2-3.0	37
Co 92007 x Co 12014	18.0	160	155	20.17	18-22	6.13	4-9	2.65	2.4-3.0	13
Co 06022 x Co 97015	15.35	71	57	20.82	19-23	6.35	4-9	2.71	2.4-3.1	12
Co 94012 x CoPant 97222	15.32	90	72	20.95	19-23	7.15	5-9	2.65	2.4-3.0	10

Co 86032 x COH 70	12.14	40	25	20.45	19-23	6.34	4-9	2.75	2.4-3.0	06
Co 98008 x CoPant 97222	21.54	100	74	20.90	19-23	6.53	5-9	2.63	2.4-3.0	15
Co 8371 x Co 775	15.63	90	81	21.15	19-24	5.17	4-8	2.35	2.3-2.7	08
CoJ 80 Co 775	17.80	08	06	20.95	18-23	5.61	4-8	2.62	2.4-2.8	01
Co 6304 x Co 94008	15.27	10	07	20.65	18-22	5.72	4-8	2.75	2.6-3.2	02

Performance of Crosses in first clonal trial (2017-18)

Cross combination	Qty of Fluff Sown (g)	No. of seedlings produced	Total no. of seedlings evaluated	HR Brix (%)		NMC		DIA		No. of clones selected
				Mean	Range	Mean	Range	Mean	Range	
ISH 100 x Co 94008	18.5	145	107	20.77	18-55	4.35	3-5	2.75	2.5-3.2	07
CoV 89101 x ISH 69	10.0	156	108	21.86	18-22	7.85	6-8	2.35	2.2-2.9	12
CoV 89101 x CoT 8201	25.5	317	192	22.65	20-23.5	6.75	5-7	2.45	2.2-3.1	17
CoA 92081 x CoT 8201	6.5	23	15	21.66	20-23	4.60	3-8	2.52	2.4-2.9	3
CoV 89101 x CoA 7602	18.5	185	131	20.95	18-22	5.15	4-7	2.64	2.3-3.0	12
Co 86032 x Co 94008	14.0	64	37	21.20	19-23.5	4.85	3-87	2.81	2.7-3.1	6
CoV 89101 x CoS 93278	13.5	337	225	20.95	19-22	2.37	4-7	2.52	2.4-2.9	15
CoC 8201 x Co 775	9.5	54	41	20.42	19-22	5.17	4-8	2.65	2.3-3.1	12
ISH 100 x Co 775	16.0	256	195	20.10	18-21	5.12	4-8	2.35	2.1-2.6	15
Co 85002 x CoPant 97222	10.0	134	103	21.45	18-21	5.42	4-8	2.65	2.3-2.9	11
Co 90018 x CoPant 97222	31.0	122	82	20.75	20-23	4.62	4-7	2.52	2.2-2.8	12
Co 8371 x CoN 98133	11.5	38	27	20.16	18-22	4.75	3-7	2.80	2.4-3.2	3
CoV 89101 x Co 06022	22.5	52	24	20.72	19-23	5.25	3-9	2.71	2.5-3.0	4
Co 98006 x Co 775	30.5	375	282	21.65	19-24	6.75	4-8	2.52	2.2-3.0	25
CoV 89101 x Co 1148	18.0	311	207	20.17	18-22	6.13	4-9	2.65	2.4-3.0	21
Co 98006 x Co 0233	23.5	145	107	20.82	19-23	6.35	4-9	2.71	2.4-3.1	15
CoA 92081 x Co 775	11.0	153	115	20.95	19-23	7.15	5-9	2.65	2.4-3.0	12
CoT 8201 x Co 775	21.5	27	15	20.90	19-23	6.53	5-9	2.63	2.4-3.0	04
CoM 6806 x CoPant 97222	5.5	16	6	20.95	18-23	5.61	4-8	2.62	2.4-2.8	04

Performance of crosses in second clonal trial (2017-18)

Cross combination	No. of clones planted	No. of clones with > 20 % sucrose at 240 days	No. of clones with > 22 % sucrose at 300 days	No. of clones with > 22 % sucrose at 360 days	No. of clones with > 70 NMC / 20 row	No. of clones with > 2.5 cm cane thickness	No. of red rot resistance clones *	Superiority of the cross (Sucrose (a)/NMC (b)/cane diameter (c) red Rot resistance (d))	No. of clones selected
Co 1148 x Co 775	6	-	-	-	1	2		a & b	2
Co 85002 x ISH 175	8	1	--	-	1	3		a& b	3
CoC 90063 x Co 86011	25	2	-	-	4	7		a & c	7
Co 2000-10 x 85 R 186	16	-	-	-	1	3		b	6
MS 68 /47 x CoV 92102	11	-	-	-	1	1		b	4
MS 68 /47 x Co 92006	16				1	2		b & c	8
Co 85002 x ISH 175	4	-	-	-	-	2		b & c	3
Co 1148 x Co 775	10	-	-	-	1	3		b	5
Co 92006 x CoH 119	5	-	-	-	1	1		C	2
CoV 94101 x Co 62198	6	-	-	-	4	7		b	4
CoV 89101 x CoT 8201	8	-	-	-	1	4		b & c	3
Co 8371 x CoT 8201	7				1	1		b & c	2
Co 85002 x ISH 175	15	-	-	-	3	2		b & c	7
MS 68/47 x Co 92006	3	-	-	-	-	1		b & c	2

*- Not tested

6.3.2.3 Vuyuru

Performance of crosses in ground nursery (2015-16): Fluff weighing 552 g of 31 crosses including 26 bi-parental crosses and 7 poly-crosses and 7 general collections was sown. From these fluff, 6263 seedlings were obtained of which 3288 were established as ground nursery and were evaluated for quality and cane characters. Among the 40 crosses, no germination was observed in six crosses viz., Co 0118 x Co A 7602, CoA 7602PC, Co 2000-10 PC, Co 85002 PC Co 0238 GC and CoC 671 GC. No selection was made in 21 crosses viz., Co V 89101 x 97 R 401, Co 8213 x Co 1148, MS 68/47 x Co A 7602, Co C 671 x Co H 98, Co 06022 x Co 0233, Co A92081 x Co 8340, Co 98010 x Co S 88216, Co 8371 x Co C 8201, Co 98008 x Co A 7602, CoA 10321 x ISH 69, C 81615 x Co 775, Co 98008 x Co C 8001, Co 0209 x Co 1148, HR 83-144 x Co 92008, CP52-1 x Co775, CoV 94101 PC, ISH 100 PC, Co 8371 PC, Co V 94101 GC, 93 V 297 GC and Co V 89101 GC. Five crosses viz., Co 11015 GC, 97 R 401 GC, Co 98010 x CoH 119, CoC 671 x CoH 98 and Co 94012 x CoS 88216 had one selection each. Performance of other crosses which gave more number of selections is presented in the following table.

Cross combination	Quantity of fluff sown (g)	No of seedlings produced	Total number of seedlings evaluated	HR brix (%)		NMC		DIA		No. of seedlings selected
				Mean	Range	Mean	Range	Mean	Range	
Co A 92081 X Co1148	25.0	134	59	21.31	20.76-22.40	7.25	5-11	2.38	2.15-2.52	4
Co V 89101 X Co Pant 97222	17.0	833	355	24.62	22.33-26.36	6.83	3-11	2.31	2.17-2.41	6
Co 98008 X Co H 70	17.5	425	297	21.12	19.25-25.70	8.23	2-15	2.48	1.62-2.93	13
Co C 90063 X Co97015	21.5	1130	716	25.84	23.83-28.30	5.59	3-9	2.53	2.21-2.98	22
Co 06022 X Co 97015	13.0	267	183	23.56	20.80-26.23	8.14	6-11	2.45	2.22-2.66	7
Co A 12321 X Co H 119	15.0	164	126	22.38	18.76-25.50	5.44	3-8	2.40	2.09-2.86	18
Co 8213 X Co Pant 97222	8.5	120	70	22.23	20.36-23.55	6.25	4-9	2.23	1.77-2.52	4

97 R 129 X 97 R 401	13.5	398	193	22.13	21.73-22.53	8.00	8.00	2.81	2.58-3.04	2
CoV 89101 PC	9.0	494	289	22.61	19.86-25.13	8.71	5-15	2.59	2.28-2.97	14

Performance of crosses in first clonal trial*: The trial was conducted with 83 clones of 23 crosses. No selection was done in the eight crosses viz., CP 52-68 PC, Co A 7602 PC, Co 1158 x HR 83-65, ISH 100 x Co 94008, CoJ 83 x Co 89029, LG 95053 x HR 83-65, 89 V 74 GC and Co 7201 PC. Only one selection each was effected in nine crosses viz., ISH 100 x CoH 12, CoLk 7901 x BO 32, Co 8353 x CoS 510, BO 91 x CoS 08272, CoV 89101 x CoA 76902, Co 09022 x Co 89029, Co 92002 GC, Co 8371 GC and Co 2000-10 GC. Performance of other crosses having more than one selection is presented in the table.

Cross combination	No. of clones planted	HRB-8		HRB -10		HRB-12		NMC (000s/ha)		No. of clones selected
		Mean	Range	Mean	Range	Mean	Range	Mean	Range	
Co 8013 X Co C 671	3			23.60	22.8-24.4			65.8	60.0	3
Co P 06-436 X Co 62198	6			23.55	23.4-23.7			85.0	75.0	2
Co V 89101 X ISH 69	9			23.63	22.7-24.2			82.5	60.0-117.5	7
Co Lk 8102 X Co 62198	5			22.57	21.8-24.1			73.3	70.0-75.0	3
Co V 89101 GC	10			22.68	21.4-24.1			91.3	65.0-120.0	8
Co V 89101 X Co T 8201	7			23.53	23.2-23.9			70.0	70.0-90.0	4

*Observation on HR brix at 8th month and 12th month and cane thickness were not reported.

Performance of crosses in second clonal trial: Fifty seven clones of 21 crosses were evaluated in second clonal trials. Among them, 11 crosses viz., CoJ 64 x Co 87268, CoC 671 x CoT 8201, CoA 7602 PC, Co 7201 PC, Co 99006 GC, Co 8371 X Co 99006, Co A 86032 X Co 94008, Co 0240 X Co 775, CoC 90063 X Co 94008, Co Snk 05-103 x Co 62198 and 97 R 129 GC did not produce any superior progenies. Four crosses 69 A 591 x Co 62198, CoV 89101 x CoA 7602, Co 99006 x CoSe 92423 and Co 94012 PC had only one selection each. Performance of crosses having higher number of selections for testing in further trials is presented below.

Cross combination	No. of clones planted	No. of clones with > 20% sucrose at 240 days	No. of clones with > 22 % sucrose at 300 days H.R.Brix (>22%)	No of clones with > 22% sucrose at 360 days	No. of clones with > 70NMC /20'row (000s per ha)	No. of clones with > 2.5 cm cane thickness	No. of red rot resistant clones	Superiority of the cross (Sucrose (a) /NMC (b)/ cane dia(c) / Red rot resistance (d)	No. of clones selected
CoV 89101 X Co T 8201	4			2	2	2		a & c	2
CoSe 96436 x 2000 V 59	4				1	2		c	2
CoV 89101 x 2000 V 29	11			3	3	5			6
Co 99006 x Co 62198	5			1	1			a	2
Co 8338 GC	6			2	3	1		c	3
Co C 671 X Co T 8201	2								
UP 9530 X Co 775	3			1	2	2		c	3

6.3.2.4 Nayagarh

Performance of crosses in first clonal trial: The first clonal trial was conducted with 346 clones selected from 36 crosses. Selections were effected in all the 36 crosses. One selection each was effected in 19 crosses viz., CoC 8001 x ISH 69 (1), Co 06036 x Co 1158 (1), Co 0327 x ISH 69 (1), Co 85002 x Co 775 (1), ISH 100 x Co 94008 (1), Co V89101 x CoT 8201 (1), CoV 89101 x CoA 7602 (1), Co 8013 x CoC 671 (1), CoC 671 x Co 1148 (1), Co06027 x CoC 671 (1), ISH 28 GC (1), CoC 90063 PC (1), CoV 89101 PC (1), CoA 7602 PC (1), Co 2000-10 PC (1), ISH 100 PC (1), CoV 94101 PC (1), CoM 0265 PC (1) and Co 85002 PC (1). Performance other crosses having more than one election is presented in the following table.

Cross combination	No. of clones planted	HRB -8		HRB-10		HRB-12		NMC		DIA		No. of clones selected
		Mean	Range	Mean	Range	Mean	Range	Mean	Range	Mean	Range	
Co 1158 x Co 62198	16	19.4	183-22.2	22.4	20.0-24.2	22.6	20.5-24.4	99.6	98-104	2.4	1.8-2.4	4
Co 0238 x ISH 127	14	18.8	18.6-21.2	20.2	19.4-22.6	23.4	20.4-24.0	98.2	96-101	2.3	1.9-2.6	2
ISH 100 x Co 89029	18	19.5	18.5-20.6	22.3	20.4-223	22.1	20.8-23.2	103	95-105	2.3	2.2-2.4	2
Co 06035 x Co 89029	18	19.3	18.4-20.2	20.5	19.3-24.5	22.3	20.6-24.9	94	88-106	2.3	1.8-2.5	4
Co 92013 x BO 91	23	19.5	18.6-20.4	20.5	19.2-24.6	21.6	20.4-24.8	102	98-110	2.3	2.1-2.4	2
CoA 13327 x CoH 70	8	18.3	18.5-19.6	20.6	18.2-21.3	23.4	21.2-24.8	112	112-115	2.3	2.2-2.4	2
CoV 89101 x Co 1148	12	18.5	18.1-19.6	19.8	18.6-20.2	22.3	20.4-24.3	99.5	90.6-104	2.4	2.0-2.6	2
CoV 89101 x ISH 69	12	19.2	18.7-19.6	23.3	20.0-24.5	24.2	21.3-25.6	99.5	96.2-102	2.2	2.1-2.4	2
Co A92081 x CoT 8201	12	17.8	17.4-18.9	21.3	20.2-23.2	22.8	21.4-24.6	112	102-112	2.2	2.0-2.3	2
Co 86032 x Co 94008	8	18.3	18.2-18.6	20.5	18.4-20.8	22.8	20.4-24.3	105	100-106	2.2	1.9-2.3	2
Co 88013 GC	12	18.5	18.2-20.2	20.0	19.0-22.4	22.4	20.4-23.8	98	96-102	2.3	1.9-2.6	2
Co 7424 GC	10	19.2	18.8-19.6	23.2	20.2-24.5	24.0	21.3-25.6	98	96-102	2.2	2.1-2.4	2
ISH 306 GC	9	17.0	16.8-17.6	18.8	18.4-20.0	20.6	19.6-21.2	102	98-106	2.3	1.8-2.6	3
Co 94012 PC	6	18.8	18.4-19.3	20.3	19.6-24.0	22.4	20.9-24.4	104	95-108	2.2	1.8-2.4	2
CP 52-68 PC	8	19.3	18.4-20.0	21.3	20.2-24.0	22.4	20.4-24.6	98	89-110	2.4	2.0-2.6	2
Co 7201 PC	5	18.8	18.2-20.2	20.0	19.0-22.4	22.4	20.4-23.8	98	96-102	2.2	1.9-2.6	2
CoC 671 PC	7	19.3	18.4-20.0	21.3	20.2-24.0	22.4	20.4-24.6	98	89-110	2.4	2.0-2.6	2

Performance of crosses in second clonal trial: Forty two clones of 28 crosses were evaluated in second clonal trials. The progenies of five crosses viz., Co 11001 GC, Co 1158 GC, Co 99006 GC, CoOr 03152 GC and CoV 94101 GC did not show superiority for any of the economic traits. Crosses showing superiority for different economic traits are presented in the table.

Cross combination	No. of Clones planted	No. of clones with >20% sucrose at 240 days	No. of clones with >22% sucrose at 300 days	No. of clones with >22% sucrose at 360 days	No. of clones with > 70NMC / 20'row	No. of clones with > 2.5cm cane thickness	No. of Red rot Resistant clones	Superiority of the cross (Sucrose (a)/NMC (b)/ Cane dia (c)/Red Rot resistant (d)
Co 86023 x Co 94008	2	-	-	-	2	2	NT	b & c
Co V89101 x ISH 69	2	-	-	-	2	2	NT	b & c
CoV 89101 x CoA 7602	1	-	-	-	1	1	NT	b & c
CoC 90063 x Co 94008	3	-	-	-	1	1	NT	b & c

Co 8371 x Co 99006	2	-	-	-	1	1	NT	b & c
CoV 89101 x CoT8201	1	-	-	-	2	2	NT	b & c
CoA 92081 x CoT 8201	1	-	-	-	1	1	NT	b & c
Co 86002 x BO 91	1	-	-	-	1	1	NT	b & c
CoV 89101 x ISH 69	1	-	-	-	1	1	NT	b & c
Co 8213 x Co 1148	1	-	-	-	1	1	NT	b & c
CoA 90081 x Co 62198	1	-	-	-	1	1	NT	
CoOr 03152x Co 06037	1	-	-	-	1	1	NT	b & c
CoT 8201 GC	2	-	-	-	1	1	NT	b & c
Co 0233 GC	1	-	-	-	1	1	NT	b & c
Co 97015 GC	1	-	-	-	1	1	NT	b & c
CoC 671 GC	1	-	-	-	1	1	NT	b & c
Co 8213 GC	2	-	-	-	1	1	NT	b & c
CoA 11326 GC	2	-	-	-	1	1	NT	b & c
Co 89003 GC	1	-	-	-	1	1	NT	
Co 85002PC	3	-	-	-	-	-	NT	b & c
CoC 90063PC	2	-	-	-	1	1	NT	b & c
Co 8371PC	1	-	-	-	1	1	NT	b & c
ISH 100PC	1	-	-	-	1	1	NT	b & c

6.3.3 North West Zone

6.3.3.1 Faridkot

Performances of crosses in ground nursery (2016 Series)

Cross Combinations	Quantity of fluff sown (g)	No. of seedlings produced	Total number of seedlings evaluated	No. of seedlings selected	No. of tillers		NMC		HRB-10		HRB-12	
					Mean	Range	Mean	Range	Mean	Range	Mean	Range
Co7314xCo1148	8.0	71	29.0	10.0	21.0	2-53	8.6	1-22	15.7	7.0-19.5	18.9	17.4-20.8
Co124xCo94008	3.5	9	8.0	0.0	4.4	3-16	7.7	2-12	14.8	13.0-17.4	19.6	18.6-20.6
CoPb12181 GC	45.0	161	31.0	6.0	20.8	2-60	7.5	2-17	13.5	6.0-21.0	19.7	17.2-22.0
Co8436 GC	9.5	4	4.0	0.0	19.5	10-26	6.8	5-10	13.6	11.0-15.0	18.2	17.0-21.0
CoJ64 GC	9.0	4	3.0	0.0	8.3	10-21	7.3	3-8	14.6	13.0-17.0	18.6	18.0-19.2
CoPb12182 GC	30.0	8	7.0	0.0	10.7	4-33	8.4	3-12	14.0	9.0-16.0	16.8	12.2-19.4
Co89003GC	25.5	185	160.0	22.0	20.2	4-55	6.3	2-19	15.6	7.0-20.0	18.3	16.4-21.6
CoS8436GC	9.5	161	145.0	10.0	27.0	9-57	9.3	4-45	13.3	7.0-18.3	18.3	17.0-20.0
Co775GC	82.0	142	99.0	4.0	18.8	7-40	6.6	1-22	12.8	8.4-19.0	18.7	17.2-20.0
ISH69GC	119.5	257	239.0	15.0	23.0	4-50	7.3	1-22	12.8	7.0-19.6	17.9	16.6-19.8
CoPb11182GC	49.0	62	49.0	0.0	18.5	7-54	7.9	1-21	12.4	7.0-17.0	17.4	17.0-18.0
Co1148GC	10.0	122	107.0	4.0	22.7	6-52	6.3	1-22	13.2	6.0-19.0	18.0	16.6-20.0
Co98008GC	11.5	111	102.0	6.0	17.2	7-46	4.5	1-14	13.4	9.0-19.0	18.7	17.3-20.6
CoJ83GC	49.5	21	14.0	0.0	25.2	2-45	8.2	1-18	12.5	10.0-18.0	16.9	16.0-18.0
CoJ88GC	64.0	16	16.0	0.0	16.4	4-37	5.1	1-13	14.2	11.2-16.6	18.0	17.0-19.0

CoPb10182GC	61.0	68	62.0	5.0	22.2	7-58	8.7	1-20	14.5	9.6-18.7	17.8	16.6-19.8
CoPant97222GC	51.5	103	86.0	28.0	16.0	4-25	7.0	1-14	15.6	10.4-20.0	19.9	17.2-21.0
CoPb10183 GC	75.5	71	56.0	12.0	19.3	7-35	8.5	1-20	16.0	10.4-21.0	19.0	17.0-21.4
Awela Green Sport GC	31.5	67	57.0	4.0	23.4	7-45	6.4	1-12	10.8	9.6-19.8	19.2	17.2-20.0
CoJ83 PC	35.5	113	72.0	1.0	18.0	2-75	7.2	1-41	12.5	7.0-18.8	17.5	16.6-19.2
CoJ88 PC	60.5	274	186.0	7.0	23.9	2-60	9.7	2-26	13.4	7.0-19.0	18.5	17.2-20.6
Co7201 PC	50.0	21	20.0	0.0	14.3	3-25	6.7	1-19	14.0	6.0-20.0	17.6	16.0-18.0
ISH100 PC	41.5	21	19.0	1.0	16.7	4-36	4.4	1-8	11.4	7.0-19.0	19.4	18.0-19.9

Performance of crosses in first clonal trial: The trial was conducted with 353 clones of 25 crosses. No selection was effected in five crosses Coc 671 x ISH 69, CoJ 64 x ISH 69, CoJ 80 x Co 775, CoJ 80 x CoJ 85 and BO 91 x Co 453. One selection each was effected in ten crosses viz., CoC 671 x CoSe 92423, Co 98010 x CoS 8436, MS 68/47 x CoT 8201, CoC 671 x Co 775, CoN 05071 x ?, Co 0237 x CoS 8436, Co 98010 x Co 1148, CoS 8436 x Copant 97222, Co 98008 x Co 89003, MS 68/47 x CoV 92102. Performance of other superior crosses having more number of selections is given in the following table.

Cross Combinations	No. of clones evaluated	HRB-8		HRB-10		HRB-12		NMC		No. of clones selected
		Mean	Range	Mean	Range	Mean	Range	Mean	Range	
Co 98010 x CoSe 92423	32.0	14.2	10.0-18.4	16.4	13.0-19.0	16.6	15.4-19.6	17.2	6-36	3
Co 86032 x CoSe 92423	33.0	16.4	12.4-20.6	17.2	13.0-20.8	17.2	15.0-21.4	17.3	2-37	5
CoJ 80 x SP 80-185	30.0	15.8	13.0-19.0	17.0	13.2-20.0	18.0	14.0-20.7	15.9	3-36	2
CoJ 83 x CoT 8201	11.0	17.5	15.2-20.0	18.4	16.0-21.0	19.9	17.4-22.8	13.8	7.0-41.0	5
Co 86032 x Co J85	29.0	16.7	12.0-19.0	18.1	13.6-20.4	19.1	14.6-21.6	18.0	1.0-34.0	10
Co 86002 x CoH 15	29.0	16.8	13.0-20.0	17.9	15.0-21.0	18.5	15.4-21.4	16.6	7.0-27.0	4
LG 95053 x BO 91	20.0	15.8	13.0-18.0	17.0	14.0-20.0	18.0	15.0-20.8	19.9	5.0-30.0	2
Co 98008 x Co 775	20.0	15.2	13.0-17.2	17.6	15.0-20.0	18.5	16.5-20.0	16.9	1.0-34.0	3
Co 0238 x CoSe 92423	24.0	15.8	11.0-18.0	17.4	14.6-19.6	18.5	15.2-20.4	14.6	1.0-26.0	2
CoS 8436 x Co 89003	9.0	16.6	12.6-20.6	18.1	15.0-20.9	19.9	16.0-21.4	16.2	9.0-29.0	2

Observation on cane diameter was not reported

Performance of crosses in second clonal trial: Among the 11 crosses, three MS 68/47 x CoV 92102, CoJ 88 x ISH 69 and CoJ 88 x CoSe 92423 were not found superior for any of the economic traits studied. Performance of other eight crosses is given below.

Cross Combinations	No. of clones planted	No. of clones with > 20 % Sucrose at 240 days	No. of clones with > 22 % Sucrose at 300 days	No. of clones with > 22 % Sucrose at 360 days	No. of clones with > 70 NMC / 2 rows	No. of clones with > 70 Tillers / 2 rows	No. of red rot resistant clones	Superiority of the cross ((a)/NMC (b)/Cane dia (c)/Red Rot resistant (d)	No. of clones selected
CoC 671xCoSe 92423	7				5.0	7.0		a & b	5
5/22xCoT 8201	4				3.0	4.0		b	1

5/22×CoSe 92423	6				4.0	6.0		a & b	2
CoS 8436×Co 89003	6				6.0	6.0		b	1
Co 98010×Co 1148	4				4.0	4.0		a & b	2
Co 0238 × CoSe 92423	1				1.0	1.0		a & b	1
CoJ 83 × Co 62198	2				1.0	1.0		a & b	1
Co 98010 × CoSe 92423	2				1.0	2.0		a & b	1

6.3.3.2 Kapurthala

Performance of crosses in ground nursery: Ground nursery was established with 4683 seedlings of 51 crosses. From these, 777 clones were selected for further evaluation. No selections were effected in the 17 crosses viz., Co 90018 x CoH 70, CoPb 10183 x Co 775, CoJ 87 x B0 91, ISH 100 x Co89029, CoH 70GC, BO 91 x Co 62198, Co J88 x Co1158, CoH 92 x Co 1148, CoS 8436 GC, CoN 05071 GC, CoJ 80 GC, CoH 119GC, ISH 100PC, CoSe 95422 PC, CoSe 92423 PC, CoJ 83 PC and Co 7201PC due to their poor performance. Seven crosses viz., LG95053 x CoS 93278 (1), LG 08422 GC (1), ISH 100 x Co 1148 (1), Co 0327 x Co 1158 (1), CoJ 88 PC (1), CoH ? x Co 62198 (5) and SP 80-185 GC (3) had less than five selections per cross. Performance of superior crosses having more number of selections is given in the following table.

Cross combination	Total number of seedlings produced/evaluated	HR brix (%) Range	NMC (Range)	DIA	No. of seedlings selected
CoPb 10181 X Co1148	492	10.0-21.0	1-29	1.2-2.6	95
CoV 89101 X Co 1148	611	10.0-22.0	2-30	1.9-2.8	136
CoPb 09181 X Co1148	189	12.0-21.2	3-28	1.3- 3.0	38
Co 98010 X Co 775	233	10.0-21.2	1-15	1.8-2.9	37
CoJ 83 X CoPant 97222	114	10.0-20.0	1-19	0.8-1.9	27
BO 91 X Co775	133	12.0-19.3	1-21	1.4-2.8	17
Co 8318 GC	213	11.0-22.0	1-24	0.8-2.1	37
Co 98008 x Co 94008	107	14.0-21.0	1-18	1.6-3.0	14
CoH128 X Co 89029	48	13.0-20.0	2-25	1.4-2.8	12
CoPant 97222 Self	82	14.0-20.0	3-56	0.8-2.5	09
Co 775 self	359	10.0-20.2	2-17	1.2-2.9	40
CoJ 88 x B0 91	208	10.0-21.2	2-23	1.1-2.3	64
CoH 92 X Co 775	87	11.0-21.0	1-14	2.0-3.1	24
CoPant 84221	191	10.2-19.0	2-29	1.5-2.6	17
CoPant 97222 self	44	14.0-21.0	2-19	2.2-2.9	06
CoS 8436 X Co89003	62	14.0-20.2	2-22	2.1-3.0	19
Co 98002 X Co89003	45	14.2-20.0	3-16	2.1-3.3	06
CoJ 83 X CoH 12	114	13.0-20.0	3-18	1.8-2.7	13
CoPant 84212 X B0 91	35	12.0-19.0	3-20	2.1-3.1	06
CoS 92423 GC	327	8.0-20.0	1-23	2.5-3.0	18
CoV 89101 GC	431	12.0-22.0	1-28	1.9-2.8	59
Co 8209GC	94	14.0-21.0	2-12	1.5-2.9	17
CoBlN 05501GC	54	11.2-20.2	3-16	2.2-3.1	08
BO 125 GC	31	10.0-20.2	4-18	2.0-3.4	08
CoS 61 GC	46	11.2-21.0	1-16	2.3-2.9	08
CoV 89101PC	124	14.0-20.2	2-21	1.9-3.0	19

CoH 70 X CoPant 97222	44	10.0-24.0	4-18	1.8-2.9	10
-----------------------	----	-----------	------	---------	----

Performance of crosses in first clonal trial: The trial was conducted with 487 clones of 38 crosses. From this, 172 clones were selected for further study. No selection was effected in nine crosses viz., CoS 17? GC, CoLk 812 GC, CoC 671 x Co 1148, CoJ 82315 x CoV 92102, Sel 922/98 x Co 1148, CoS 8436 x Co 89003, CoH 119 x LG 97147, CoS 8436 x CoPant 97222 and CoBln 05501 GC . Less than five selections per cross was effected in 16 crosses viz., IJ 76545 x CoT 8201, CoJ 86 x Co 89003 (1), Co 89003 x CoS 8436 (1), Co 98008 x Co 775 (2), CoH 99 GC (3), Co 98010 x Co 1148 (5), Co 7314 x Co 1148, Co 98010 x Co 1148, CoJ 82315 x Co 94008 (1), CoJ 86 x Co 89003 (5), 28NG 39 x CoT 8201 (1), CoJ 88 GC (5), BO 91 x Co 453 (3), CoJ 83536 x Co 89003 (4), CoJ 88 x Co 94008 (1) and Co 7201 PC (1) . Performance of other superior crosses having more number of selections is given in the following table.

Cross combination	No. of clones planted	Cane length (m)	Cane girth (cm)	Single Cane weight (kg)	Brix Oct. 2017	Brix Nov. 2017	No. of clones selected
CoS 8436 PC	96	3.10-4.00	1.9-2.60	1.933- 2.650	14.0-15.3	15.1-16.1	35
MS 68/47 x CoV 92102	15	2.60-3.20	1.7-2.58	0.852-1.205	15.0-18.0	17.0-19.1	07
CoJ 84 x CoV 92102	19	2.20-2.90	1.5-2.15	0.586-0.806	13.0-15.0	13.2-19.0	08
CoH 99 GC	36	2.35-3.00	2.0-2.56	1.437-2.365	11.2-14.0	13.0-19.0	20
Co 98010 x Co 1148	31	2.30-2.50	1.8-2.55	1.417-2.540	15.0-16.2	16.1-18.2	15
CoSe 95422 GC	12	2.75-2.90	2.2-2.62	1.081-1.985	15.2-16.2	14.0-16.3	06
LG 95053 x BO 91	16	2.20-2.50	1.8-2.32	0.823-1.256	14.0-17.1	14.3-20.0	08
Co 98008 x Co 775	20	2.88-2.96	1.97-2.45	1.248-1.321	9.66-16.25	11.53-17.17	13
CoJ 83 Pc	25	2.0-3.60	1.9-2.58	0.885-1.075	11.05-13.4	14.75-16.77	09
Co 0238 x CoSe 92423	09	2.00-2.90	1.7-2.45	0.833-1.446	13.8-16.65	16.0-20.0	06

Performance of crosses in second clonal trial: One hundred and fifty six clones of 30 crosses were evaluated in second clonal trial. Nine crosses viz., CoJ 65 GC, CoJ 88PC, CoH 110 GC, Co 7314 x Co 1148, BO 91 x Co 453, CoPb 10181 GC, ISH 100 PC, Co J 82315 x SP 80-185 and CoJ 83 GC did not show superiority for any of the economic traits and hence no selections were made from these crosses. One selection each were made from six crosses Co 89003 GC, CoH 133 GC, CoSe 95422 PC, CoSe 92423 PC, SP 80-185 GC and CoS 8436 GC while two selections each made in five crosses viz., CoJ 82315 GC, CoH 99 GC, CoT 8201 GC, Cos 8436 PC and Co 0238 x CoSe 92423 Crosses showing superiority for economic traits with more than two selections are presented in the table.

Cross combination	No. of clones planted	HRB-8	HRB-10	NMC	DIA	No. clones selected
		Range	Range	Range	Range	
ISH 69 GC	24	14.0-18.2	15.2-18.4	4-12	1.7-2.58	16
Co 7201 PC	05	9.0-19.0	10.0-20.0	4-12	2.0-2.56	04
Co 1148 GC	12	8.0-16.3	9.0-18.0	6-13	2.2-2.62	07
CoJ 46 GC	22	13.2-19.0	15.2-20.1	8-12	2.1-2.80	13
CoV 89101 PC	05	9.0-19.3	9.0-21.0	2-14	2.2-2.60	04
CoJ 83 PC	14	9.0-16.3	9.0-18.3	6-11	1.92-2.85	07
CoS 8436 X CoPant 97222	07	7.0-17.2	7.0-18.2	6-14	1.97-2.45	03
Co 8436 X Co 89003	05	5.0-17.2	7.2-19.0	8-17	1.7-3.65	03

CoV89101 Pc	04	3.0-21.0	5.1-21.1	6-10	1.8-2.36	03
-------------	----	----------	----------	------	----------	----

6.3.3.3 Lucknow

Performance of crosses in ground nursery: Ground nursery was planted with 2857 seedlings of 35 crosses. From these, 135 clones were selected for further evaluation. No selections were effected in the 17 crosses viz., CoSe 95422 x Co 775, BO 91 x ISH 150, Co 89029 x CoH 15, CoPb 09181 x ISH 136, CoLk 94184 x NCo 310, CoSe 95422 x Co 62198, CoSe 95422 x BO 91, CoLk 94184 x Co 775, CoS 8436 x Co 1148, CoS 8436 x Co 0233, CoS 8436 X Co 97015, CoSe 95422 x CoS 8436, CoJ 83 x CoH 70, LG 95053 x ISH 60, CoS 08272 x BO 130, CoJ 83 x Co 86002 and BO 146 x CoS 88216. Three crosses viz., CoLk 8102 x CoJ 88, Co 98008 x Co 94003 and UP 9530 x CoH 70 had one selection each while three other crosses viz., Co 98010 x Co 775, CoLk 7901 x CoH 70 and CoLk 94184 x CoSe 92423 had two selections each. Superior crosses with more than two selections are presented below.

Cross combination	Quant ity of fluff sown	No. of seedli ng produ ced	Total No. of seedling evaluated	HR brix (%)		N M C	DIA Mean	No. of seedling Selected
				Mean	range			
CoP 06434 x CoPant 97222			136	17.8	15.2-20.6			3
CoP 06436 x LG 05434			170	17.5	16.2-20.6			12
LG 08422 x LG 072120			119	16.8	14.5-20.6			10
BO 91 x CoS 8436			476	17.4	16.2-21.0			14
LG 08422 x Co 89029			136	17.3	14.5-20.2			43
Co 98008 x Co 94008			221	16.2	14.5-19.8			6
CoLk 7901 x ISH 69			102	15.8	14.5-19.8			3
LG 01118 x Co 1158			68	16.8	13.8-20.2			5
CoLk 8102 x Co 62198			153	17.5	15.4-20.6			17
BO 91 x Co 62198			34	16.5	14.0-20.4			3
CoS 8436 x Co 89003			51	16.0	14.3-19.6			5
CoLk 94184 x BO 91			19	16.6	15.5-20.6			5

Performance of crosses in first clonal trial: The trial was conducted with 212 clones of 41 crosses. From this, 26 clones were selected for further study. No selection was effected in 25 crosses viz., BO 91 x Co 453, BO 91 x ISH 150, Co 0238 x CoSe 92423, Co 62198 x ISH 150, UP 9530 X CoH 70, Co 7314 x Co 1148, Co 0124 x Co 94008, LG 95053 x BO 91, CoLk 8002 GC, Co 8213 GC, Co 1148 GC, 97 R 401 GC, LG 05810 GC, Co 89003 GC, LG 05828 self, CoLk 07201 GC, CoH 133 GC, CoJ 88 PC, CoS 8436 GC, CoPant 88220 GC, CoA 7602 GC, Co 98008 GC, CoS 7267 GC, LG 07615 GC and Co 88013 GC. Performance of other superior crosses having more number of selections is given in the following table.

Cross combination	No. of clones planted	HRB-8		HRB-10		HRB-12		NMC		DIA		No of clone s select ed
		Me an	Ra nge	Mea n	Range	M ea n	Ran ge	M ea n	Ra nge	Me an	Ra nge	
CoS 8436 x Co 89003	20			19.0	17.6-21.0							2
CoPb 10181 x ISH 136	12			19.4	18.4-21.0							1
Co 94005 x CoSe 92423	2			19.5	19.0-20.0							1
MS 68/47 x Co 62198	15			18.5	17.8-20.4							3
Co 98008 x Co 775	3			19.5	19.2-20.2							1
Co 98010 x Co 1148	9			18.8	17.8-20.1							2
CoS 8436 x CoPant 97222	11			19.2	18.2-21.2							1
CoSe 92423 PC	9			18.4	17.6-20.6							2

Co 7201 PC	15			18.8	17.6-20.8							2
CoV 89101 PC	5			18.4	17.8-20.2							1
LG 05823 GC	3			18.8	17.8-20.4							1
Co 98006 GC	3			20.1	19.6-21.2							3
CoS 96260 GC	2			19.5	19.0-20.0							1
CoH 100 GC	7			19.4	18.2-21.2							2
CoPant 90223 GC	5			19.8	18.4-20.6							2
Co 8318 GC	1			18.8	18.8							1

Performance of crosses in second clonal trial: Fifty seven clones of 24 crosses were evaluated in second clonal trials. Eleven crosses viz. Co 98008 x Co 775, CoS 8436 x CoPant 97222, CoSe 96436 x Co 453, BO 91 x Co 453, CoJ 77 x BO 17, Co 98010 x Co 1148, CoPant 97222 GC, CoH 56 GC, Cos 8436 GC, BO 91 GC and LG 95053 GC and a self (Co 1148) did not show superiority for any of the economic traits and hence no selections were made from these crosses. Crosses showing superiority for different economic traits having selections are presented in the table.

Cross combination	Number of clones planted	No. of clones with >20 % sucrose at 240 days	No. of clones with >22% sucrose at 300 days	No. of clones with >22% sucrose at 360 days	No. of clones with >70 NMC /20' row	Number of clones with >2.5 cm cane thickness	Number of red rot resistant clones	Superiority of the cross (Sucrose/cane dia/red rot resistance)	Number of clones selected
CoLk 94184 x CoH 114	2								1
Co 0118 x CoPant 01215	9								5
Co 98010 x CoPant 97222	1								1
CoJ 83 x BO 32	5								1
Co 0238 x CoSe 92423	2								1
CoS 07233 x CoH 13	1								1
LG 05609 X BO 128	1								1
CoV 89101 GC	8								1
Co 1148 GC	2								1
CoPant 90222 GC	4								3
CoH 70 GC	2								1
CoLk 8901 GC	4								2

6.3.3 Pantnagar

Performance of crosses in ground nursery (2016 Autumn): Ground nursery was planted with 1903 seedlings of 50 crosses. From these, 1611 were evaluated and 191 seedlings were selected for further evaluation. No selections were effected in the 13 crosses viz. Co 8209GC, CoA 05321GC, CoSe 92432PC, Co 7201PC, CoS 8436 x Co775, Co 62198 x CoPb 13183, UP 9530 x Co1158, BO 91 x CoPant 97222, CoPant 90221 x IJ 16-93, CoS 96260 x IK 76-158, CoPant 90224 GC, BO128GC and Co 89003GC. Twenty three crosses viz., Co 98010 x Co 775 (5), Co 98008 x Co 94008 (4), ISH 100PC (4), CoJ 83PC (5), CoLK 8102 x Co 62198 (2), CoPant 96219 x HR 83-65 (1), Co 617 x Co 1158 (1), Bo 91 x CoPant 97222 (3), ISH 100 x Co1148 (1), ISH 100 x Co 1158 (3), CoPant 84212 x IK-76-158 (1), CoPant 90223 x IJ 76-436 (4), CoS 96260 x IK 76-158 (5), CoPant 84213 x IK76-158 (2), CoS 97261 x IK 76-158 (1), CoPant 8402 GC (1), CoPant 88220 GC (1), CoS 510GC (2), CoSe 92423GC (3), CoA 7602GC (4), CoPant 90223GC (3), CoS 96260GC (3) and ISH 229GC (2) had less than five selections per cross. Performance of 13 superior crosses having more number of selections is given in the following table.

Cross combination	Quantity of fluff sown (g)	No. of seedlings produced	Total number of seedlings evaluated	HR brix (%)		NMC		DIA		No. of seedlings selected
				Mean	Range	Mean	Range	Mean	Range	
Co 98008 X Co 89003	8.5	72	60	18.52	14-25					6
CoS 8436 X Co 89003	14.5	72	60	18.94	17-20					8
CoV 89101PC	14	72	60	18.82	10-23					15
LG 99183 X BO 130	7.5	72	60	17.31	10-24					11
ISH 287 X CoH 15	8	72	60	19.75	14-23					12
UP 9530 X CoPant 97222	22	50	50							7
Bo 91 X Co1158	14	72	64							6
Co 617 X CoPant 97222	13	72	64							7
ISH 100 X CoPant 97222	16.5	72	64							12
Bo 91 X Co 1148	19.5	72	64							10
UP 9530 X Co1148	14.5	72	64							10
Co 85002 X Co 1158	18.5	47	36							6
CoPant 01215 GC	24	72	60	18.84	16-22					9
CoPb 09181GC	55.5	12	11	18.79	11-22					11

Performance of crosses in first clonal trial : One hundred and ninety one clones of 37 crosses viz., Co 98010 x Co 775 (5), Co 98008 x Co 89003 (6), Co 98008 x Co 94008 (4), CoS 8436 x Co 89003 (8), CoV 89101PC (15), ISH 100PC (4), CoJ 83PC (5), LG 99183 x BO 130 (11), ISH 287 x CoH 15 (12), CoLK 8102 x Co 62198 (2), CoPant 96219 x HR 83-65 (1), UP 9530 x CoPant 97222 (7), BO 91 x Co1158 (6), Co 617 x Co 1158 (1), Co 617 x CoPant 97222 (7), BO 91 x CoPant 97222 (3), ISH 100 x CoPant 97222 (12), BO 91 x Co 1148 (10), UP 9530 x Co1148 (10), ISH 100 x Co1148 (1), Co 85002 x Co 1158 (6), ISH 100 x Co 1158 (3), CoPant 84212 x IK-76-158 (1), CoPant 90223 x IJ 76-436 (4), CoS 96260 x IK 76-158 (5), CoPant 84213 x IK76-158 (2), CoS 97261 x IK 76-158 (1), CoPant 01215 GC (9), CoPant 8402 GC (1), CoPant 88220 GC (1), CoS 510GC (2), CoSe 92423GC (3), CoA 7602GC (4), CoPant 90223GC (3), CoS 96260GC (3), ISH 229GC (2) and CoPb 09181GC (11) were planted in first clonal trial and will be evaluated during October 2018.

Performance of crosses in second clonal trial: Three hundred and sixty nine clones of 54 crosses were evaluated in second clonal trials. Thirty six crosses viz., Co 0238 x Co 775, Co J 83 x Co Pant 1215, CoPant 99214 x Co1148, CoS 91269 x Co 62198, Co 0237 GC, Co 7717 GC, Co 775 GC, Co Pant 84212 GC, Co Pant 84213 GC, Co Pant 90223 GC, Co Pant 90224 GC, Co Pant 96219 GC, Co Pant 97222 GC, Co Pant 98224 GC, Co Pant 99214 GC, CoH 70 GC, CoJ 88 GC, CoLK 7901 GC, CoH 97169 GC, CoLK 97169 GC, CoLK 98148 GC, CoS 90269 GC, CoS 92263 GC, CoS 92623 GC, CoS 99261 GC, CoT 8201 GC, UP 22 GC, UP 9530 GC, CoBln 4175 x CoPant 97222, ISH100 x Co 775, Co 0238 x Co775, Co7314 x Co1148, CoLK94184 x CoPant97222, BO91 x BO128, Co 0238 x Co1148 and Co 0238 x CoPant 97222 did not show superiority for any of the economic traits and hence no selections were made from these crosses. One selection each were made from the nine crosses viz., Co 7201 PC, CoJ 83 PC, CoJ 99192 PC, CoS 8436 PC, CoSe 92423PC, BO 91 x Co Pant 96219, CoS 8436 x Co 86249, CoSe 95422 GC and Co 98010 x Co1148. Crosses showing superiority for different economic traits having more than one selection are presented in the table.

Cross combination	No. of clones planted	No. of clones > 20% sucrose at 240 days	No. of clones > 22% sucrose at 300 days	No. of clones > 20% sucrose at 360 days	No. of clones > 70 NMC/20' row	No. of clones > 2.5 cm cane thickness	No. of red rot resistant clones	Superiority of the cross (sucrose/cane dia./red rot resistance.)	No. of clones selected
BO 91 X Co 453	10			2					4
Co 0238 X CoSe 92423	1			0					4
Co 86002 X CoS 510	7			3					3
Co J 64 X CoH 70	6			3					3
CoS 8436 X Co 89003	17			8					9
LG 95053 x BO 91	6			2					2
81 V 48 PC	8			2					2
CoS 8436 X CoPant 97222	15			0					2
Co 98008 X Co775	6			1					2

6.3.3.4 Shahjahanpur

Performance of crosses in ground nursery*: Ground nursery was established with 3135 seedlings of 30 crosses by sowing 641.7g of fluff. Narrow level of HR brix was observed in 15 crosses viz., CoS 91269 x Co 87268, CoLk 94184 x Co 62198, CoS 91269 x Co 775, CoS 07231 x CoH 70, CoS 96260 x CoH 70, Co 0238 x Co 775, CoPb 13182 x Co 1158, Co 8371 x Co 1148, CoS 96268 x Co 87268, CoC 8001 x CoS 93278, CoV 89101 x CoPant 97222, CoS 8436 x Co 775, CoS 96275 x Co 97015, CoS 8436 x CoS 96260 and CoPant 84212 x Co 89003. Performance of 15 crosses with wide range of HR brix with greater maximum values are given in the table.

Cross Combination	Quantity of fluff sown	No. of seedlings procured	Total number of seedlings evaluated	H.R. Brix (%)		NMC		DIA		No. of seedlings selected
				Mean	Range	Mean	Range	Mean	Range	
CoSe 01434 x CoS 510	22.5	950	758	15.0	9.0-21.0					
Co 86002 x CoPant 97222	13.0	102	88	14.3	9.6-19.0					
CoLk 8102 x Co 89029	50.0	340	307	15.0	10.0-20.0					
CoS 08279 x Co 62198	36.5	42	36	15.7	10.8-20.6					
CoS 08279 x BO 32	17.5	08	07	16.0	13.0-19.0					
Co 98008 x Co 1148	20.2	40	36	14.5	8.0-21.0					
Co 98010 x Co 97015	14.0	98	88	15.0	9.0-21.0					
CoS 08272 x Co 62198	29.0	95	88	14.9	10.0-19.8					
CoS 10239 x LG 08478	20.5	400	378	15.8	9.6-22.0					
Co 0238 x CoSe 92423	16.0	260	243	14.3	9.6-19.0					
CoLk 94184 x CoPant 97222	22.0	24	20	15.1	10.6-19.6					
CoPb 09181 x Co 775	13.0	04	04	14.6	10.4-18.8					

CoJ 83 x Co 775	27.0	205	190	14.2	9.6-18.8					
MS 6847 x CoPant 97222	8.5	10	09	14.6	11.2-18.0					
MS 6847 x CoPant 97222	23.5	04	03	17.5	15.0-20.0					

*Data on NMc and Cane diameter and number of seedlings selected were not reported by the centre

Performance of crosses in first clonal trial : One hundred and thirty eight clones of 43 crosses were planted in first clonal trial. No selections were effected in 31 crosses viz., Co 0238 x CoPant 97222, CoS 91269 x Co 775, Co 0238 x CoSe 92423, CoV 89101 x Co 1148, Co 07231 x Co 775, CoJ 83 x CoPant 97222, MS 68/47 x CoV 92102, Co 98010 x Co 1148 , Co 0124 x Co 98008, CoS 96260 x CoH 70, CoS 8436 x CoPant 97222, CoS 96260 x CoH 70, CoV 89101 x Co 1148-A, CoS 96275 x ISH 150, CoS 8436 x Co 89003, CoS 95255 x Co 86249, CoS 97264 x Co 775, CoSe 01434 x CoPant 97222, Co 8353 x 2000 V 59, Co 98008 x Co 775, LG 95053 x BO 91, Co 7314 x Co 1148, BO 91 x Co 453, CoS 96260 x CoH 70, CoS 91269 x CoC 671, CoS 97261 x Co 775, 57 NG 155 x Co 1148, U.P. 9530 x Co 86011, CoSe 95422 x CoPant 97222, 51NG 159 x CoSe 92423 and Co 7314 x Co 1148 due to their poor performance. The 12 crosses which produced selectable clones are given in the table.

Cross Combination	N o. of clones planted	H.R. Brix at 8 th month		H.R. Brix at 10 th month		H.R. Brix at 12 th month		No. of millable canes (NMC)		Cane diameter (cm)		N o. of clones selected
		Range	Mean	Range	Mean	Range	Mean	Range	Mean	Range	Mean	
CoS 8436 x Co 89003-A	07					11.-8-18.2	15.0					02
CoLk 8102x Co 775-A	08					13.4-20.6	17.0					04
Co 86011 x CoH 70-A	08					10.8-17.2	14.0					02
Co 0238 x CoS 8436	03					16.0-20.4	18.2					01
Co 99006 x CoS 8436	05					14.8-21.2	18.0					01
Co 99006 x CoSe 92423	28					12.8-21.0	16.9					03
Co 0238 x CoS 92423-Z	04					14.0-16.4	15.2					02
Co 0238 x Co 62198	03					14.0.-18.2	16.1					01
Co 0238 x CoT 8201	03					15.0-22.2	18.6					01
CoS 8436 x Co 89003-Z	02					14.8-15.4	15.1					01
CoLk 8102 x Bo 130 -A	04					14.8-17.0	15.9					01
Co 8371 x Co 1148 -A	02					14.8-18.0	16.4					01

Performance of crosses in second clonal trial: Forty clones of 21 crosses were evaluated in second clonal trials. Seven crosses viz. CoS 95255 x CoA 7602, CoS 8436 x Co 89003, CoH 119 x CoSe 92423, Co S 08272 x Co 775, CoH 70 x CoS 96275, CoS 96260 x CoH 70 and MS 68/47x Co 1148 did not show superiority for any of the economic traits and hence no selections were made from these crosses. Fourteen crosses showed superiority for some of the economic traits and their performance for different economic traits are presented in the table.

Cross combination	No. of clones planted	No. of clones with > 20% sucrose at 240 days	No. of clones with > 22% sucrose at 300 days	No. of clones with > 22% sucrose at 360 days	No. of clones with NMC /20' row	No. of clones with 2.5 cm cane thickness	No. of red resistant clones MR	Superiority of the cross (Sucrose (a)/NMC (b) /Cane diameter (c)/Red rot resistance (d)	No. of clones selected

Co 0238 x CoSe 92423	9	-	-	-		2	7		5
CoV 89101 x CoS 510	3	-	-	-		-	1		-
Co 99006 x ISH 129	3	-	-	-		-	1		-
CoSe 95422 x CoT 8201	3	-	-	-		1	-		-
LG 99122 x Co 453	1	-	-	-		-	1		-
CoS 8436 x Co 1148	1	-	-	-		-	1		-
Co 0238 x CoS 510	1	-	-	-		1	-		-
Co 8213 x CoS 96260	1	-	-	-		-	1		-
MS 68/47x CoV 92102	1	-	-	-		1	1		1
CoS 8436 x CoS 510	2	-	-	-		-	1		-
CoS 96260 x Co 775	1	-	-	-		1	-		-
CoS 97261 x Co 775	3	-	-	-		-	2		1
Co 0238 x Co 1148	1	-	-	-		-	1		-
CoS 8436 x CoS 96260	1	-	-	-		-	1		-

6.3.3.5 Uchani

Performance of crosses in ground nursery: Ground nursery was established with 12706 seedlings of 51 crosses including 24 station crosses, 6 proven crosses 13 general collections and 8 poly crosses. No germination was observed in 28 crosses viz., Co 0238 x Co 89029, Co 9801 x CoPant 97222, CoH 56 x Co 1148, Co 92013 x Co 62198, Co 0238 x CoPant 97222, CoS 97261 x Co 06037, CoH 7802 x Co 97015, CoS 97261 x Co 06037, CoH 92 x Co 1148, Co 0237 x CoS 510, CoJ 88 x Co 1158, CoH 128 x ISH 69, CoPb 10183 x Co 87268, CoH 110 x Co 62198, CoH 119 x Co 89003, CoH 119 x Co 1148, Co 0238 x CoSe 92423, Co 0237 x CoS 8436, Co 98008 x Co 89003, CoH 119GC, CoH 114 GC, CoS 97261 GC, CoLk 7901 GC, Co 7201 PC, CoJ 88 PC, CoSe 95422 PC, CoS 8436 PC and ISH 100PC.

Cross combination	Quantity of fluff sown	Total number of seedling produced	Seedling survived	HR Brix (%)		NMC		*Cane Diameter (cm)		Seedling selected
				Mean	Range	Mean	Range	Mean	Range	
CoH 92 x Co 89029	17.0	57	22	20.3	17.9-22.0	8	5-12			5
CoH 110 x CoS 88216	15.5	130	80	18.5	18.0-23.2	9	4-13	-	-	11
CoH 104 x Co 775	42.5	1668	1240	19.9	17.4-22.8	6	3-12	-	-	58
CoH 70 x CoPant 97222	13.0	352	302	17.8	16.0-19.9	5	2-7	-	-	11
CoH 128 x Co 06037	19.0	718	615	18.3	17.3-19.9	5	3-9	-	-	14
Co 1158 x CoS 93278	24.0	861	655	19.7	16.6-22.7	10	3-17	-	-	61
CoJ 83 x Co 87268	14.0	94	52	20.9	17.5-22.6	8	5-12	-	-	8
Co 8213 x CoH 70	17.0	188	102	19.5	17.3-20.9	7	4-10	-	-	10
CoS 8436 x Co 89003	12.0	860	566	20.0	17.0-22.8	5	2-11	-	-	30
Co 98010 x Co 775	12.0	825	602	19.6	17.6-22.1	6	2-10	-	-	21
Co 98008 x Co 94008	10.0	412	300	20.9	18.1-23.5	4	2-9	-	-	20
CoH 128GC	38.5	1588	1260	18.3	15.8-21.0	6	4-10	-	-	13
Co 7704 GC	7.5	560	462	19.8	18.1-22.0	9	5-16	-	-	17
CoH 56 GC	10.5	200	140	21.0	18.8-23.6	8	4-16	-	-	12
CoS 8436 GC	12.5	21	16	19.5	16.4-24.2	11	8-15	-	-	4
CoH 92GC	65.0	1920	1746	19.8	16.8-23.8	8	2-17	-	-	81
CoH 92GC	10.5	384	240	20.6	16.8-25.0	6	3-12	-	-	35
CoH 56 GC	7.0	194	104	19.5	16.4-23.4	8	3-17	-	-	28
Co 89003GC	7.5	56	34	22.8	22.7-22.8	4	3-4	-	-	2
CoS 96260GC	10.5	195	140	19.2	16.5-21.3	9	5-15	-	-	10
CoSe 92432 PC	9.5	116	76	18.6	18.2-19.7	5	3-10	-	-	10

CoV 89101PC	17.0	1213	896	20.4	17.3-25.1	9	3-17	-	-	40
CoJ 83PC	2.0	94	58	20.1	18.1-22.0	5	3-7	-	-	2
	912	12706	9708	-	-	-	-	-	-	503

Performance of crosses in first clonal trial: Three thousand two hundred and twelve clones of 61 crosses were evaluated in first clonal trial and 285 selections were effected from these for further studies. No selections were effected in 14 crosses viz., Co 7314 x Co 1148, Co 0124 x Co 94008, CoSe 95422 PC, CoJ 83 PC, CoS 96260GC, CoLk 97169 GC, Co 0237 GC, Co 775 GC, CoH 14 GC, Co 62198 GC, CoJ 87 GC, CoH 114 GC, Co 85002 GC and Co 7704 GC. Less than five selections were effected in the 18 crosses viz., Co 98008 x Co 775 (2) Co 0238 x CoSe 92423 (1) CoS 8436 x Co 89003 (2) CoS 8436 x CoPant 97222 (4) MS 68/47 x CoV 92102 (4) CoS 8436 PC (4), ISH 100 PC (1), CoJ 72 GC (2), ISH 229 (1), CoH 12 (1), CoH 112 (1), CoJ GC (4), CoH 14 GC (2), ISH 69 (2), Co 7717 (1), CoJ 88 (1) and Co 0118 (1). Crosses having more than five selections are presented in the following table.

Cross combination	No. of seedling planted	HR Brix at 8-9 th month		HR Brix at 10-12 th month		NMC		No. of clones selected
		Mean	Range	Mean	Range	Mean	Range	
Bo 91 x Co 453	60	20.0	18.7-21.8	22.3	20.6-24.0	6.3	3-9	8
Co 98010 x Co 1148	34	20.8	19.6-22.2	22.6	21.0-25.1	4.4	3-6	15
CoSe 92423 PC	155	20.6	19.6-23.0	22.2	21.0-24.3	4.5	3-6	6
CoV 89101 PC	120	21.1	18.2-22.8	22.6	21.0-24.2	4.8	3-7	19
CoJ 88 PC	205	20.5	19.0-20.4	23.1	20.0-23.6	6.0	4-8	8
Co7201 PC	173	20.7	19.1-21.7	22.5	21.2-24.0	3.6	2-5	18
CoH 110 GC	80	21.5	19.5-23.3	23.8	21.0-25.1	4.5	3-6	6
CoS 97261 GC	82	19.7	18.6-21.0	21.5	20.6-22.3	6.5	3-9	13
Co 86011 GC	43	21.0	17.6-24.5	23.1	21.0-25.4	4.4	3-7	10
CoJ 82315 GC	118	21.6	19.1-24.6	24.0	22.0-26.3	4.2	2-8	20
CoH 99 GC	44	21.3	19.5-23.4	23.7	22.0-25.0	4.3	3-6	6
CoJ 77 GC	85	18.8	16.8-20.4	23.1	22.1-24.0	4.8	3-6	4
CoH 119 GC	25	20.1	19.2-21.6	21.4	20.3-23.0	7.0	6-8	5
CoH 92 GC	296	20.4	15.4-24.0	22.9	20.6-25.5	5.1	3-8	32
Co 0327 GC	50	19.1	16.7-20.3	23.4	21.0-25.0	4.4	4-5	5
CoH 98 GC	49	19.4	17.6-23.3	24.4	21.0-25.0	3.0	2-4	7
CoS 510 GC	119	20.2	18.5-20.7	22.8	20.1-22.2	4.9	3-8	13
ISH 69 GC	145	21.4	19.2-25.1	23.3	21.0-26.0	4.4	3-8	17
CoH 102 GC	90	19.5	17.3-21.6	21.7	20.0-25.2	5.6	4-7	17
CoH 129 GC	105	21.1	19.1-23.4	22.5	21.2-24.9	4.7	3-8	13
Co 88039 GC	137	18.8	17.8-19.9	22.9	20.3-26.0	6.0	5-7	6
Co 99006 GC	76	22.9	21.0-24.6	24.7	22.4-26.0	5.9	4-7	7

Performance of crosses in second clonal trial: One hundred and seven clones of 17 crosses were evaluated in second clonal trials. Eleven crosses viz. CoS 8436 x Co 97015, MS 68/47 x CoV 92102, CoS 8436 x Co 89003, Co 0238 x Co 92423, Co 98008 x Co 775, Co 1148 GC, CoH 114 GC, Co 86011 GC, CoS 8436 PC, CoV 89101 PC and CoSe 95422 PC did not show superiority for any of the economic traits and hence no selections were made from these crosses. Performance of six crosses showing superiority for different economic traits having selections is presented in the table.

Cross combination	No. of clones planted	HR brix at 10 M		HR brix at 12M		No. of clones with > 20% sucrose at 240 days	No. of clones with > 22% sucrose at 300 days	No of clones with > 22% sucrose at 360 days	No. of clones with > 70N MC /20 ^r ow	No. of clones with > 2.5 cm cane thickness	No. of red rot resistant clones	Superiority of the cross (Sucrose /NMC /cane dia / Red rot resistance	No. of clones selected
		Mean	Range	Mean	Range								
Co 89003 x Co 775	11	21.3	20.5-22.3	23.7	22.5-25	-	-	-	-	-	-	-	4
Co 89003 x CoPant 97222	30	19.6	17.2-21.0	22.3	19.3-24	-	-	-	-	-	-	-	11
CoH 70 GC	2	19.2		23.5		-	-	-	-	-	-	-	1
CoH 99 GC	6	20.5	20.5-20.6		24-24.5	-	-	-	-	-	-	-	2
CoH 7803 GC	12	22.0		24.0		-	-	-	-	-	-	-	1
CoH 104 GC	8	22.0	19.5-20.7	24.0	23-23.5	-	-	-	-	-	-	-	2

6.3.4 North central and North East Zone

6.3.4.1 Bethuadahari

Performance of crosses in ground nursery (2017-18) Crosses made during 2016.

Cross combination	Quantity of fluff sown (g)	No. of seedlings produced	No. of seedlings evaluated	HR brix (%)		NMC		DIA		No. of seedlings selected
				Mean	Range	Mean	Range	Mean	Range	
BO 91 X CoH 70	13.5	120	58	19.3	17-22	2.2	2-5	1.85	1.52-2.04	58
BO 91 X CoSnk 05103	17.0	128	49	18.6	16-23	2.3	2-6	1.92	1.67-2.12	49
Co 98008 X CoH 70	20.0	362	164	17.4	14-21	2.1	2-4	1.96	1.59-2.16	164
BO 91 X Co 1148	10.0	346	106	18.2	16-22	2.4	2-6	2.04	1.88-2.23	106
Co 0238 X CoS 88216	14.5	10	2	20.5	20-21	2.5	2-3	1.87	1.66-2.08	2
Co 98008 x UP 05125	25.5	16	11	17.2	15-19	2.4	2-5	1.62	1.42-1.93	11
Co 0209 x CoSe 92423	12.0	68	37	19.7	17-22	2.3	2-4	1.73	1.49-1.98	37
MS 68/47 x Co 0233	23.5	52	17	19.8	17-22	2.5	2-4	1.85	1.67-2.11	17
CoH 119 x CoS 88216	77.0	17	3	20.3	19-21	2.3	2-3	1.81	1.70-2.01	3
Co 0238 x CoC 86062	12.5	22	14	19.7	18-23	4.6	2-3	1.77	1.64-2.05	14
CoJ 88PC	11.5	3	3	19.3	18-20	2.3	2-3	1.83	1.75-1.92	3
CoV 89101 PC	11.0	37	8	20.2	17-23	2.5	2-5	1.91	1.78-2.14	8
CoJ 83 PC	6.5	8	8	18.5	16-22	2.9	2-6	1.82	1.71-2.15	8
Co 89036 GC	162.5	158	80	18.2	16-23	3.4	2-7	1.68	1.48-1.91	80
Co 98008 GC	9.5	5	5	19.7	18-22	2.2	2-4	1.73	1.63-1.97	5
BO 91 GC	39.0	691	263	18.1	15-23	2.4	1-8	1.67	1.37-2.21	256

Performance of crosses in first clonal trial: Eight hundred twenty one selection from the 16 crosses viz., BO 91 x CoH 70 (58), BO 91 x CoSnk 05103 (49), Co 98008 x CoH 70 (164), BO 91 x Co1148 (106), Co 0238 x CoS 88216 (2), Co 98008 x UP 05125 (11), Co 0209 x CoSe 92423 (37), MS 68/47 x Co-0233 (17), CoH-119 x CoS 88216 (3),

Co 0238 x CoC 86062 (14), CoJ 88 PC (3), CoV 89101 PC (8), CoJ 83 PC (8), Co 89036 GC (80), Co 98008 GC (5), BO 91 GC (256) were planted in first clonal trials

Performance of crosses in second clonal trial: Second clonal trial was not conducted since Bethuadahari centre did not participate in crossing programme during 2014.

6.3.4.2 Buralikson

Performance of crosses in ground nursery

Cross combination	Quantity of fluff sown	No of seedlings produced	Number of seedlings evaluated	HR brix (%)		NMC		DIA		No. of seedlings selected
				Mean	Range	Mean	Range	Mean	Range	
CoJ46 x NCo310	22.5	30	22	22.5	20-23.8	3	2-4	1.46	0.5-1.9	3
CoLk8102xCoH15	7.5	14	12	18.3	17.5-18.5	3	1-4	1.5	0.5-2	5
LG05053x Co62198	22.0	5	4	20	18-22	3	1-5	1.2	1.1-1.8	2
Co0235X Co1158	30	2	2	20	18-22	3	1-5	1.2	1.1-1.8	2
CoPb10182x LG05493	29.5	105	50	20.2	16-22.9	3	1-5	1.6	0.5-1.8	5
UP9530 x LG5609	18.5	75	100	20.3	19-20.8	2	1-3	1.3	1-1.6	12
CoS96268xCo87268	12.0	5	5	20	19-21	2	1-3	1.0	0.5-1.3	1
LG95053x BO154	11.0	10	8	20.5	15.6-22.5	3	1-4	1.5	1.1-1.8	1
CoPb10182x CoS510	22.5	115	50	22.0	20-23	3	1-4	1.1	1.0-1.3	25
CoJ83 xCoH70	88.0	90	20	21.0	15.8-22.5	3	1-5	1.6	1.1-1.7	10
Co98008 xCo89003	44.5	50	10	22.0	20-23	3	1-4	1.1	1.0-1.3	3
ISH100 x Co94008	48.0	4	2	20.5	17.5-22.0	2	1-4	1.3	1.1-1.5	1

Performance of crosses in first clonal trial

Cross combination	No of clones planted	HR brix at 8 th month		HR brix at 10 th month		HR brix at 12 th month		Number of millable canes (NMC)		Cane diameter (cm)		No. of clones selected
		Mean	Range	Mean	Range	Mean	Range	Mean	Range	Mean	Range	
Co1158 x Co 62198	4	16.0	12.2-19.4	18.3	15-20.6	18.1	15.2-20.8	3	1-5	2.3	1.1-2.8	3
CoJ83 x CoH70	5	17.0	15-17	20.0	17-20	19.3	19-20.8	4	1-6	2.2	1.0-2.5	3
CoP 06436 x CoPant 97222	7	14.2	14-15	15.6	14-16	20.0	19-21	3	2-5	2.1	2-2.1	5
CoLk 94184 x BO 91	3	14.2	13.15	19.5	18-20.2	20.9	15.6-20.9	3	1-4	2.1	1.1-2.5	2
CoSe 95422 x Co 62198	11	19.2	14.2-23.2	21.0	15.4-25	22.4	16-27	3	1-5	2.2	1-2.6	4
CoSe 95422 x Co Se92423	5	20.0	20-20.7	21.6	20.9-22.2	22.7	22-23	4	1-5	2.1	1.24	3
CoS 8436X Co1148	6	21.6	21.2-22	22.5	20-25	24.6	22-27	3	1-5	2.2	2-2.5	4
CoS 8436 x Co 0233	10	20.0	19-22	21.6	20-22	22.0	20-23	3	1-4	2.3	2-2.5	8
CoSe 95422 x CoS 8436	3	14.4	12-15	15.0	13-16	16.0	14-18	4	2-5	2.1	2-2.2	2
CoSe 96436 x Co 0233	8	19.3	14.2-22	21.3	15.8-25	21.8	15-28.2	3	1-4	2.2	2-2.4	6
Co0233 x CoS 8436	5	15.9	14-20.2	19.6	15.2-25	22.5	16.0-28.2	3	1-5	2.1	2-2.5	4
CoSe 92423 PC	4	16.7	14.2-19.2	17.3	15-20	18.5	15-22	3	1-4	2.2	2-2.4	2
Co7201	17	14.8	14.2-15	15.3	15-16	19.5	18-20.2	4	2-5	2.1	2.2.5	10
CoV89101	4	14.6	14.2-15	16.5	15-18	19	18-20	3	1-4	2.1	2-2.4	3
CoJ88	1	18.8	16-20	20.8	18-25	23.23	20-28.2	3	1-5	2.0	1.8-2.3	1
CoSe 95422	1	19.5	17-20.2	22.9	19-25.2	23.6	19-25.4	3	1-5	2.2	1.9-2.5	1

CoS 8436	2	18.2	16-20	22.0	20-23	22.0	20.-23	3	1-4	2.1	1.9-2.4	2
CoJ83	3	18.7	17-20	21.5	18-24.6	22.9	18.4-28.2	2	1-3	2.2	1.8-2.3	2
CoBln 05501 GC	3	18.0	17-21	18.2	17-20	20.0	18-22	2	1-3	2.1	1.5-2.3	1
LG 05610	6	19.2	18-20	21.2	20-22	23.2	22-24.4	2	1-3	2.0	1.8-2.2	2
CoH 128	2	18.9	18.2-19.6	19	18-20	21.0	20-22	3	1-4	2.2	1.8-2.3	2
LG 95123	6	18.7	17-20.2	20.8	18-25.6	22.0	20-26	3	1-4	2.1	1.6-2.2	3
CoS 92263	4	18.9	18.2-19.6	19	18-20	21.0	20-22	3	1-4	2.2	1.8-2.3	2
LG 04602	2	17.9	16.2-19.2	19.3	18-20	18.6	17-20	2	1-3	2	1.9-2.2	2

Performance of crosses in second clonal trial

Cross combination	No. of clones planted	No. of clones with > 20% sucrose at 240 days	No. of clones with > 22% sucrose at 300 days	No. of clones with > 22% sucrose at 360 days	No. of clones with > 70NMC /20'row	No. of clones with > 2.5 cm cane thickness	No. of red resistant clones	Superiority of the crosses	No. of clones selected
LG 95053 x CoH 114	4	1	1	2	3	1	MR		1
ISH 100 x Co 62198	1	1	2	2	2	1	MR		1
Co 8353 x BO 96	1	0	0	1	1	0			0
CoN 98133 x Co775	4	1	4	5	5	2	MR		2
UP 9530 x CoP 9301	2	1	3	4	4	2	MR		2
LG 95053 x BO 91	2	1	2	3	3	1	MR		1
Co 7224 GC	1	0	1	2	2	1	MR		1
CoSe 95422 x CoS 8436	6	0	1	4	4	2	MR		2
CoLk 8102 x Co 62198	4	0	1	2	2	1	MR		1
BO 97 x BO 32	2	0	3	3	3	2	MR		2
CoJ 83 x Co 1148	0	0	1	1	1	0	MR		0
CoJ 83 x BO 110	1	1	5	5	5	2	MR		2
CoSe 95422 x Co 62198	6	0	3	3	3	1	MR		1
BO91 x NCo 310	3	0	3	3	3	1	MR		1
Co 880282	2	0	2	4	4	2	MR		2
C 79180	1	0	2	2	2	1	MR		
CoLk 8102 x NCo 310	2	0	1	1	1	0	MR		0
BO 109 GC	2	1	3	3	3	2	MR		2
Co 1158 x Co 62108	3	1	3	5	5	1	MR		1
Co 0240 x BO 91	2	1	4	4	4	2	MR		2
Co 8353 x BO 130	2	0	1	2	2	1	MR		1
Co 85002 x Co 62174	1	0	3	3	3	2	MR		2
Co 0240 x CoH 112	1	0	1	1	1	0	MR		0
CoS 8436 GC	1	1	5	5	5	2	MR		2
MS68/47 x Co 775	3	0	3	3	3	1	MR		1
CoSnk 05103 x BO 96	3	0	3	3	3	1	MR		1
Co 8213 x Co 99006	3	0	2	4	4	2	MR		2
CoBln 05501 x Co 775	5	0	2	2	2	1	MR		
CoS 8436 x Co 1148	4	0	1	2	2	1	MR		1
CoSe 95422	2	0	1	2	2	1	MR		1
BO 89	3	0	3	3	3	2	MR		2
C 79113	5	0	1	1	1	0	MR		0
HR 83-65	1	1	5	5	5	2	MR		2
Co 7424	3	0	3	3	3	1	MR		1
Co 58 ?	2	0	3	3	3	1	MR		1
CoPant88219	3	0	1	2	2	1	MR		1
CoPant 90224	3	0	3	3	3	2	MR		2
Co 99006	2	0	1	1	1	0	MR		0
CoSe 96436	3	1	5	5	5	2	MR		2

6.3.4.3 Pusa

Performance of crosses in ground nursery: Ground nursery was planted with 22831 seedlings were generated from 20629 g of fluff of 100 crosses and 1199 seedlings were established in the field. No selections was effected in 35 crosses and CoP03181 x Co89029, CoSe01434 x BO130, BO153 x Co62198, CoJ64 x ISH69, CoJ88 x BO17, Co1158 x CP 62-23, CoP9206 x CoS 96275, CoLk 94184 x Co 1148, Co 1148 x Co 62198, CoJ 83 x CoH70, CoLk 94184 x BO 91, CoSe96436 x Co0233, BO147 x CoPant 97222, CoPant 84212 x BO 130, CoC 671 x BO91, CoJ88 PC, CoS 8436 PC, CoP 03181GC, CoPant 96219GC, Co89003GC, CoH119GC, C79180 GC, BO 108GC, CoS 08272GC, UP 22 GC, C79218 GC, CoJ46 GC, Co0233 GC, BO 146 GC, Co1158 GC, UP1 GC, CoS 510 GC, Co 356 GC, ISH 147 GC and CoPant 84212 GC and selfs of two parents viz., BO102 and CoP 06436. Less than five slections were made in BO91 x Co62198 (1), BO154 x ISH307 (1), Co87268 x ISH69(1), Co 0238 x BO 153(1), CoS8436 x Co1148(1), CoS 767 x CoS 8436(1), CoPant 90223 x CoH70(1), ISH100 PC(1), CoA7602 GC(1), CoL 9GC(1), SP80-185GC(1) BO146 x Co89029 (2), CoLk8102 x Co0233 (2), LG 99110 x CoS 93278 (2), CoSe95422 x Co 62198 (2), CoS 8436 x Co0233 (2), CoS 8436 x BO 17 (2), CoPant 96219 xBO 120 (2), CoSe98231 x CoSe 95423 (2), CoC671 x BO99 (2), CoP 13438GC (2), CoP 9206 GC (2), BO 91 x Co 775 (3), ISH280GC (3), CoP 12436GC (3), CoP06436 x BO130 (4), LG02100 x CoS510 (4), CoSe95422 x CoSe 92423 (4), CoS 96260 x C 79180 (4), BO 91 x CoS 8436 (4), CP 52164 x BO91 (4), Co 312GC (4), BO154 self (4), CoP06436 x Co 62198 (5), CP52-1GC (5), BO 141GC (5), CoS 8432 GC (5). Other crosses having more number of selections are presented in the following table.

Cross combination	Quantity of fluff sown (gm)	No. of seedlings produced	Total no of seedlings evaluated	HR brix (%)		Number of NMC		Cane diameter (cm)		No. of seedling selected
				Mean	Range	Mean	Range	Mean	Range	
CoLk8102 x Co62198	22.5	127	70	20	19-22	3	2-5	2.2	2.1-2.6	23
CoLk8102 x BO130	37.5	230	110	21	19-23	4	3-6	2.3	2.2-2.5	10
LG 08422 x ISH127	12.0	21	18	20	19-23	3	2-6	2.2	2.1-2.6	13
BO154 x ISH127	15.5	50	23	21	19-22	3	2-4	2.1	2.1-2.6	10
CoA13327 x ISH307	22.5	213	18	20	19-21	3	2-6	2.4	2.1-2.6	06
BO154 x Co1158	25.5	1404	16	20	19-22	3	2-5	2.3	2.1-2.6	07
CoLk 94184 x BO102	8.5	47	21	20	20-24	4	2-5	2.4	2.1-2.6	06
UP 9530 x BO17	10.5	205	26	20	19-22	3	2-6	2.1	2.1-2.6	09
CoP 06436 x Co775	13.5	1220	50	21	19-23	4	2-6	2.3	2.1-2.6	17
Co 8213x BO 96	32.0	364	60	21	19-22	3	2-5	2.2	2.1-2.6	33
Co 92006 xCo1148	19.0	747	13	21	19-24	3	2-6	2.3	2.1-2.6	07
CoP 06436 x CoPant 97222	13.0	1360	50	20	19-23	2	2-4	2.1	2.0-2.4	14
CoSe 95422 x CoS 8436	11.5	508	27	20	19-23	3	2-6	2.3	2.1-2.6	10
Co0233 x CoS 8436	17.0	160	22	21	18-24	4	2-5	2.2	2.1-2.4	08
CoSe 95422 x CoS 90265	12.0	86	16	20	19-23	3	2-5	2.2	2.1-2.6	07
CoSe 92423 PC	10.0	983	60	21	19-24	3	2-4	2.2	2.1-2.6	19
CoV89101 PC	15.5	1363	21	20	19-21	3	2-5	2.6	2.2-2.8	10
CoSe 01434GC	60.0	516	30	21	20-24	4	2-5	2.3	2.1-2.5	11
CoLk 8002GC	88.5	271	18	20	19-23	4	2-6	2.4	2.1-2.8	10
CoLk 7901GC	1.5	1100	22	20	19-23	5	2-8	2.1	2.1-2.4	10
CoP 06436GC	44.0	200	14	20	19-24	4	2-5	2.3	2.1-2.5	08
CoSe92423 GC	28.5	1306	48	20	19-23	4	2-6	2.3	2.1-2.6	21
ISH176 GC	62	384	30	20	18-22	4	2-6	2.2	2.1-2.5	13
BO 47 self		27	18	21	20-24	4	2-6	2.2	2.1-2.5	08

Performance of crosses in first clonal trial : First clonal trials was conducted with 340 clones of 24 bi-parental crosses, a poly cross and 30 general collections and from these, 161 clones were selected. No selection was effected in 14 crosses viz., BO 92 x Co 86011, 97 R 401 x CoSe 92423, Co 06033 x CoSnk 03707, BO 91 x Co 62198, CoP 06436 x BO 32, BO 91 x ISH 176, CoJ 83 x CoSe 92423, CoA 11322 x CoP 9206, CoS 8436 x Co 0232, Co 62198 GC, SP 80-185 GC, Co 0233 GC, BO 136 GC and BO 97 GC while one selection was effected in 13 crosses viz., CoN 05071 x BO 17, MS 68/47 x Co 1148, CoS 8436 x Co 1148, UP 95030 x CoP 9301, CoC 671 x CoSe 92423, BO 108 x Co 62198, ISH 100 PC, CoJ 83 GC, Co 617 GC, Co 1148 GC, BO 102 GC, Co 1158 GC and CoP 03181 GC. Performance of other superior crosses is given in the following table.

Crosss Combination	No. of clones planted	HRB- 8		HRB-10		HRB-12		NMC		DIA		No. of seedling selected
		M e a n	Rang e	M e a n	Rang e	Me an	Rang e	M e a n	Ran ge	Me an	Rang e	
CoJ 83 x CoH 70	09	15	14-18	18	15-20	20	18-21	2	2-4	2.2	2-2.5	05
Co 0118 x 2000V 48	11	16	12-18	18	14-20	21	17-23	4	2-6	2.3	2-2.6	08
Co 0233 x CoS 8436	04	14	12-17	16	14-19	21	18-23	3	2-6	2.1	2-2.5	03
Co Lk 94184 x BO 91	05	11	10-14	17	15-19	21	19-23	5	3-7	2.0	2-2.4	02
Co 1158 x Co 62198	04	13	12-17	15	13-18	21	20-22	2	2-4	2.3	2-2.6	02
CoSe 95422 x Co 62198	12	12	12-16	16	15-18	22	20-23	3	2-6	2.4	2-2.8	07
Co 99006 x CoN 91132	03	12	11-15	16	15-19	20	18-22	2	2-4	2.0	2-2.2	02
BO 97 x Co775	10	14	11-16	16	14-19	21	18-22	3	2-5	2.2	2-2.4	03
CoSe 95422 x CoS 8436	12	14	12-16	16	15-18	20	18-21	5	2-8	2.2	2-2.4	08
BO 91 GC	04	15	12-17	20	18-22	22	20-24	4	2-8	2.6	2-2.8	04
BO 47 GC	06	14	13-18	16	14-19	22	19-23	3	2-5	2.2	2-2.4	05
CoA 93082 GC	08	13	11-15	15	1 -17	22	19-25	3	2-4	2.1	2-2.5	02
CoJ 88 GC	02	14	12-17	18	15-19	20	18-22	4	2-6	2.4	2-2.8	02
CoV 89101 GC	04	14	12-17	18	15-20	20	18-22	3	2-5	2.3	2-2.6	02
CoLk 8102 GC	05	15	12-17	17	15-19	21	18-23	3	2-6	2.2	2-2.5	02
CoP 06436 GC	33	16	14-16	20	16-22	22	18-23	4	2-8	2.4	2-2.6	22
BO106 GC	18	15	12-18	18	16-20	22	18-23	4	2-6	2.2	2-2.6	15
BO 17 GC	11	14	12-16	18	15-23	22	18-23	2	2-4	2.1	2-2.3	08
Co 0240 GC	25	15	12-18	17	15-19	22	18-23	3	2-6	2.6	2-2.8	12
BO 137 GC	09	14	12-16	16	15-19	21	16-22	4	2-7	2.2	2-2.4	02
BO 128 GC	11	16	14-18	18	15-20	22	17-24	3	2-6	2.3	2-2.6	07
CoSe 96436 GC	04	14	12-16	16	15-18	21	17-22	4	2-8	2.3	2-2.7	03
CoSe 92423 GC	09	15	12-18	16	14-18	21	16-22	3	2-5	2.2	2-2.4	06
BO 109 GC	08	13	12-16	16	15-18	21	18-22	3	2-6	2.4	2-2.6	06
BO 130 GC	03	15	12-18	16	14-19	20	16-21	3	2-4	2.0	2-2.2	03
BO 92 GC	05	14	12-17	15	13-19	21	15-22	4	2-6	2.3	2-2.6	02
Co 331 GC	03	12	10-14	16	13-18	20	18-22	3	2-5	2.2	2-2.5	02
CoPant 84212 GC	06	14	12-16	16	15-19	21	17-23	3	2-6	2.2	2-2.4	03

Performance of crosses in second clonal trial: No second trial was conducted involving the clones selected from the fluff received from ICAR-SBI.

6.4. Progress made by the participating centres of fluff supply programme

6.4.1 Peninsular Zone

6.4.1.1 Mandya

Year	No. of seedlings evaluated in ground nursery	No. of clones planted in first clonal trial	No. of clones in second clonal trial	No. of clones evaluated in station trial	No. of clones selected for zonal varietal trial	Name (s) of the clone(s) released by SVRC / CVRC
2017	-	-	-	-	CoVC 17061	
2016	1544	76			CoVC 16061 CoVC 16062	
2015	5671	400	79		CoVC 15061 CoVC 15062 CoVC 15063 CoVC 15064	
2014	5795	230	54	4	CoVC 14062 CoVC 14061	
2013						

6.4.1.2 Navsari

Year	No. of seedlings evaluated in ground nursery	No. of clones planted in first clonal trial	No. of clones in second clonal trial	No. of clones evaluated in station trial	No. of clones selected for zonal varietal trial	Name (s) of the clone(s) released by SVRC / CVRC
2013	14521	1493	115	40+6		
2014	17740	1584	293+7	46+6		
2015	17210	1075	280	40+6		
2016	8610	951	153			
2017	4591	278				

6.4.1.3 Padegaon

Year	No. of seedlings evaluated in ground nursery	No. of clones planted in first clonal trial	No. of clones in second clonal trial	No. of clones evaluated in station trial	No. of clones selected in zonal varietal trial	Name of clone released by SVRC/CVRC
2013-14	11820	97	---	15	MS 13081 & CoM 13082	NIL
2014-15	14297	505	---	9	MS 14081 & MS 14082	NIL
2015-16	7528	526	---	12	NIL	NIL
2016-17	17830	301	---	14	MS 16081 & MS 16082	NIL
2017-18	8495	215	---	17	MS 17081 & MS 17082	NIL
2018-19	7760	422	---	17		

6.4.1.4 Perumalapalle

Year	No. of seedlings evaluated in ground nursery	No. of clones planted in first clonal trial	No. of clones in second clonal trials	No. of clones evaluated in station trial	No. of clones selected for Zonal varietal trails	Name (s) of the clone(s) released by SVRC / CVRC
2013	5,093	202	48	0	1	
2014	8,651	140	24	14	2	
2015	5,382	90	36	20	0	
2016	13,386	249	33	19	1	
2017	5,137	220	96	18	1	

6.4.1.5 Pune

Cross Combination	No. of seedlings evaluated in ground nursery	No. of clones planted in first clonal trial	No. of clones in second clonal trial	No. of clones evaluated in station trial		No. of clones selected for zonal varietal trial	Name(s) of the clone(s) released by SVRC/CVRC
				PFVT	FVT		
2012	22151	128	-	11	06	01	
2013	9283	26	05	05	01	01	
2014	9710	99	-	14	06*		
2015	16911	55	44	11*			
2016	13,893	49*					

6.4.4.6 Rudrur

Year	No. of seedlings evaluated in ground nursery	No. of clones planted in first clonal trial	No. of clones in second clonal trial	No. of clones evaluated in station trial	No. of clones selected for zonal varietal trial	Name (s) of the clone(s) released by SVRC / CVRC
2012-13	10790	572	84	9 Early + 5 Mid-late	NIL-	NIL
2013-14	630	123	41	9 Early + 16 Mid-late	-NIL	NIL
2014-15	5728	220	45	9 Early + 9 Mid-late	-NIL	NIL
2015-16	5640	270	250	22	NIL	NIL
2016-17	9168	2740	482	-	-	-

6.4.4.7 Sankeshwar

Year	No. of seedlings evaluated in ground nursery	No. of clones planted in first clonal trial	No. of clones in second clonal trial	No. of clones evaluated in station trial	No. of clones selected for zonal varietal trial	Name (s) of the clone(s) released by SVRC / CVRC
2013-14	3012	3012	459	50	-	-
2014-15	4011	308	230	21	-	-
2015-16	7280	642	-	-	-	-
2016-17	6140	-	-	-	-	-
2017-18	656	-	-	-	-	-

6.4.4.8 Thiruvalla

Year	No. of seedlings evaluated in ground nursery	No. of clones planted in first clonal trial	No. of clones in second clonal trial	No. of clones evaluated in station trial	No. of clones selected for zonal varietal trial	Name (s) of the clone(s) released by SVRC / CVRC
2013-14	230*	44	28	**	-	-
2014-15	783*	108	**			
2015-16	Seedling stage	**				
2016-17	Seedling stage	**				

* Observations on seedlings with low HR brix were not recorded; ** Trials are in progress

6.4.2 East Coast Zone

6.4.2.1 Anakapalle

Year	No. of seedlings evaluated in ground nursery	No. of clones planted in first clonal trial	No. of clones in second clonal trial	No. of clones evaluated in station trial	No. of clones selected for zonal varietal trial	Name (s) of the clone(s) released by SVRC / CVRC
2013-14	6888	355	93	22	Early- 4 Midlate- 5	CoA 06321 and CoA 05323 released by SVRC in 2012-13
2014-15	8539	300	115	26	Early- 2 Midlate- 2	-
2015-16	7314	760	76	28	-	CoA 08323 and CoA05322 released by SVRC in 2015-16
2016-17	5931	609	225	25	Early-1 Mid-late- 1	-
2017-18	5273	207	122	23	Early- 3 Midlate- 1	CoA 11321 submitted release and notification proposal to CVRC

6.4.2.2 Cuddalore

Year	No. of seedlings evaluated in ground nursery	No. of clones planted in first clonal trial	No. of clones planted in second clonal trial	No. of clones planted in station trial	No. of clones selected for zonal varietal trial	Name of clone(s) released by SVRC / CVRC
2017-18	4,335	351				
2016-17	4,732	332	108			
2015-16	4189	428	175	67		
2014-15	4625	839	262	95	24?	-
2013-14	23309	788	215	73	1(Early)	-

6.4.2.3 Vuyyuru

Year	No. of seedlings evaluated in ground nursery	No. of clones planted in first clonal trial	No. of clones in second clonal trial	No. of clones evaluated in station trial	No. of clones selected for zonal varietal trial	Name (s) of the clone(s) released by SVRC / CVRC
2013	9633	166	49	12; Early (6) Mid late(6)	(2); 2006 V 51 (Co V 12-356); 2005 V 96 (Co V 12-	-

					357)	
2014	4475	133	42	16; Early (10) Mid late(6)	(1); 2006 V 41 (Co V 13-356)	-
2015	6660	97	44	14 Early (8) Mid late(6)	(1); 2007 V 127 (Co V 14-356)	-
2016	6291	180	35	12 Early (11) Mid late(1)	(1); 2009 V 127 (Co V 15-356)	-
2017	2750	253	180	*15 Early (10) Mid late(5)	(2); 2010 V 32 (Co V 16-356) 2010 V 146 (Co V 16-357)	-

6.4.2.4 Nayagarh

Year	No. of seedlings evaluated in ground nursery	No. of clones planted in 1 st clonal trial	No. of clones planted in 2 nd clonal trial	No. of clones evaluated in station trial	No. of clones selected for zonal varietal trial	Names of the clone(s) released by SVRC / CVRC
2013	420	210	112	34	1 (CoOr 13346)	CoOr 04152 & CoOr 05346
2014	386	160	104	40	1 (CoOr 14346)	
2015	324	148	110	36	1 (CoOr 15346)	
2016	298	180	98	32		CoOr 10346
2017		353	58	30	1 (CoOr 17346)	

6.4.3 Northwest Zone

6.4.3.1 Faridkot

year	No. of seedlings evaluated in ground nursery	No. of clones planted in first clonal trial	No. of clones planted in second clonal trial	No. of clones evaluated in station trial	No. of clones selected for zonal varietal trial	Name of the clone(s) released by SVRC/ CVRC
2017-18	612	-	-	-	-	-
2016-17	667	355	48	-	-	-
2015-16	773	501	37	14+9	-	-
2014-15	1551	587	50	17+8	-	-
2013-14	468	451	100	18	-	-
2012-13	2484	1245	149	17	1	-

6.4.3.2 Kapurthala

Year	No. of seedlings evaluated in ground nursery	No. of clones planted in first clonal trial	No. of clones in second clonal trial	No of clones evaluated in station trial	No. of clones selected for Zonal varietal trial	Name (s) of the clone(s) released by SVRC / CVRC
2014	1965	Shifted from Ladhawal	123	36	02 (CoPb 14211 & CoPb 14212)	01 (CoPb 09181) through SVRC

2015	4360	328	435	55	04 (CoPb 15211, CoPb 15212, CoPb 15213 & CoPb 15214)	-
2016	8500	433	146	74	02 (CoPb 16211 & CoPb 16212)	01 (CoPb 08212) through CVRC
2017	12663	822	120	64	05 (CoPb 17211, CoPb 17212, CoPb 17213, CoPb 17214 & CoPb 17215)	02 (CoPb 08217 and CoPb 10181) through SVRC
2018	6250	810	174	58	-	-

6.4.3.3 Lucknow

Year	No. of seedlings evaluated in the ground nursery	No. of clones planted in first clonal trial	No of clones in second clonal trial	No. of clones evaluated in station trial	No. of clones selected for zonal varietal trial	Name(s) of the clone(s) released by CVRC / SVRC
2013-14	9924	108	40	20	5	-
2014-15	12760	110	38	20	5	-
2015-16	17988	293	45	16	9	-
2016-17	13213	222	57	12	4	CoLk 09204
2017-18	24429	225	26	11	5	CoLk 11206 and CoLk 11203

6.4.3.4 Pantnagar

Year	No. of seedlings evaluated in ground nursery	No. of clone planted in first clonal trial	No. of clones in second clonal trials	No. of clones in third clonal trial	No. of clones evaluated in station trial	No. of clones selected for zonal varietal trial	Name (s) of the clone(s) released by SVRC/CVRC
2013-14	-	558	-	29	32	2	
2014-15	28286	-	368	-	22	-	
2015-16	4900	508	-	84	-	4	
2016-17	1903	-	255	81	58	4	
2017-18	1487	191	184	-	57	4	

6.4.3.5 Shajahanpur

Year	No. of seedlings evaluated in ground nursery	No . of clones planted in first clonal trial	No . of clones in second clonal trial	No . of clones evaluated in station trial	No . of clones selected for zonal varietal trial	Name (s) of the clone (s) released by SVRC/CVRC
2013-14	8281	1984	101		03	01
2014-15	45801	2079	172		03	
2015-16	14048	1136	36		04	
2016-17	6770	751	36		03	
2017-18	3319	715	52		07	

6.4.3.6 Uchani

Year	No. of seedlings evaluated in ground nursery	No. of clones planted in first clonal trial	No. of clones in second clonal trials	No of clones evaluated in station trial	No. of clones selected for zonal varietal trial	Name (s) of the clone(s) released by SVRC / CVRC
2013-14	9595	369	48	3	1	
2014-15	12588	373	107	16		
2015-16	33947	3212	285			
2016-17	9708	503				
2017-18	*Fluff was not received by the centre during Feb/March, 2017					

6.4.4.4 North Central and North East Zone

6.4.4.1 Bethudahari

Summary of progress made by the fluff receiving Centre during the last five years (#)

Year	No. of seedlings evaluated in ground nursery	No. of clones planted in first clonal trial	No. of clones in second clonal trial	No of clones evaluated in station trial	No. of clones selected for zonal varietal trial	Name (s) of the clone(s) released by SVRC / CVRC
2017	828	821				
2016	0					
2015	0					
2014	0					
2013	0					

#No participation in crossing programme during 2012-2015 from Bethuadahari Centre

6.4.4.2. Buralikson

Year	No. of seedlings evaluated in ground nursery	No. of clones planted in first clonal trial	No. of clones in second clonal trial	No of clones evaluated in station trial	No. of clones selected for zonal varietal trial	Name (s) of the clone(s) released by SVRC / CVRC
2018	505	105	77	30	-	
2017	1720	100	38	31	2	
2016	1897	150	62	24	2	
2015	4839	170	55	9	2	
2014	11673	287	30	20	2	

6.4.4.3 Pusa

Year	No. of seedlings raised /evaluated in ground nursery	No. of clones planted in first clonal trial	No. of clones planted in second clonal trial	No. of clones evaluated in station trial	No. of clones selected for zonal varietal trial	Names of the clones released by SVRC / CVRC
2013-14	817(only Pusa cross)	591	103	11	04	-----
2014-15	5859	441	108	13	06	CoP11437(CoP112) early variety through SVRC and CoP 2061(ML) through CVRC
2015-16	26824	231	174	08	06	-----
2016-17	40427	441	94	10	07	Rajendra Ganna -1 (CoP16437) early variety through SVRC
2017-18	23812	448	162	10		

B. III 7.Evaluation and identification of climate resilient ISH and IGH genetic stocks (2017-18)

7.1 Evaluation for drought tolerance (II Plant)

Locations (4)	Tropical: Padegaon, Anakapalle Subtropical: Karnal, Faridkot
Entries (27)	BM 1003143, BM 1005149, BM 1009163, BM 1010168, BM 1022173, PG 9869137, SA 98-13, SA 04-454, SA 04-4792, SA 04-458, SA 04-390, SA 04-496, SA 04-409, AS 04-1689, AS 04-245, AS 04-2097, AS 04-635, AS 04-1687, MA 5/51, MA 5/5, MA 5/37, MA 5/99, MA 5/22, GU 07-3849, GU 07-3774, GU 07-2276 and CYM 07-986
Standards (3 for each region)	Padegaon :CoM 88121 (Check1), CoM 0265 (Check 2) and Co 86032 (Check 3) Anakapalle :83 R 23 (Check 1), CoA 06231 (Check 2) and CoA92081(Check 3) Faridkot : Co 98014 (Check 1), CoJ 88 (Check 2) and CoPb 91 (Check 3) Karnal : Co 0238 (Check 1), CoJ 88 (Check 2) and Co 98014 (Check 3)
Design	Alpha
Replications	Two
Plot size	6m x 2R x 0.90m
Seed rate	12 buds per meter
Year of start	2016-17
Crop duration	12 months

Results of the previous year:

Considering cane yield, juice quality and other physiological parameters, three entries viz., AS 04-1689, AS 04-1687 and AS 04-635 were found to be tolerant to drought in I plant crop

Results of the current year:

Twenty seven ISH/IGH clones were evaluated under drought condition by withdrawing irrigation between 60 to 150 days after planting at four centers. Data on cane yield, juice quality, physiological and agronomical traits contributing to drought tolerance were recorded. Percentage change due to imposition of drought for the characters was worked out (Table 7.1.1 to Table 7.1.34).

Response of entries to drought:

Twenty seven entries were analyzed individually for different cane yield, juice quality and drought related traits for their response to drought (Table 7.1.35). The entries which showed less than 5% reduction under drought were identified as tolerant clones. In general juice quality traits viz., Brix at 300 days, sucrose % at 300 days, Juice Brix %, at harvest, juice sucrose %, CCS% at 300 days, CCS% at harvest and cane fibre parameters like, cane fibre at 300 days and cane fibre % at harvest were less influenced by drought stress as more than 20 clones showed less reduction.

Analysis of yield contributing traits indicated that AS04-635, BM1022-173, CYM07-986, MA05/51 and PG9869-137 for tillers at 90 days (000'/ha), CYM07-986, PG9869-137, SA04-472 and SA04-472 for tillers at 120 days (000'/ha), SA04-458 for shoots at 150 days (000'/ha), AS04-1687, AS04-1689, AS04-2097, AS04-635, BM1005-149, GU07-3774 and SA04-458 for Shoots at 180 days (000'/ha), GU07-3849, PG9869-137 and SA04-458 for number of millable canes at 240 days (000'/ha), SA04-458 number of millable canes at harvest (000'/ha), GU07-3774 and MA05-99 for single cane weight (Kg) at 300 days, AS04-1687, AS04-2097, AS04-245, BM1005-149, BM1009-163, CYM07-986, GU07-3774, MA05-99, MA5/5, SA04-458 and SA98-13 for cane length (cm) at 300 days, BM1003-143, BM1009-163, BM1010-168, GU07-2276, SA04-409, SA04-472 for single cane weight (Kg) at harvest, AS04-1687, AS04-245, BM1005-149, BM1009-163, BM1022-173, CYM07-986, GU07-3774, GU07-3849, MA5/37, SA04-409, SA04-496 cane length (cm) at harvest, AS04-1687, AS04-1689, AS04-2097, AS04-635, BM1003-143, GU07-2276, GU07-3774, MA05-99, MA05/51, MA5/37, MA5/5, SA04-409, SA04-454, SA04-458, SA04-472, SA04-496 for cane diameter (cm) at harvest, SA04-409 for number of inter nodes at harvest, AS04-1687, BM1003-143, BM1009-163, BM1010-168, BM1022-173, CYM07-986, GU07-2276, GU07-3774, GU07-3849, MA05-99, MA05/22, MA05/51, MA5/37, MA5/5, PG9869-137, SA04-390, SA04-409, SA04-454, SA04-458, SA04-472, SA04-496 for tiller mortality showed less than 5 percent reduction. Similarly AS04-1687, AS04-2097, AS04-635, BM1003-143, BM1009-163, MA05-99, MA05/51, MA5/37, MA5/5, PG9869-137, SA04-409, SA04-458, SA04-472, SA98-13 for juice extraction percent at harvest and AS04-2097, AS04-245, BM1005-149, CYM07-986, MA5/37, MA5/5, SA04-390, SA04-454, SA04-458, SA04-496, SA98-13 for CCS yield (tones/ha) at harvest showed less than five percent reduction. The complex character cane yield showed considerable reduction under drought however the entries viz., AS04-1687, AS04-2097, AS04-245, BM1005-149, GU07-3774, SA04-454 and SA04-458 recorded <25% reduction for cane yield at harvest considering all the centers performance. Whereas the clones GU07-3774 and SA04-458 showed <10% reduction in subtropical condition and the entries BM1009-163, BM1010-168, MA5/37, MA5/5, SA04-390, SA04-454, SA04-458 showed <10% reduction in tropical conditions.

Considering yield and other quality parameters, SA04-458, GU07-3774, MA5/37, MA5/5, SA04-390 and SA04-454 are comparatively better drought tolerant clones.

Varietal Improvement Programme- AICRP (Sugarcane)
Principal Investigator's Report (2017-18)
Evaluation and identification of climate resilient ISH and IGH genetic stocks

Table 7.1.1: Germination %

Entry	Karnal			Faridkot			Anakapalle			Padegaon			Mean		
	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change
AS04-1687	71.08	76.30	7.34	72.73	69.04	-5.07	51.42	51.10	-0.62	53.67	82.03	52.84	62.23	69.62	11.88
AS04-1689	66.64	68.14	2.25	61.85	52.78	-14.66	68.00	62.59	-7.96	76.04	67.01	-11.88	68.13	62.63	-8.08
AS04-2097	63.55	62.49	-1.67	66.48	55.23	-16.92	62.88	51.59	-17.95	58.85	58.55	-0.51	62.94	56.97	-9.49
AS04-245	62.07	63.89	2.93	58.70	49.57	-15.55	26.77	44.60	66.60	49.91	51.74	3.67	49.36	52.45	6.25
AS04-635	61.89	59.17	-4.39	61.52	63.13	2.62	51.13	50.01	-2.19	84.35	74.00	-12.27	64.72	61.58	-4.86
BM1003-143	63.22	59.08	-6.55	61.67	50.99	-17.32	57.17	35.25	-38.34	68.84	68.75	-0.13	62.73	53.52	-14.68
BM1005-149	51.22	50.85	-0.72	62.59	52.03	-16.87	33.36	44.26	32.67	67.71	54.51	-19.49	53.72	50.41	-6.16
BM1009-163	63.18	60.69	-3.94	68.33	50.31	-26.37	50.79	40.98	-19.31	80.12	70.49	-12.02	65.61	55.62	-15.22
BM1010-168	66.33	63.17	-4.76	77.59	53.75	-30.73	61.34	45.67	-25.55	79.69	72.09	-9.54	71.24	58.67	-17.64
BM1022-173	64.46	63.00	-2.26	51.15	55.72	8.93	32.33	43.21	33.65	64.56	62.54	-3.13	53.13	56.12	5.63
CYM07-986	59.73	57.85	-3.15	42.78	41.62	-2.71	50.79	45.49	-10.44	48.44	54.64	12.80	50.44	49.90	-1.06
GU07-2276	54.51	52.64	-3.43	53.74	54.79	1.95	60.30	47.41	-21.38	81.66	75.26	-7.84	62.55	57.53	-8.04
GU07-3774	71.65	70.19	-2.04	52.36	58.41	11.55	52.81	43.12	-18.35	85.53	80.51	-5.87	65.59	63.06	-3.86
GU07-3849	70.49	71.60	1.57	65.00	57.18	-12.03	57.93	42.45	-26.72	85.94	87.98	2.37	69.84	64.80	-7.21
MA05-99	44.37	44.28	-0.20	19.03	16.19	-14.92	52.11	34.23	-34.31	65.73	72.18	9.81	45.31	41.72	-7.92
MA05/22	60.62	58.20	-3.99	62.63	59.97	-4.25	24.34	39.39	61.83	81.66	75.26	-7.84	57.31	58.21	1.56
MA05/51	62.14	57.83	-6.94	54.49	58.49	7.34	35.16	29.52	-16.04	75.11	69.05	-8.07	56.73	53.72	-5.29
MA5/37	33.34	37.58	12.72	53.15	42.36	-20.30	77.66	62.34	-19.73	59.90	58.81	-1.82	56.01	50.27	-10.25
MA5/5	54.02	56.11	3.87	30.14	22.11	-26.64	53.69	50.84	-5.31	61.87	61.72	-0.24	49.93	47.70	-4.48
PG9869-137	35.40	31.06	-12.26	51.99	32.01	-38.43	52.18	48.37	-7.30	51.58	70.57	36.82	47.79	45.50	-4.78
SA04-390	23.42	18.76	-19.90	54.12	54.24	0.22	28.85	35.52	23.12	62.48	52.13	-16.57	42.22	40.16	-4.87
SA04-409	53.85	56.58	5.07	63.89	55.43	-13.24	53.00	47.71	-9.98	81.34	62.50	-23.16	63.02	55.56	-11.85
SA04-454	46.33	45.63	-1.51	51.15	39.43	-22.91	37.25	35.18	-5.56	49.98	59.42	18.89	46.18	44.92	-2.73
SA04-458	48.83	45.11	-7.62	73.15	72.27	-1.20	56.98	45.59	-19.99	55.73	63.76	14.41	58.67	56.68	-3.39
SA04-472	60.02	62.66	4.40	55.69	52.01	-6.61	73.14	64.37	-11.99	51.58	71.61	38.83	60.11	62.66	4.25
SA04-496	45.59	50.16	10.02	62.36	37.19	-40.36	63.29	39.69	-37.29	49.50	61.20	23.64	55.19	47.06	-14.72
SA98-13	48.97	56.77	15.93	45.74	27.82	-39.18	45.17	33.09	-26.74	67.19	68.97	2.65	51.77	46.66	-9.86
Standards															
Check1	49.05	49.67	1.26	46.44	38.41	-17.29	59.95	58.82	-1.88	77.60	64.02	-17.50	58.26	52.73	-9.49
Check2	50.33	54.59	8.46	61.89	59.23	-4.30	49.75	38.65	-22.31	81.66	51.30	-37.18	60.91	50.94	-16.36
Check3	37.50	37.57	0.19	48.70	40.88	-16.06	54.20	46.98	-13.32	69.90	80.51	15.18	52.58	51.49	-2.07
GM	54.79	54.72	-0.13	56.37	49.09	-12.91	51.12	45.27	-11.44	67.60	66.77	-1.23	57.47	53.96	-6.10
CV	7.63	7.20		12.73	12.34		15.23	16.73		15.11	12.97				

Varietal Improvement Programme- AICRP (Sugarcane)
 Principal Investigator's Report (2017-18)
 Evaluation and identification of climate resilient ISH and IGH genetic stocks
 Table 7.1.2: Tillers at 90 days (000'/ha)

Entry	Karnal			Faridkot			Anakapalle			Padegaon			Mean		
	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change
AS04-1687	164.50	148.20	-9.91	196.60	157.80	-19.74	76.82	72.07	-6.18	292.90	189.30	-35.37	182.71	141.84	-22.37
AS04-1689	179.00	147.10	-17.82	172.20	150.90	-12.37	95.41	91.21	-4.40	363.70	335.10	-7.86	202.58	181.08	-10.61
AS04-2097	116.60	86.28	-26.00	137.30	116.50	-15.15	92.13	84.42	-8.37	256.90	142.90	-44.38	150.73	107.53	-28.67
AS04-245	114.60	98.61	-13.95	135.10	107.90	-20.13	47.69	68.75	44.16	289.60	218.80	-24.45	146.75	123.52	-15.83
AS04-635	104.80	81.25	-22.47	122.30	155.20	26.90	72.52	74.87	3.24	228.90	253.70	10.83	132.13	141.26	6.91
BM1003-143	93.29	82.91	-11.13	67.41	84.87	25.90	79.79	60.55	-24.11	292.90	164.50	-43.84	133.35	98.21	-26.35
BM1005-149	114.70	91.16	-20.52	144.80	108.70	-24.93	50.93	73.38	44.08	283.10	220.30	-22.18	148.38	123.39	-16.85
BM1009-163	111.80	88.89	-20.49	137.40	139.70	1.67	71.59	61.44	-14.18	199.80	165.10	-17.37	130.15	113.78	-12.57
BM1010-168	115.70	89.98	-22.23	161.00	93.56	-41.89	88.59	70.74	-20.15	294.80	157.70	-46.51	165.02	103.00	-37.59
BM1022-173	103.40	69.21	-33.07	75.65	113.70	50.30	56.03	69.67	24.34	177.00	141.70	-19.94	103.02	98.57	-4.32
CYM07-986	88.06	82.28	-6.56	62.31	74.03	18.81	68.81	66.53	-3.31	126.50	119.10	-5.85	86.42	85.49	-1.08
GU07-2276	123.10	98.04	-20.36	95.19	106.10	11.46	79.79	73.05	-8.45	254.00	165.50	-34.84	138.02	110.67	-19.81
GU07-3774	191.50	159.90	-16.50	155.00	113.10	-27.03	72.64	65.12	-10.35	248.10	236.60	-4.64	166.81	143.68	-13.87
GU07-3849	156.10	133.60	-14.41	161.50	118.40	-26.69	83.38	66.67	-20.04	312.60	282.00	-9.79	178.40	150.17	-15.82
MA05-99	114.70	70.60	-38.45	33.61	32.44	-3.48	94.45	69.14	-26.80	257.30	243.10	-5.52	125.02	103.82	-16.95
MA05/22	98.61	76.75	-22.17	107.70	108.30	0.56	42.60	63.66	49.44	167.90	131.20	-21.86	104.20	94.98	-8.85
MA05/51	89.72	75.23	-16.15	116.60	108.30	-7.12	63.72	52.18	-18.11	137.90	158.80	15.16	101.99	98.63	-3.29
MA5/37	91.30	68.39	-25.09	81.57	44.40	-45.57	96.00	84.17	-12.32	151.50	134.80	-11.02	105.09	82.94	-21.08
MA5/5	88.43	73.97	-16.35	66.20	36.14	-45.41	70.08	74.98	6.99	181.70	123.80	-31.87	101.60	77.22	-24.00
PG9869-137	56.25	43.59	-22.51	68.52	66.04	-3.62	74.41	65.54	-11.92	111.40	134.70	20.92	77.65	77.47	-0.23
SA04-390	41.92	28.01	-33.18	143.00	91.51	-36.01	47.64	60.42	26.83	143.70	93.60	-34.86	94.07	68.39	-27.30
SA04-409	92.36	57.45	-37.80	88.15	81.91	-7.08	81.20	78.22	-3.67	155.80	158.00	1.41	104.38	93.90	-10.04
SA04-454	88.68	78.93	-10.99	114.10	100.40	-12.01	54.50	55.81	2.40	268.70	145.40	-45.89	131.50	95.14	-27.65
SA04-458	87.02	69.61	-20.01	115.00	119.40	3.83	85.14	66.90	-21.42	253.20	211.40	-16.51	135.09	116.83	-13.52
SA04-472	126.60	100.90	-20.30	142.50	120.10	-15.72	115.90	111.50	-3.80	231.70	173.60	-25.08	154.18	126.53	-17.93
SA04-496	104.40	84.33	-19.22	101.10	95.67	-5.37	86.45	69.24	-19.91	174.30	129.20	-25.87	116.56	94.61	-18.83
SA98-13	112.90	88.13	-21.94	75.09	42.46	-43.45	62.92	65.51	4.12	266.10	187.30	-29.61	129.25	95.85	-25.84
Standards															
Check1	98.03	76.59	-21.87	75.83	70.22	-7.40	78.41	86.55	10.38	150.60	160.70	6.71	100.72	98.52	-2.19
Check2	101.90	72.99	-28.37	75.92	129.00	69.92	69.78	61.83	-11.39	179.90	133.10	-26.01	106.88	99.23	-7.15
Check3	78.67	62.42	-20.66	68.98	82.18	19.14	75.89	76.62	0.96	193.40	162.50	-15.98	104.24	95.93	-7.97
GM	108.32	86.19	-20.43	109.90	98.99	-9.93	74.51	71.36	-4.23	221.50	175.80	-20.63	128.56	108.09	-15.92
CV	4.82	3.79		11.80	16.78		12.64	13.42		13.95	16.35				

Varietal Improvement Programme- AICRP (Sugarcane)
 Principal Investigator's Report (2017-18)
 Evaluation and identification of climate resilient ISH and IGH genetic stocks
 Table 7.1.3: Tillers at 120 days (000'/ha)

Entry	Karnal			Faridkot			Anakapalle			Padegaon			Mean		
	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change
AS04-1687	172.96	156.20	-9.69	247.20	241.10	-2.47	96.65	89.93	-6.95	319.20	212.80	-33.33	209.00	175.01	-16.27
AS04-1689	192.71	153.80	-20.19	214.60	194.50	-9.37	119.10	104.40	-12.34	381.50	338.20	-11.35	226.98	197.73	-12.89
AS04-2097	122.14	92.63	-24.16	166.90	178.00	6.65	114.30	100.00	-12.51	281.10	159.60	-43.22	171.11	132.56	-22.53
AS04-245	125.66	104.50	-16.84	218.20	185.50	-14.99	74.00	89.13	20.45	299.70	272.90	-8.94	179.39	163.01	-9.13
AS04-635	167.87	93.26	-44.45	255.40	235.50	-7.79	101.50	93.01	-8.36	305.90	297.80	-2.65	207.67	179.89	-13.37
BM1003-143	108.95	96.26	-11.65	113.00	132.50	17.26	97.60	80.35	-17.67	295.10	186.80	-36.70	153.66	123.98	-19.32
BM1005-149	121.88	99.69	-18.21	181.20	153.70	-15.18	76.78	95.61	24.52	311.50	245.60	-21.16	172.84	148.65	-14.00
BM1009-163	118.71	94.79	-20.15	162.60	171.40	5.41	92.75	77.74	-16.18	225.10	196.10	-12.88	149.79	135.01	-9.87
BM1010-168	121.21	101.40	-16.34	203.10	206.90	1.87	105.00	91.00	-13.33	311.10	239.30	-23.08	185.10	159.65	-13.75
BM1022-173	113.24	78.45	-30.72	148.80	165.10	10.95	78.16	83.57	6.92	205.00	169.10	-17.51	136.30	124.06	-8.98
CYM07-986	97.66	91.47	-6.34	82.18	89.64	9.08	95.53	85.61	-10.38	160.00	182.60	14.13	108.84	112.33	3.20
GU07-2276	134.76	104.90	-22.16	161.80	209.20	29.30	102.20	93.78	-8.24	274.70	221.60	-19.33	168.37	157.37	-6.53
GU07-3774	199.99	164.70	-17.65	190.70	201.10	5.45	99.42	86.69	-12.80	302.50	241.10	-20.30	198.15	173.40	-12.49
GU07-3849	181.45	147.00	-18.99	212.50	216.30	1.79	105.70	83.60	-20.91	346.40	308.50	-10.94	211.51	188.85	-10.71
MA05-99	118.05	73.06	-38.11	61.13	58.89	-3.66	109.60	89.89	-17.98	276.10	260.60	-5.61	141.22	120.61	-14.59
MA05/22	105.13	85.47	-18.70	181.80	122.50	-32.62	69.37	80.34	15.81	180.10	159.50	-11.44	134.10	111.95	-16.52
MA05/51	95.36	76.30	-19.99	134.40	127.70	-4.99	88.59	75.42	-14.87	177.90	139.30	-21.70	124.06	104.68	-15.62
MA5/37	99.97	72.49	-27.49	111.00	83.72	-24.58	111.40	101.60	-8.80	176.40	209.40	18.71	124.69	116.80	-6.33
MA5/5	94.48	78.52	-16.89	73.72	52.22	-29.16	94.78	93.48	-1.37	211.00	174.30	-17.39	118.50	99.63	-15.92
PG9869-137	59.53	46.05	-22.64	79.10	88.60	12.01	98.81	86.20	-12.76	131.90	170.20	29.04	92.34	97.76	5.88
SA04-390	46.11	31.69	-31.27	202.80	158.50	-21.84	74.92	79.12	5.61	175.90	118.20	-32.80	124.93	96.88	-22.46
SA04-409	102.93	62.46	-39.32	116.00	125.80	8.45	102.20	102.20	0.00	166.00	161.80	-2.53	121.78	113.07	-7.16
SA04-454	97.50	86.78	-10.99	194.70	188.10	-3.39	83.07	73.70	-11.28	295.90	167.30	-43.46	167.79	128.97	-23.14
SA04-458	91.58	73.65	-19.58	190.60	148.40	-22.14	109.60	84.21	-23.17	231.10	260.60	12.77	155.72	141.72	-8.99
SA04-472	133.61	107.60	-19.47	159.80	150.00	-6.13	126.20	125.80	-0.32	185.60	204.40	10.13	151.30	146.95	-2.88
SA04-496	110.92	94.20	-15.07	130.90	126.30	-3.51	109.90	86.20	-21.57	167.40	185.00	10.51	129.78	122.93	-5.28
SA98-13	118.89	92.63	-22.09	99.49	62.51	-37.17	99.93	83.74	-16.20	290.20	203.20	-29.98	152.13	110.52	-27.35
Standards															
Check1	104.15	79.05	-24.10	129.20	117.40	-9.13	98.49	104.50	6.10	177.30	178.90	0.90	127.29	119.96	-5.75
Check2	118.03	81.77	-30.72	142.60	205.50	44.11	93.26	79.72	-14.52	201.90	160.40	-20.55	138.95	131.85	-5.11
Check3	89.87	71.08	-20.91	132.50	114.80	-13.36	103.10	93.47	-9.34	199.80	204.10	2.15	131.32	120.86	-7.96
GM	118.84	93.07	-21.68	156.60	150.40	-3.96	97.75	89.81	-8.12	242.10	207.60	-14.25	153.82	135.22	-12.09
CV	4.21	4.26		9.69	10.04		10.06	10.18		9.27	10.60				

Varietal Improvement Programme- AICRP (Sugarcane)
Principal Investigator's Report (2017-18)
Evaluation and identification of climate resilient ISH and IGH genetic stocks
Table 7.1.4: Shoots at 150 days (000'/ha)

Entry	Karnal			Faridkot			Anakapalle			Padegaon			Mean		
	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change
AS04-1687	169.57	154.50	-8.89	231.30	228.80	-1.08	75.58	79.94	5.77	309.50	197.10	-36.32	196.49	165.09	-15.98
AS04-1689	188.97	142.40	-24.64	179.40	163.70	-8.75	101.80	93.44	-8.21	358.60	331.60	-7.53	207.19	182.79	-11.78
AS04-2097	140.82	117.50	-16.56	138.20	142.30	2.97	115.50	109.90	-4.85	257.20	154.60	-39.89	162.93	131.08	-19.55
AS04-245	147.99	124.00	-16.21	197.60	167.20	-15.38	76.91	79.72	3.65	294.30	273.30	-7.14	179.20	161.06	-10.13
AS04-635	145.16	92.20	-36.48	237.10	211.00	-11.01	91.63	88.43	-3.49	296.10	255.60	-13.68	192.50	161.81	-15.94
BM1003-143	115.82	105.10	-9.26	96.98	69.75	-28.08	79.60	68.88	-13.47	269.20	176.50	-34.44	140.40	105.06	-25.17
BM1005-149	113.97	88.73	-22.15	136.40	129.60	-4.99	70.43	76.02	7.94	297.50	228.80	-23.09	154.58	130.79	-15.39
BM1009-163	115.12	104.70	-9.05	157.60	124.20	-21.19	86.08	72.69	-15.56	204.50	172.30	-15.75	140.83	118.47	-15.87
BM1010-168	116.29	110.10	-5.32	140.40	97.88	-30.28	91.17	85.55	-6.16	295.20	231.50	-21.58	160.77	131.26	-18.35
BM1022-173	114.60	78.78	-31.26	98.58	89.58	-9.13	84.32	86.67	2.79	186.90	153.70	-17.76	121.10	102.18	-15.62
CYM07-986	103.08	89.97	-12.72	95.70	65.76	-31.29	87.00	75.00	-13.79	139.60	167.40	19.91	106.35	99.53	-6.41
GU07-2276	129.42	94.02	-27.35	166.40	137.70	-17.25	113.40	100.80	-11.11	240.60	210.50	-12.51	162.46	135.76	-16.44
GU07-3774	181.86	154.80	-14.88	185.20	168.30	-9.13	90.86	74.85	-17.62	281.70	214.60	-23.82	184.91	153.14	-17.18
GU07-3849	184.56	145.90	-20.95	193.40	159.00	-17.79	89.86	77.23	-14.06	321.10	286.80	-10.68	197.23	167.23	-15.21
MA05-99	111.49	67.39	-39.56	50.43	55.04	9.14	127.10	96.07	-24.41	256.70	235.00	-8.45	136.43	113.38	-16.90
MA05/22	88.21	79.21	-10.20	120.50	97.71	-18.91	70.90	81.58	15.06	168.40	154.00	-8.55	112.00	103.13	-7.93
MA05/51	88.80	69.24	-22.03	100.50	93.27	-7.19	98.11	75.46	-23.09	169.60	135.90	-19.87	114.25	93.47	-18.19
MA5/37	96.60	68.68	-28.90	98.66	27.24	-72.39	101.80	110.00	8.06	164.60	184.00	11.79	115.42	97.48	-15.54
MA5/5	98.86	84.30	-14.73	34.88	23.19	-33.51	88.15	84.95	-3.63	182.30	174.40	-4.33	101.05	91.71	-9.24
PG9869-137	58.35	40.21	-31.09	71.37	57.72	-19.13	90.66	78.03	-13.93	124.30	150.80	21.32	86.17	81.69	-5.20
SA04-390	43.30	26.00	-39.95	147.40	125.80	-14.65	76.28	74.52	-2.31	177.60	116.70	-34.29	111.15	85.76	-22.84
SA04-409	101.01	68.54	-32.15	81.42	46.79	-42.53	109.90	116.40	5.91	155.30	158.90	2.32	111.91	97.66	-12.73
SA04-454	87.29	78.78	-9.75	154.80	113.20	-26.87	70.75	60.44	-14.57	263.70	157.40	-40.31	144.14	102.46	-28.92
SA04-458	58.42	60.18	3.01	137.40	131.20	-4.51	99.90	86.55	-13.36	223.90	250.90	12.06	129.91	132.21	1.77
SA04-472	119.11	99.01	-16.88	144.70	118.40	-18.18	119.60	127.00	6.19	167.80	176.70	5.30	137.80	130.28	-5.46
SA04-496	97.35	86.04	-11.62	117.30	107.30	-8.53	105.40	82.20	-22.01	165.10	171.20	3.69	121.29	111.69	-7.92
SA98-13	101.47	89.81	-11.49	73.75	45.29	-38.59	102.20	91.18	-10.78	269.30	172.20	-36.06	136.68	99.62	-27.11
Standards															
Check1	85.14	70.14	-17.62	102.20	95.79	-6.27	80.75	82.18	1.77	172.00	160.90	-6.45	110.02	102.25	-7.06
Check2	120.19	92.95	-22.66	119.80	119.20	-0.50	81.86	62.76	-23.33	191.60	155.00	-19.10	128.36	107.48	-16.27
Check3	82.63	60.72	-26.52	101.60	89.46	-11.95	81.84	83.31	1.80	194.60	191.40	-1.64	115.17	106.22	-7.77
GM	113.51	91.48	-19.41	130.40	110.00	-15.64	91.99	85.40	-7.16	226.60	193.30	-14.70	140.63	120.05	-14.63
CV	4.27	4.00		11.03	14.25		10.49	10.51		8.02	8.72				

Varietal Improvement Programme- AICRP (Sugarcane)
Principal Investigator's Report (2017-18)
Evaluation and identification of climate resilient ISH and IGH genetic stocks

Table 7.1.5: Number of shoots at 180 days (000/ha)

Entry	Karnal			Faridkot			Anakapalle			Padegaon			Mean		
	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change
AS04-1687	170.60	153.30	-10.14	223.90	228.90	2.23	57.15	70.06	22.59	179.90	252.70	40.47	157.89	176.24	11.62
AS04-1689	185.60	140.90	-24.08	188.50	177.70	-5.73	87.89	81.59	-7.17	247.10	286.20	15.82	177.27	171.60	-3.20
AS04-2097	136.80	113.60	-16.96	134.60	158.20	17.53	123.00	126.50	2.85	138.80	198.20	42.80	133.30	149.13	11.87
AS04-245	144.00	124.10	-13.82	196.80	159.20	-19.11	85.68	61.89	-27.77	229.30	236.60	3.18	163.95	145.45	-11.28
AS04-635	132.80	126.00	-5.12	265.10	207.60	-21.69	84.83	79.33	-6.48	216.30	295.20	36.48	174.76	177.03	1.30
BM1003-143	102.70	88.50	-13.83	90.87	68.20	-24.95	54.49	54.15	-0.62	160.50	102.10	-36.39	102.14	78.24	-23.40
BM1005-149	99.97	84.41	-15.56	124.10	140.60	13.30	68.56	55.41	-19.18	174.90	171.30	-2.06	116.88	112.93	-3.38
BM1009-163	111.10	96.06	-13.54	139.80	102.90	-26.39	82.05	64.05	-21.94	158.90	177.40	11.64	122.96	110.10	-10.46
BM1010-168	116.90	104.40	-10.69	173.90	72.30	-58.42	73.01	84.70	16.01	200.90	213.10	6.07	141.18	118.63	-15.97
BM1022-173	102.20	71.41	-30.13	104.40	81.75	-21.70	107.90	95.23	-11.74	121.90	153.60	26.00	109.10	100.50	-7.88
CYM07-986	97.44	97.28	-0.16	92.33	81.84	-11.36	77.42	56.65	-26.83	141.70	130.30	-8.05	102.22	91.52	-10.47
GU07-2276	117.80	85.93	-27.05	165.20	159.10	-3.69	137.30	111.50	-18.79	183.50	208.00	13.35	150.95	141.13	-6.50
GU07-3774	177.30	151.00	-14.83	179.40	184.10	2.62	77.52	62.66	-19.17	184.80	250.40	35.50	154.76	162.04	4.71
GU07-3849	180.70	136.10	-24.68	192.30	172.20	-10.45	70.30	68.63	-2.38	251.90	198.80	-21.08	173.80	143.93	-17.18
MA05-99	105.50	64.93	-38.45	65.42	61.20	-6.45	157.20	110.80	-29.52	135.80	148.60	9.43	115.98	96.38	-16.90
MA05/22	86.81	70.66	-18.60	117.00	87.33	-25.36	78.28	79.95	2.13	140.00	142.30	1.64	105.52	95.06	-9.91
MA05/51	88.44	67.24	-23.97	97.07	94.00	-3.16	113.00	78.41	-30.61	115.40	137.50	19.15	103.48	94.29	-8.88
MA5/37	83.55	57.47	-31.21	88.62	24.06	-72.85	129.90	130.00	0.08	144.50	121.00	-16.26	111.64	83.13	-25.54
MA5/5	96.99	78.53	-19.03	44.68	24.17	-45.90	83.36	77.42	-7.13	152.90	130.20	-14.85	94.48	77.58	-17.89
PG9869-137	60.31	31.58	-47.64	65.40	57.06	-12.75	88.36	63.75	-27.85	132.70	92.56	-30.25	86.69	61.24	-29.36
SA04-390	37.45	22.80	-39.12	136.20	103.90	-23.72	76.89	63.45	-17.48	104.30	124.90	19.75	88.71	78.76	-11.21
SA04-409	84.72	65.36	-22.85	85.68	41.54	-51.52	127.30	140.30	10.21	109.60	105.80	-3.47	101.83	88.25	-13.33
SA04-454	75.87	71.41	-5.88	134.00	117.30	-12.46	61.05	39.22	-35.76	133.90	136.90	2.24	101.21	91.21	-9.88
SA04-458	56.76	54.41	-4.14	131.60	110.80	-15.81	90.31	91.23	1.02	150.90	164.90	9.28	107.39	105.34	-1.92
SA04-472	111.80	92.69	-17.09	149.10	100.70	-32.46	121.70	134.80	10.76	145.70	141.60	-2.81	132.08	117.45	-11.08
SA04-496	94.68	84.82	-10.41	116.50	106.60	-8.50	100.80	78.56	-22.06	170.70	162.90	-4.57	120.67	108.22	-10.32
SA98-13	97.50	85.43	-12.38	72.43	46.37	-35.98	109.30	115.70	5.86	145.30	147.30	1.38	106.13	98.70	-7.00
Standards															
Check1	79.67	66.29	-16.79	102.40	94.54	-7.68	66.69	50.57	-24.17	124.10	159.00	28.12	93.22	92.60	-0.66
Check2	104.80	86.16	-17.79	100.00	103.60	3.60	71.23	35.05	-50.79	127.90	96.95	-24.20	100.98	80.44	-20.34
Check3	77.57	54.45	-29.81	104.90	87.02	-17.04	58.20	63.45	9.02	133.90	176.40	31.74	93.64	95.33	1.80
GM	107.30	87.59	-18.37	129.40	108.50	-16.15	90.70	80.85	-10.86	158.60	168.80	6.43	121.50	111.44	-8.28
CV	4.22	4.39		11.42	12.51		13.66	15.18		9.37	7.24				

Varietal Improvement Programme- AICRP (Sugarcane)
 Principal Investigator's Report (2017-18)
 Evaluation and identification of climate resilient ISH and IGH genetic stocks
 Table 7.1.6: Number of Millable Canes at 240 days (000'/ha)

Entry	Karnal			Faridkot			Anakapalle			Padegaon			Mean		
	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change
AS04-1687				227.10	220.40	-2.95	42.43	54.48	28.40	227.30	154.00	-32.25	165.61	142.96	-13.68
AS04-1689				185.90	174.40	-6.19	64.16	64.77	0.95	266.30	218.60	-17.91	172.12	152.59	-11.35
AS04-2097				120.90	146.80	21.42	100.80	106.60	5.75	178.10	120.30	-32.45	133.27	124.57	-6.53
AS04-245				190.90	151.30	-20.74	66.91	48.72	-27.19	210.80	207.80	-1.42	156.20	135.94	-12.97
AS04-635				223.00	171.20	-23.23	63.38	61.28	-3.31	263.90	201.50	-23.65	183.43	144.66	-21.13
BM1003-143				89.01	48.33	-45.70	38.70	42.78	10.54	145.00	85.57	-40.99	90.90	58.89	-35.21
BM1005-149				113.30	115.10	1.59	61.82	40.38	-34.68	163.50	131.50	-19.57	112.87	95.66	-15.25
BM1009-163				134.60	97.96	-27.22	60.60	49.24	-18.75	166.30	150.40	-9.56	120.50	99.20	-17.68
BM1010-168				147.60	58.70	-60.23	52.59	68.71	30.65	196.60	181.50	-7.68	132.26	102.97	-22.15
BM1022-173				86.72	69.03	-20.40	98.39	78.34	-20.38	140.70	112.60	-19.97	108.60	86.66	-20.21
CYM07-986				77.52	41.67	-46.25	60.14	41.83	-30.45	114.70	128.60	12.12	84.12	70.70	-15.95
GU07-2276				160.80	119.40	-25.75	109.90	93.71	-14.73	199.80	165.00	-17.42	156.83	126.04	-19.64
GU07-3774				181.60	143.30	-21.09	61.87	48.46	-21.67	232.60	161.00	-30.78	158.69	117.59	-25.90
GU07-3849				186.40	147.50	-20.87	55.36	54.12	-2.24	176.70	221.20	25.18	139.49	140.94	1.04
MA05-99				49.02	36.71	-25.11	129.00	92.32	-28.43	129.90	117.40	-9.62	102.64	82.14	-19.97
MA05/22				101.60	70.51	-30.60	54.41	61.68	13.36	124.80	127.00	1.76	93.60	86.40	-7.70
MA05/51				88.27	79.40	-10.05	90.23	61.28	-32.08	123.40	92.48	-25.06	100.63	77.72	-22.77
MA5/37				77.52	9.08	-88.29	108.10	100.60	-6.94	101.70	126.70	24.58	95.77	78.79	-17.73
MA5/5				44.58	9.31	-79.12	71.91	63.07	-12.29	115.50	137.20	18.79	77.33	69.86	-9.66
PG9869-137				63.46	41.16	-35.14	70.74	49.49	-30.04	80.13	113.20	41.27	71.44	67.95	-4.89
SA04-390				123.70	60.14	-51.38	58.75	46.69	-20.53	107.40	89.47	-16.69	96.62	65.43	-32.28
SA04-409				81.61	21.67	-73.45	89.04	118.60	33.20	87.66	92.05	5.01	86.10	77.44	-10.06
SA04-454				127.40	83.10	-34.77	44.81	28.20	-37.07	117.60	116.30	-1.11	96.60	75.87	-21.47
SA04-458				99.46	103.10	3.66	72.18	74.47	3.17	142.90	129.60	-9.31	104.85	102.39	-2.34
SA04-472				139.70	87.82	-37.14	101.50	106.50	4.93	119.00	125.30	5.29	120.07	106.54	-11.27
SA04-496				110.80	71.53	-35.44	88.33	65.24	-26.14	138.40	150.30	8.60	112.51	95.69	-14.95
SA98-13				66.87	28.33	-57.63	87.45	93.91	7.39	133.70	133.30	-0.30	96.01	85.18	-11.28
Standards															
Check1				103.80	67.08	-35.38	59.87	40.85	-31.77	149.00	109.10	-26.78	104.22	72.34	-30.59
Check2				84.56	84.58	0.02	58.23	25.42	-56.35	84.99	115.90	36.37	75.93	75.30	-0.83
Check3				96.04	52.78	-45.04	43.65	50.40	15.46	157.60	112.80	-28.43	99.10	71.99	-27.35
GM				119.40	87.06	-27.09	72.18	64.41	-10.76	153.20	137.60	-10.18	114.93	96.36	-16.16
CV				12.74	11.17		19.58	17.53		7.25	10.28	41.79			

Varietal Improvement Programme- AICRP (Sugarcane)
Principal Investigator's Report (2017-18)
Evaluation and identification of climate resilient ISH and IGH genetic stocks
Table 7.1.7: Number of Millable Canes at harvest (000⁷/ha)

Entry	Karnal			Faridkot			Anakapalle			Padegaon			Mean		
	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change
AS04-1687	165.18	149.40	-9.55	220.60	215.70	-2.22	38.08	44.99	18.15	216.70	140.90	-34.98	160.14	137.75	-13.98
AS04-1689	179.60	138.40	-22.94	171.30	170.10	-0.70	56.41	57.41	1.77	246.40	206.20	-16.31	163.43	143.03	-12.48
AS04-2097	132.69	110.30	-16.87	115.90	135.50	16.91	86.99	94.37	8.48	160.50	109.00	-32.09	124.02	112.29	-9.46
AS04-245	131.94	122.80	-6.93	188.70	133.80	-29.09	56.12	43.40	-22.67	197.10	195.70	-0.71	143.47	123.93	-13.62
AS04-635	135.93	113.80	-16.28	218.90	166.50	-23.94	53.46	51.37	-3.91	245.80	183.30	-25.43	163.52	128.74	-21.27
BM1003-143	100.03	84.00	-16.03	82.90	47.84	-42.29	33.48	37.63	12.40	130.40	73.92	-43.31	86.70	60.85	-29.82
BM1005-149	85.15	83.82	-1.56	109.80	101.90	-7.19	52.41	35.07	-33.09	152.90	146.90	-3.92	100.07	91.92	-8.14
BM1009-163	107.40	87.27	-18.74	122.70	93.15	-24.08	52.53	39.33	-25.13	151.70	131.80	-13.12	108.58	87.89	-19.06
BM1010-168	119.72	102.40	-14.47	135.90	56.24	-58.62	43.66	60.78	39.21	181.80	164.60	-9.46	120.27	96.01	-20.18
BM1022-173	91.95	64.75	-29.58	82.64	62.82	-23.98	87.13	69.79	-19.90	139.30	91.65	-34.21	100.26	72.25	-27.93
CYM07-986	93.73	88.74	-5.32	79.32	38.83	-51.05	50.22	37.02	-26.28	126.30	114.20	-9.58	87.39	69.70	-20.25
GU07-2276	113.03	82.26	-27.22	157.20	109.70	-30.22	96.91	82.54	-14.83	185.10	149.90	-19.02	138.06	106.10	-23.15
GU07-3774	171.48	149.30	-12.93	174.50	144.00	-17.48	53.82	41.29	-23.28	215.30	148.70	-30.93	153.78	120.82	-21.43
GU07-3849	178.46	121.60	-31.86	183.00	142.50	-22.13	48.54	47.69	-1.75	163.30	205.90	26.09	143.33	129.42	-9.70
MA05-99	102.50	56.77	-44.61	45.69	37.36	-18.23	116.10	82.33	-29.09	115.30	110.70	-3.99	94.90	71.79	-24.35
MA05/22	75.07	61.89	-17.56	97.95	61.59	-37.12	47.32	54.98	16.19	116.60	110.10	-5.57	84.24	72.14	-14.36
MA05/51	86.76	64.64	-25.50	85.35	73.44	-13.95	77.54	54.15	-30.17	100.50	84.82	-15.60	87.54	69.26	-20.88
MA5/37	79.84	56.34	-29.43	73.40	7.72	-89.48	95.05	89.48	-5.86	92.98	105.90	13.90	85.32	64.86	-23.98
MA5/5	93.12	72.08	-22.59	38.28	9.95	-74.01	62.78	56.12	-10.61	110.10	124.00	12.62	76.07	65.54	-13.85
PG9869-137	59.97	24.02	-59.95	58.41	37.98	-34.98	59.92	43.31	-27.72	108.40	90.01	-16.96	71.68	48.83	-31.87
SA04-390	34.54	28.64	-17.08	120.40	56.89	-52.75	49.51	39.93	-19.35	98.59	84.24	-14.56	75.76	52.43	-30.80
SA04-409	80.59	62.24	-22.77	78.46	18.96	-75.83	78.98	107.90	36.62	86.03	81.33	-5.46	81.02	67.61	-16.55
SA04-454	66.49	55.95	-15.85	123.30	81.34	-34.03	39.09	24.33	-37.76	106.90	99.05	-7.34	83.95	65.17	-22.37
SA04-458	54.91	50.58	-7.89	82.66	85.13	2.99	63.41	64.47	1.67	130.00	118.30	-9.00	82.75	79.62	-3.78
SA04-472	109.62	88.37	-19.39	136.90	82.43	-39.79	90.10	99.17	10.07	127.80	113.10	-11.50	116.11	95.77	-17.52
SA04-496	89.25	80.50	-9.80	107.30	68.35	-36.30	81.22	56.73	-30.15	141.70	134.40	-5.15	104.87	85.00	-18.95
SA98-13	94.72	79.29	-16.29	64.14	26.61	-58.51	77.76	82.99	6.73	119.80	123.90	3.42	89.11	78.20	-12.24
Standards															
Check1	77.04	57.10	-25.88	87.91	62.54	-28.86	52.59	35.28	-32.92	117.90	96.70	-17.98	83.86	62.91	-24.99
Check2	92.83	78.57	-15.36	77.95	67.51	-13.39	48.81	22.94	-53.00	97.20	87.92	-9.55	79.20	64.24	-18.89
Check3	70.88	51.73	-27.02	92.66	46.98	-49.30	37.93	44.10	16.27	141.30	98.71	-30.14	85.69	60.38	-29.54
GM	102.48	82.26	-19.73	113.80	81.46	-28.42	62.93	56.70	-9.90	144.10	124.20	-13.81	105.83	86.16	-18.59
CV	6.10	4.69		11.64	12.29		20.96	19.33		7.36	7.86				

Varietal Improvement Programme- AICRP (Sugarcane)
Principal Investigator's Report (2017-18)
Evaluation and identification of climate resilient ISH and IGH genetic stocks

Table 7.1.8: Single Cane Weight (Kg) at 300 days

Entry	Karnal			Faridkot			Anakapalle			Padegaon			Mean		
	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change
AS04-1687	0.58	0.50	-13.79	0.82	0.78	-4.88	0.83	0.67	-19.28	0.61	0.48	-21.31	0.71	0.61	-14.44
AS04-1689	0.94	0.72	-23.40	1.00	0.87	-13.00	1.05	0.82	-21.90	0.58	0.56	-3.45	0.89	0.74	-16.81
AS04-2097	1.08	1.02	-5.56	1.13	0.93	-17.70	0.59	0.41	-30.51	0.98	1.03	5.10	0.95	0.85	-10.32
AS04-245	0.46	0.41	-10.87	0.70	0.57	-18.57	0.95	0.84	-11.58	0.56	0.39	-30.36	0.67	0.55	-17.23
AS04-635	0.57	0.52	-8.77	0.72	0.49	-31.94	0.99	0.42	-57.58	0.66	0.59	-10.61	0.74	0.51	-31.29
BM1003-143	0.94	0.93	-1.06	1.15	0.81	-29.57	0.92	0.83	-9.78	1.10	1.12	1.82	1.03	0.92	-10.22
BM1005-149	0.91	0.82	-9.89	1.11	0.92	-17.12	0.80	0.71	-11.25	1.01	1.04	2.97	0.96	0.87	-8.88
BM1009-163	0.96	0.83	-13.54	1.36	0.94	-30.88	0.62	0.48	-22.58	0.91	0.69	-24.18	0.96	0.74	-23.64
BM1010-168	0.82	0.70	-14.63	0.84	0.61	-27.38	1.07	0.92	-14.02	0.74	0.73	-1.35	0.87	0.74	-14.70
BM1022-173	1.04	0.86	-17.31	1.02	0.77	-24.51	0.40	0.40	0.00	1.13	1.08	-4.42	0.90	0.78	-13.37
CYM07-986	0.59	0.52	-11.86	0.59	0.48	-18.64	0.96	0.92	-4.17	0.75	0.56	-25.33	0.72	0.62	-14.19
GU07-2276	1.10	0.97	-11.82	0.99	0.81	-18.18	0.79	0.61	-22.78	1.02	0.88	-13.73	0.98	0.82	-16.15
GU07-3774	0.56	0.63	12.50	0.56	0.57	1.79	1.05	0.88	-16.19	0.43	0.47	9.30	0.65	0.64	-1.92
GU07-3849	0.71	0.70	-1.41	0.60	0.49	-18.33	0.66	0.53	-19.70	0.59	0.43	-27.12	0.64	0.54	-16.02
MA05-99	0.73	0.66	-9.59	1.01	0.90	-10.89	0.48	0.45	-6.25	1.12	1.25	11.61	0.84	0.82	-2.40
MA05/22	1.21	0.85	-29.75	1.65	1.04	-36.97	0.61	0.56	-8.20	1.15	1.03	-10.43	1.16	0.87	-24.68
MA05/51	0.80	0.67	-16.25	1.18	0.79	-33.05	0.63	0.47	-25.40	1.13	1.12	-0.88	0.94	0.76	-18.45
MA5/37	0.86	0.68	-20.93	1.14	0.31	-72.81	0.65	0.55	-15.38	1.11	1.14	2.70	0.94	0.67	-28.72
MA5/5	0.84	0.61	-27.38	1.22	0.66	-45.90	0.90	0.75	-16.67	1.15	1.13	-1.74	1.03	0.79	-23.36
PG9869-137	1.15	0.79	-31.30	1.83	1.53	-16.39	0.93	0.82	-11.83	1.83	1.45	-20.77	1.44	1.15	-20.03
SA04-390	0.85	0.84	-1.18	1.41	0.82	-41.84	0.91	0.72	-20.88	1.12	1.31	16.96	1.07	0.92	-13.99
SA04-409	0.80	0.66	-17.50	0.91	0.45	-50.55	0.50	0.41	-18.00	1.06	1.11	4.72	0.82	0.66	-19.57
SA04-454	0.67	0.58	-13.43	0.87	0.61	-29.89	1.04	0.88	-15.38	0.97	0.91	-6.19	0.89	0.75	-16.06
SA04-458	0.81	0.76	-6.17	1.01	0.87	-13.86	0.83	0.71	-14.46	1.11	1.17	5.41	0.94	0.88	-6.65
SA04-472	1.03	0.88	-14.56	0.99	0.78	-21.21	0.39	0.36	-7.69	1.04	0.76	-26.92	0.86	0.70	-19.42
SA04-496	0.58	0.53	-8.62	1.13	0.72	-36.28	0.81	0.75	-7.41	0.88	0.74	-15.91	0.85	0.69	-19.41
SA98-13	1.01	0.86	-14.85	1.11	0.80	-27.93	0.59	0.43	-27.12	1.16	1.14	-1.72	0.97	0.81	-16.54
Standards															
Check1	1.17	0.92	-21.37	0.95	0.71	-25.26	1.02	1.01	-0.98	1.51	1.39	-7.95	1.16	1.01	-13.33
Check2	0.84	0.69	-17.86	1.21	0.92	-23.97	1.00	0.90	-10.00	1.59	1.57	-1.26	1.16	1.02	-12.07
Check3	0.93	0.64	-31.18	0.98	0.72	-26.53	1.08	0.97	-10.19	1.15	1.22	6.09	1.04	0.89	-14.25
GM	0.85	0.73	-14.12	1.04	0.76	-26.92	0.80	0.67	-16.25	1.01	0.95	-5.94	0.93	0.78	-15.95
CV	4.63	8.43		9.52	15.00		7.39	9.38		14.10	17.10				

Varietal Improvement Programme- AICRP (Sugarcane)
 Principal Investigator's Report (2017-18)
 Evaluation and identification of climate resilient ISH and IGH genetic stocks
 Table 7.1.9: Cane Length (cm) at 300 days

Entry	Karnal			Faridkot			Anakapalle			Padegaon			Mean		
	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change
AS04-1687	280.16	278.60	-0.56	281.20	241.30	-14.19	245.50	272.00	10.79	225.40	201.30	-10.69	258.07	248.30	-3.78
AS04-1689	294.17	271.40	-7.74	310.20	261.30	-15.76	285.10	287.70	0.91	300.80	272.00	-9.57	297.57	273.10	-8.22
AS04-2097	277.92	275.30	-0.94	258.40	233.70	-9.56	200.30	202.20	0.95	275.50	257.70	-6.46	253.03	242.23	-4.27
AS04-245	262.71	283.90	8.07	345.00	277.20	-19.65	276.40	278.40	0.72	232.50	222.40	-4.34	279.15	265.48	-4.90
AS04-635	276.93	223.40	-19.33	262.80	202.30	-23.02	340.50	363.70	6.81	301.50	273.40	-9.32	295.43	265.70	-10.06
BM1003-143	253.13	229.50	-9.34	241.10	177.10	-26.55	224.70	230.30	2.49	199.10	182.90	-8.14	229.51	204.95	-10.70
BM1005-149	214.17	198.90	-7.13	247.70	190.10	-23.25	228.80	233.80	2.19	233.30	262.00	12.30	230.99	221.20	-4.24
BM1009-163	257.71	261.40	1.43	280.00	219.70	-21.54	343.00	377.50	10.06	282.50	267.40	-5.35	290.80	281.50	-3.20
BM1010-168	295.42	235.30	-20.35	251.60	197.20	-21.62	249.90	258.50	3.44	240.50	207.70	-13.64	259.36	224.68	-13.37
BM1022-173	236.93	190.90	-19.43	227.60	163.70	-28.08	264.50	273.30	3.33	224.00	198.40	-11.43	238.26	206.58	-13.30
CYM07-986	237.92	248.10	4.28	214.10	143.60	-32.93	323.30	365.80	13.15	203.60	195.20	-4.13	244.73	238.18	-2.68
GU07-2276	256.72	229.20	-10.72	231.80	153.90	-33.61	291.40	292.50	0.38	185.40	200.70	8.25	241.33	219.08	-9.22
GU07-3774	215.36	202.50	-5.97	199.10	189.50	-4.82	326.40	354.40	8.58	175.90	144.00	-18.14	229.19	222.60	-2.88
GU07-3849	232.92	213.10	-8.51	245.40	176.10	-28.24	251.90	249.00	-1.15	161.10	192.70	19.62	222.83	207.73	-6.78
MA05-99	265.36	242.50	-8.61	163.80	163.20	-0.37	292.10	302.40	3.53	265.90	231.50	-12.94	246.79	234.90	-4.82
MA05/22	236.72	209.20	-11.63	253.30	181.30	-28.42	333.60	330.20	-1.02	225.40	243.20	7.90	262.26	240.98	-8.11
MA05/51	210.36	192.50	-8.49	220.60	179.80	-18.50	282.50	293.80	4.00	245.90	216.50	-11.96	239.84	220.65	-8.00
MA5/37	232.92	208.10	-10.66	250.40	131.40	-47.52	318.90	329.00	3.17	193.60	225.70	16.58	248.96	223.55	-10.20
MA5/5	251.72	234.20	-6.96	219.50	162.90	-25.79	277.60	275.50	-0.76	240.40	270.70	12.60	247.31	235.83	-4.64
PG9869-137	265.16	251.10	-5.30	262.70	207.30	-21.09	316.80	328.60	3.72	252.90	228.80	-9.53	274.39	253.95	-7.45
SA04-390	161.93	128.40	-20.71	234.90	125.80	-46.45	276.50	293.30	6.08	171.50	158.40	-7.64	211.21	176.48	-16.44
SA04-409	253.13	242.00	-4.40	224.60	133.10	-40.74	301.80	309.30	2.49	246.60	227.90	-7.58	256.53	228.08	-11.09
SA04-454	221.93	208.40	-6.10	271.10	209.00	-22.91	296.10	301.40	1.79	219.00	203.40	-7.12	252.03	230.55	-8.52
SA04-458	197.92	182.80	-7.64	182.10	188.00	3.24	274.70	290.40	5.72	148.00	147.70	-0.20	200.68	202.23	0.77
SA04-472	250.16	233.60	-6.62	241.20	172.50	-28.48	249.90	249.20	-0.28	150.40	141.30	-6.05	222.92	199.15	-10.66
SA04-496	215.16	211.10	-1.89	254.30	140.50	-44.75	284.10	294.30	3.59	142.90	121.30	-15.12	224.12	191.80	-14.42
SA98-13	307.92	295.30	-4.10	209.10	181.50	-13.20	257.00	272.20	5.91	200.50	187.70	-6.38	243.63	234.18	-3.88
Standards															
Check1	250.36	202.50	-19.12	204.60	151.20	-26.10	259.10	259.00	-0.04	208.60	227.70	9.16	230.67	210.10	-8.92
Check2	247.92	253.10	2.09	201.80	148.10	-26.61	210.80	201.80	-4.27	205.40	235.70	14.75	216.48	209.68	-3.14
Check3	151.72	139.20	-8.25	234.60	179.70	-23.40	219.80	232.40	5.73	140.90	189.00	34.14	186.76	185.08	-0.90
GM	243.75	225.90	-7.32	240.80	182.70	-24.13	276.80	286.70	3.58	216.60	211.10	-2.54	244.49	226.60	-7.32
CV	5.79	5.36		7.64	12.67		5.25	5.12		5.50	2.70				

Varietal Improvement Programme- AICRP (Sugarcane)
Principal Investigator's Report (2017-18)
Evaluation and identification of climate resilient ISH and IGH genetic stocks
Table 7.1.10: Table: Cane Diameter (cm) at 300 days

Entry	Karnal			Faridkot			Anakapalle			Padegaon			Mean		
	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change
AS04-1687	1.64	1.91	16.46	2.00	2.05	2.50	2.49	2.41	-3.21	2.43	2.29	-5.76	2.14	2.17	1.17
AS04-1689	2.03	1.90	-6.40	2.06	2.16	4.85	2.80	2.81	0.36	2.28	2.15	-5.70	2.29	2.26	-1.64
AS04-2097	2.20	2.14	-2.73	2.44	2.12	-13.11	1.65	1.37	-16.97	2.61	2.36	-9.58	2.23	2.00	-10.22
AS04-245	1.29	1.72	33.33	1.81	1.69	-6.63	2.24	2.18	-2.68	2.46	2.10	-14.63	1.95	1.92	-1.41
AS04-635	1.64	1.73	5.49	1.87	1.85	-1.07	2.66	2.78	4.51	1.31	1.25	-4.58	1.87	1.90	1.74
BM1003-143	2.12	2.07	-2.36	2.80	2.46	-12.14	2.79	2.99	7.17	3.51	3.39	-3.42	2.81	2.73	-2.76
BM1005-149	2.57	2.43	-5.45	2.33	2.54	9.01	2.25	2.15	-4.44	2.63	2.40	-8.75	2.45	2.38	-2.66
BM1009-163	2.31	2.23	-3.46	2.41	2.39	-0.83	2.53	2.40	-5.14	3.21	2.95	-8.10	2.62	2.49	-4.68
BM1010-168	2.02	1.84	-8.91	2.14	2.11	-1.40	2.45	2.52	2.86	2.71	2.11	-22.14	2.33	2.15	-7.94
BM1022-173	2.54	2.61	2.76	2.33	2.98	27.90	1.95	1.72	-11.79	3.21	3.00	-6.54	2.51	2.58	2.79
CYM07-986	2.12	1.89	-10.85	2.17	2.20	1.38	2.32	2.18	-6.03	2.86	2.48	-13.29	2.37	2.19	-7.60
GU07-2276	2.57	2.47	-3.89	2.56	2.44	-4.69	2.24	2.24	0.00	3.01	2.82	-6.31	2.60	2.49	-3.95
GU07-3774	1.43	1.47	2.80	1.83	1.90	3.83	2.34	2.35	0.43	1.23	2.14	73.98	1.71	1.97	15.08
GU07-3849	1.55	1.69	9.03	1.77	1.94	9.60	2.64	2.67	1.14	2.16	2.18	0.93	2.03	2.12	4.43
MA05-99	2.10	2.32	10.48	2.69	2.83	5.20	1.76	1.39	-21.02	3.13	3.14	0.32	2.42	2.42	0.00
MA05/22	2.69	2.59	-3.72	2.79	2.73	-2.15	2.20	1.97	-10.45	3.41	3.07	-9.97	2.77	2.59	-6.58
MA05/51	2.16	2.17	0.46	2.69	2.54	-5.58	1.79	1.48	-17.32	2.68	2.44	-8.96	2.33	2.16	-7.40
MA5/37	2.08	2.46	18.27	2.54	2.29	-9.84	1.81	1.63	-9.94	3.26	3.08	-5.52	2.42	2.37	-2.37
MA5/5	2.34	2.12	-9.40	2.84	2.63	-7.39	2.40	2.42	0.83	2.96	2.87	-3.04	2.64	2.51	-4.74
PG9869-137	2.82	3.21	13.83	3.20	3.28	2.50	2.48	2.48	0.00	4.43	4.24	-4.29	3.23	3.30	2.17
SA04-390	2.53	2.60	2.77	3.07	3.09	0.65	2.20	2.04	-7.27	3.16	2.95	-6.65	2.74	2.67	-2.55
SA04-409	2.01	2.25	11.94	2.47	2.33	-5.67	1.77	1.75	-1.13	2.81	2.79	-0.71	2.27	2.28	0.66
SA04-454	2.19	2.58	17.81	2.20	2.14	-2.73	2.40	2.47	2.92	2.41	2.35	-2.49	2.30	2.39	3.70
SA04-458	2.42	2.51	3.72	2.67	2.37	-11.24	2.28	2.14	-6.14	2.66	2.46	-7.52	2.51	2.37	-5.48
SA04-472	2.04	2.40	17.65	2.53	2.39	-5.53	2.09	2.04	-2.39	2.53	2.44	-3.56	2.30	2.32	0.87
SA04-496	1.92	2.53	31.77	2.90	3.09	6.55	2.47	2.60	5.26	2.38	2.34	-1.68	2.42	2.64	9.20
SA98-13	2.33	2.19	-6.01	2.84	2.52	-11.27	1.93	1.66	-13.99	3.16	3.06	-3.16	2.57	2.36	-8.09
Standards															
Check1	2.71	2.49	-8.12	2.64	2.65	0.38	1.92	1.85	-3.65	3.36	3.38	0.60	2.66	2.59	-2.45
Check2	2.22	2.24	0.90	3.24	3.15	-2.78	2.10	1.97	-6.19	3.91	3.47	-11.25	2.87	2.71	-5.58
Check3	2.22	2.42	9.01	2.49	2.47	-0.80	2.79	2.82	1.08	3.28	3.44	4.88	2.70	2.79	3.43
GM	2.16	2.24	3.70	2.48	2.44	-1.61	2.26	2.18	-3.54	2.84	2.71	-4.58	2.44	2.39	-1.75
CV	11.20	8.78		2.38	6.16		5.62	9.13		4.94	2.36				

Varietal Improvement Programme- AICRP (Sugarcane)
 Principal Investigator's Report (2017-18)
 Evaluation and identification of climate resilient ISH and IGH genetic stocks
 Table 7.1.11: Number of Internodes at 300 days

Entry	Karnal			Faridkot			Anakapalle			Padegaon			Mean		
	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change
AS04-1687	28.78	24.47	-14.98				21.27	19.54	-8.13	19.93	16.43	-17.56	23.33	20.15	-13.63
AS04-1689	17.50	19.29	10.23				20.48	20.14	-1.66	16.33	14.29	-12.49	18.10	17.91	-1.09
AS04-2097	18.88	17.14	-9.22				16.07	17.77	10.58	16.33	14.20	-13.04	17.09	16.37	-4.23
AS04-245	17.13	17.33	1.17				19.64	20.77	5.75	18.46	15.75	-14.68	18.41	17.95	-2.50
AS04-635	27.34	25.40	-7.10				17.27	18.37	6.37	17.74	15.88	-10.48	20.78	19.88	-4.33
BM1003-143	20.38	19.38	-4.91				13.92	13.67	-1.80	17.21	16.46	-4.36	17.17	16.50	-3.88
BM1005-149	20.00	20.79	3.95				12.99	15.52	19.48	13.33	13.79	3.45	15.44	16.70	8.16
BM1009-163	20.63	20.33	-1.45				17.32	18.30	5.66	20.96	16.75	-20.09	19.64	18.46	-5.99
BM1010-168	25.88	22.64	-12.52				17.54	17.98	2.51	18.33	15.70	-14.35	20.58	18.77	-8.79
BM1022-173	22.84	20.40	-10.68				15.92	17.38	9.17	16.24	15.38	-5.30	18.33	17.72	-3.35
CYM07-986	23.63	23.07	-2.37				15.56	18.84	21.08	20.33	16.01	-21.25	19.84	19.31	-2.69
GU07-2276	25.84	24.66	-4.57				15.50	15.56	0.39	16.36	13.61	-16.81	19.23	17.94	-6.71
GU07-3774	18.53	21.27	14.79				19.11	19.09	-0.10	16.30	14.38	-11.78	17.98	18.25	1.48
GU07-3849	22.63	23.07	1.94				23.62	26.84	13.63	18.83	15.01	-20.29	21.69	21.64	-0.25
MA05-99	19.53	20.77	6.35				16.45	19.22	16.84	16.30	16.38	0.49	17.43	18.79	7.82
MA05/22	22.84	23.16	1.40				19.47	19.77	1.54	16.86	16.11	-4.45	19.72	19.68	-0.22
MA05/51	19.53	19.77	1.23				11.78	14.55	23.51	17.30	15.38	-11.10	16.20	16.57	2.24
MA5/37	16.13	16.57	2.73				22.34	22.70	1.61	19.83	17.01	-14.22	19.43	18.76	-3.46
MA5/5	20.34	21.16	4.03				15.45	15.67	1.42	17.36	15.11	-12.96	17.72	17.31	-2.28
PG9869-137	19.78	19.47	-1.57				26.23	26.61	1.45	23.43	17.43	-25.61	23.15	21.17	-8.54
SA04-390	17.84	19.90	11.55				19.24	20.39	5.98	14.24	13.88	-2.53	17.11	18.06	5.55
SA04-409	16.87	19.38	14.88				11.91	16.25	36.44	16.71	14.46	-13.46	15.16	16.70	10.11
SA04-454	17.34	17.90	3.23				17.38	18.97	9.15	16.24	15.88	-2.22	16.99	17.58	3.51
SA04-458	20.88	20.14	-3.54				19.38	21.33	10.06	15.33	14.70	-4.11	18.53	18.72	1.04
SA04-472	17.78	17.47	-1.74				15.96	17.10	7.14	18.93	16.93	-10.57	17.56	17.17	-2.22
SA04-496	19.78	20.47	3.49				17.99	18.52	2.95	17.93	15.93	-11.15	18.57	18.31	-1.40
SA98-13	19.87	19.64	-1.16				12.77	16.16	26.55	16.83	15.20	-9.69	16.49	17.00	3.09
Standards															
Check1	19.53	19.77	1.23				15.68	18.07	15.24	18.83	19.01	0.96	18.01	18.95	5.20
Check2	20.63	22.57	9.40				17.00	19.03	11.94	18.86	17.61	-6.63	18.83	19.74	4.82
Check3	19.34	20.66	6.83				20.20	19.88	-1.58	20.30	15.38	-24.24	19.95	18.64	-6.55
GM	20.60	20.60	0.00				17.51	18.80	7.37	17.73	15.67	-11.62	18.61	18.36	-1.38
CV	3.73	9.55					9.89	8.53		3.10	4.59				

Varietal Improvement Programme- AICRP (Sugarcane)
 Principal Investigator's Report (2017-18)
 Evaluation and identification of climate resilient ISH and IGH genetic stocks
 Table 7.1.12: CCS% at 300 days

Entry	Karnal			Faridkot			Anakapalle			Padegaon			Mean		
	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change
AS04-1687	5.65	4.72	-16.46	6.73	6.58	-2.23				5.92	8.01	35.30	6.10	6.44	5.52
AS04-1689	5.54	5.44	-1.81	6.62	6.60	-0.30				10.70	10.40	-2.80	7.62	7.48	-1.84
AS04-2097	7.59	5.49	-27.67	6.70	7.50	11.94				7.31	8.93	22.16	7.20	7.31	1.48
AS04-245	6.59	6.68	1.37	7.73	7.00	-9.44				7.24	8.42	16.30	7.19	7.37	2.50
AS04-635	7.28	6.78	-6.87	8.05	9.76	21.24				6.23	8.23	32.10	7.19	8.26	14.89
BM1003-143	10.70	8.57	-19.91	8.69	8.40	-3.34				12.20	12.30	0.82	10.53	9.76	-7.34
BM1005-149	12.10	12.40	2.48	9.80	9.26	-5.51				12.40	13.70	10.48	11.43	11.79	3.09
BM1009-163	11.90	10.40	-12.61	9.36	11.00	17.52				12.80	14.30	11.72	11.35	11.90	4.82
BM1010-168	8.64	6.49	-24.88	6.84	6.72	-1.75				9.84	11.00	11.79	8.44	8.07	-4.38
BM1022-173	9.91	9.57	-3.43	7.67	7.63	-0.52				10.60	11.50	8.49	9.39	9.57	1.85
CYM07-986	6.60	4.71	-28.64	6.68	7.10	6.29				7.45	7.80	4.70	6.91	6.54	-5.40
GU07-2276	7.63	6.48	-15.07	7.72	6.75	-12.56				6.75	9.07	34.37	7.37	7.43	0.90
GU07-3774	7.19	7.35	2.23	9.26	7.94	-14.25				7.88	8.59	9.01	8.11	7.96	-1.85
GU07-3849	7.96	8.64	8.54	9.69	8.52	-12.07				10.90	10.70	-1.83	9.52	9.29	-2.42
MA05-99	10.20	9.79	-4.02	9.84	10.00	1.63				10.70	10.60	-0.93	10.25	10.13	-1.14
MA05/22	11.00	11.00	0.00	7.57	9.12	20.48				11.60	13.40	15.52	10.06	11.17	11.10
MA05/51	11.10	8.93	-19.55	7.72	9.25	19.82				9.68	10.20	5.37	9.50	9.46	-0.42
MA5/37	8.99	10.00	11.23	8.89	7.29	-18.00				10.20	11.10	8.82	9.36	9.46	1.10
MA5/5	9.33	10.60	13.61	8.72	8.16	-6.42				10.10	12.20	20.79	9.38	10.32	9.98
PG9869-137	10.40	9.57	-7.98	8.70	8.62	-0.92				10.40	12.30	18.27	9.83	10.16	3.36
SA04-390	8.57	9.42	9.92	9.31	9.09	-2.36				11.20	12.70	13.39	9.69	10.40	7.32
SA04-409	12.00	11.90	-0.83	11.30	10.60	-6.19				12.70	13.20	3.94	12.00	11.90	-0.83
SA04-454	10.60	11.00	3.77	6.57	6.65	1.22				10.80	11.30	4.63	9.32	9.65	3.50
SA04-458	11.30	9.75	-13.72	10.30	9.99	-3.01				10.90	13.20	21.10	10.83	10.98	1.35
SA04-472	10.80	11.70	8.33	9.37	10.40	10.99				12.10	14.10	16.53	10.76	12.07	12.18
SA04-496	12.10	12.10	0.00	7.94	8.67	9.19				12.80	13.30	3.91	10.95	11.36	3.75
SA98-13	8.55	5.32	-37.78	10.30	9.68	-6.02				11.90	12.80	7.56	10.25	9.27	-9.59
Standards															
Check1	12.70	12.30	-3.15	12.00	10.00	-16.67				12.70	13.50	6.30	12.47	11.93	-4.28
Check2	12.00	11.60	-3.33	10.40	10.90	4.81				11.80	13.40	13.56	11.40	11.97	4.97
Check3	12.70	12.70	0.00	9.82	9.52	-3.05				11.80	13.70	16.10	11.44	11.97	4.66
GM	9.61	9.06	-5.72	8.69	8.63	-0.69				10.30	11.50	11.65	9.53	9.73	2.06
CV	6.07	5.11		2.16	3.45					9.88	6.39				

Varietal Improvement Programme- AICRP (Sugarcane)
Principal Investigator's Report (2017-18)
Evaluation and identification of climate resilient ISH and IGH genetic stocks

Table 7.1.13 : Juice Brix at 300 days

Entry	Karnal			Faridkot			Anakapalle			Padegaon			Mean		
	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change
AS04-1687	13.01	11.90	-8.53	12.06	11.91	-1.24	15.84	16.76	5.81	13.17	14.22	7.97	13.52	13.70	1.31
AS04-1689	12.90	13.49	4.57	11.87	11.86	-0.08	19.20	15.43	-19.64	18.35	17.67	-3.71	15.58	14.61	-6.21
AS04-2097	15.05	13.32	-11.50	14.08	13.42	-4.69	10.17	11.92	17.21	12.87	15.41	19.74	13.04	13.52	3.64
AS04-245	14.62	14.46	-1.09	13.56	12.88	-5.01	18.92	16.61	-12.21	14.95	14.91	-0.27	15.51	14.72	-5.14
AS04-635	15.14	14.65	-3.24	14.87	16.37	10.09	15.76	14.50	-7.99	14.38	15.09	4.94	15.04	15.15	0.76
BM1003-143	18.31	16.43	-10.27	16.07	15.21	-5.35	17.45	16.25	-6.88	20.19	20.32	0.64	18.01	17.05	-5.29
BM1005-149	19.06	19.63	2.99	15.37	15.76	2.54	16.84	14.83	-11.94	20.68	21.52	4.06	17.99	17.94	-0.29
BM1009-163	19.94	18.43	-7.57	16.56	17.98	8.57	12.12	13.24	9.24	20.84	21.92	5.18	17.37	17.89	3.04
BM1010-168	15.78	14.17	-10.20	11.98	12.72	6.18	18.78	12.82	-31.74	16.71	18.36	9.87	15.81	14.52	-8.19
BM1022-173	16.76	16.71	-0.30	12.87	13.27	3.11	15.06	9.84	-34.66	17.91	19.06	6.42	15.65	14.72	-5.94
CYM07-986	13.62	11.76	-13.66	12.05	12.27	1.83	16.61	15.84	-4.64	14.33	14.67	2.37	14.15	13.64	-3.66
GU07-2276	15.46	14.41	-6.79	12.87	12.78	-0.70	19.35	16.61	-14.16	14.20	15.52	9.30	15.47	14.83	-4.14
GU07-3774	14.45	14.09	-2.49	14.57	13.65	-6.31	19.05	15.58	-18.22	14.30	14.26	-0.28	15.59	14.40	-7.68
GU07-3849	16.39	15.70	-4.21	16.05	14.92	-7.04	12.52	12.52	0.00	18.51	18.09	-2.27	15.87	15.31	-3.53
MA05-99	17.93	17.80	-0.73	17.57	16.65	-5.24	12.80	14.88	16.25	18.89	18.61	-1.48	16.80	16.99	1.12
MA05/22	18.57	18.69	0.65	15.37	15.43	0.39	13.02	13.12	0.77	20.12	21.06	4.67	16.77	17.08	1.82
MA05/51	18.58	16.84	-9.36	15.37	15.93	3.64	15.60	15.65	0.32	17.21	17.73	3.02	16.69	16.54	-0.91
MA5/37	16.87	18.24	8.12	17.55	14.42	-17.83	14.29	11.54	-19.24	18.33	19.38	5.73	16.76	15.90	-5.16
MA5/5	17.10	18.31	7.08	16.07	15.65	-2.61	16.41	13.03	-20.60	18.44	20.03	8.62	17.01	16.76	-1.47
PG9869-137	18.15	17.71	-2.42	17.06	16.26	-4.69	16.94	15.90	-6.14	18.77	20.02	6.66	17.73	17.47	-1.45
SA04-390	16.99	18.16	6.89	15.37	15.87	3.25	18.73	16.78	-10.41	19.54	20.15	3.12	17.66	17.74	0.47
SA04-409	20.25	19.89	-1.78	19.07	18.41	-3.46	14.49	6.07	-58.11	20.68	21.62	4.55	18.62	16.50	-11.41
SA04-454	18.85	18.02	-4.40	11.87	11.87	0.00	15.97	15.37	-3.76	18.29	18.21	-0.44	16.25	15.87	-2.32
SA04-458	18.26	17.66	-3.29	17.63	18.22	3.35	19.02	16.51	-13.20	18.75	20.59	9.81	18.42	18.25	-0.92
SA04-472	18.66	19.97	7.02	17.56	17.91	1.99	12.50	11.83	-5.36	21.07	21.73	3.13	17.45	17.86	2.36
SA04-496	20.41	19.97	-2.16	13.56	14.31	5.53	14.82	12.79	-13.70	20.85	21.40	2.64	17.41	17.12	-1.68
SA98-13	15.39	13.44	-12.67	17.58	16.92	-3.75	15.78	16.24	2.92	20.13	20.61	2.38	17.22	16.80	-2.42
Standards															
Check1	20.63	20.55	-0.39	20.07	16.40	-18.29	18.68	16.94	-9.31	20.00	20.82	4.10	19.85	18.68	-5.88
Check2	19.70	19.01	-3.50	17.37	17.43	0.35	17.44	14.86	-14.79	19.55	20.54	5.06	18.52	17.96	-3.00
Check3	20.86	20.14	-3.45	16.55	17.42	5.26	20.59	17.65	-14.28	19.26	20.93	8.67	19.32	19.04	-1.45
GM	17.26	16.78	-2.78	15.35	15.14	-1.37	16.16	14.40	-10.89	18.04	18.82	4.32	16.70	16.29	-2.50
CV	4.96	3.16		2.73	3.79		2.60	5.02		6.06	3.44				

Varietal Improvement Programme- AICRP (Sugarcane)
 Principal Investigator's Report (2017-18)
 Evaluation and identification of climate resilient ISH and IGH genetic stocks
 Table 7.1.14 : Juice sucrose (%) at 300 days

Entry	Karnal			Faridkot			Anakapalle			Padegaon			Mean		
	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change
AS04-1687	9.24	8.02	-13.20	10.00	9.85	-1.50	13.47	12.70	-5.72	13.17	14.22	7.97	11.47	11.20	-2.38
AS04-1689	9.11	9.17	0.66	9.87	9.85	-0.20	17.31	8.80	-49.16	18.35	17.67	-3.71	13.66	11.37	-16.75
AS04-2097	11.70	9.18	-21.54	10.50	11.10	5.71	7.74	13.90	79.59	12.87	15.41	19.74	10.70	12.40	15.84
AS04-245	10.60	10.60	0.00	11.40	10.50	-7.89	17.10	12.20	-28.65	14.95	14.91	-0.27	13.51	12.05	-10.80
AS04-635	11.40	10.80	-5.26	12.10	14.20	17.36	12.94	13.50	4.33	14.38	15.09	4.94	12.71	13.40	5.45
BM1003-143	15.70	13.00	-17.20	13.00	12.50	-3.85	15.03	12.30	-18.16	20.19	20.32	0.64	15.98	14.53	-9.07
BM1005-149	17.30	17.80	2.89	13.90	13.50	-2.88	13.74	9.97	-27.44	20.68	21.52	4.06	16.41	15.70	-4.31
BM1009-163	17.40	15.50	-10.92	13.80	15.90	15.22	8.99	10.80	20.13	20.84	21.92	5.18	15.26	16.03	5.06
BM1010-168	12.90	10.40	-19.38	10.10	10.20	0.99	16.23	7.91	-51.26	16.71	18.36	9.87	13.99	11.72	-16.21
BM1022-173	14.40	14.10	-2.08	11.10	11.20	0.90	10.98	13.20	20.22	17.91	19.06	6.42	13.60	14.39	5.83
CYM07-986	10.30	7.97	-22.62	9.99	10.40	4.10	12.97	13.50	4.09	14.33	14.67	2.37	11.90	11.64	-2.21
GU07-2276	11.80	10.40	-11.86	11.20	10.20	-8.93	17.49	13.10	-25.10	14.20	15.52	9.30	13.67	12.31	-10.00
GU07-3774	11.10	11.20	0.90	13.20	11.60	-12.12	16.56	9.06	-45.29	14.30	14.26	-0.28	13.79	11.53	-16.39
GU07-3849	12.40	12.90	4.03	14.00	12.60	-10.00	9.18	12.70	38.34	18.51	18.09	-2.27	13.52	14.07	4.07
MA05-99	15.10	14.60	-3.31	14.60	14.50	-0.68	10.56	10.00	-5.30	18.89	18.61	-1.48	14.79	14.43	-2.43
MA05/22	16.10	16.10	0.00	11.80	13.30	12.71	9.76	12.30	26.02	20.12	21.06	4.67	14.45	15.69	8.62
MA05/51	16.20	13.50	-16.67	11.90	13.60	14.29	12.16	9.29	-23.60	17.21	17.73	3.02	14.37	13.53	-5.83
MA5/37	13.60	15.00	10.29	13.70	11.20	-18.25	10.74	11.00	2.42	18.33	19.38	5.73	14.09	14.15	0.37
MA5/5	14.00	15.60	11.43	13.10	12.40	-5.34	14.21	13.20	-7.11	18.44	20.03	8.62	14.94	15.31	2.48
PG9869-137	15.40	14.40	-6.49	13.30	13.00	-2.26	14.54	14.30	-1.65	18.77	20.02	6.66	15.50	15.43	-0.47
SA04-390	13.20	14.40	9.09	13.50	13.40	-0.74	15.71	4.55	-71.04	19.54	20.15	3.12	15.49	13.13	-15.25
SA04-409	17.60	17.30	-1.70	16.50	15.60	-5.45	11.50	13.10	13.91	20.68	21.62	4.55	16.57	16.91	2.02
SA04-454	15.80	15.90	0.63	9.83	9.90	0.71	13.05	14.00	7.28	18.29	18.21	-0.44	14.24	14.50	1.83
SA04-458	16.30	14.50	-11.04	15.10	14.90	-1.32	15.90	8.60	-45.91	18.75	20.59	9.81	16.51	14.65	-11.29
SA04-472	15.90	17.10	7.55	14.10	15.30	8.51	9.59	10.80	12.62	21.07	21.73	3.13	15.17	16.23	7.04
SA04-496	17.60	17.60	0.00	11.60	12.50	7.76	11.80	13.60	15.25	20.85	21.40	2.64	15.46	16.28	5.25
SA98-13	12.70	9.04	-28.82	15.10	14.30	-5.30	13.33	15.00	12.53	20.13	20.61	2.38	15.32	14.74	-3.77
Standards															
Check1	18.30	17.90	-2.19	17.50	14.40	-17.71	16.53	13.10	-20.75	20.00	20.82	4.10	18.08	16.56	-8.45
Check2	17.40	16.80	-3.45	15.20	15.60	2.63	15.37	15.00	-2.41	19.55	20.54	5.06	16.88	16.99	0.62
Check3	18.40	18.20	-1.09	14.30	14.20	-0.70	19.01	11.80	-37.93	19.26	20.93	8.67	17.74	16.28	-8.23
GM	14.30	13.60	-4.90	12.80	12.70	-0.78	13.45	11.88	-11.67	18.04	18.82	4.32	14.65	14.25	-2.71
CV	5.27	4.18		2.25	3.52		2.75	3.81		6.06	3.44				

Varietal Improvement Programme- AICRP (Sugarcane)
 Principal Investigator's Report (2017-18)
 Evaluation and identification of climate resilient ISH and IGH genetic stocks
 Table 7.1.15: Juice Purity % at 300 days

Entry	Karnal			Faridkot			Anakapalle			Padegaon			Mean		
	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change
AS04-1687	70.94	67.07	-5.46	83.10	82.85	-0.30				71.90	83.76	16.50	75.31	77.89	3.43
AS04-1689	70.62	67.81	-3.98	83.11	83.09	-0.02				86.09	86.57	0.56	79.94	79.16	-0.98
AS04-2097	77.84	69.30	-10.97	75.16	83.26	10.78				68.84	85.36	24.00	73.95	79.31	7.25
AS04-245	72.74	73.69	1.31	84.32	81.83	-2.95				76.20	83.65	9.78	77.75	79.72	2.53
AS04-635	75.54	73.68	-2.46	81.62	86.91	6.48				71.16	81.95	15.16	76.11	80.85	6.23
BM1003-143	86.01	79.69	-7.35	81.47	82.49	1.25				87.00	88.04	1.20	84.83	83.41	-1.67
BM1005-149	90.82	91.06	0.26	90.88	86.14	-5.22				89.26	91.41	2.41	90.32	89.54	-0.87
BM1009-163	87.38	83.97	-3.90	83.88	88.77	5.83				90.11	92.98	3.18	87.12	88.57	1.66
BM1010-168	82.15	73.73	-10.25	84.49	80.17	-5.11				85.93	87.27	1.56	84.19	80.39	-4.51
BM1022-173	86.42	84.74	-1.94	86.91	84.76	-2.47				87.09	87.51	0.48	86.81	85.67	-1.31
CYM07-986	76.12	67.42	-11.43	82.86	85.12	2.73				79.43	80.51	1.36	79.47	77.68	-2.25
GU07-2276	76.99	72.55	-5.77	87.28	80.25	-8.05				76.18	85.56	12.31	80.15	79.45	-0.87
GU07-3774	77.37	79.57	2.84	90.76	85.62	-5.66				81.17	87.72	8.07	83.10	84.30	1.45
GU07-3849	76.14	82.37	8.18	87.63	84.47	-3.61				86.38	86.74	0.42	83.38	84.53	1.37
MA05-99	84.18	82.48	-2.02	83.34	87.32	4.78				82.86	84.52	2.00	83.46	84.77	1.57
MA05/22	86.90	86.21	-0.79	76.89	86.43	12.41				86.20	91.31	5.93	83.33	87.98	5.58
MA05/51	87.09	80.57	-7.49	77.83	85.37	9.69				82.24	85.36	3.79	82.39	83.77	1.68
MA5/37	80.85	82.36	1.87	78.09	78.06	-0.04				83.27	84.94	2.01	80.74	81.79	1.30
MA5/5	82.09	85.34	3.96	81.62	79.57	-2.51				83.38	88.66	6.33	82.36	84.52	2.62
PG9869-137	84.81	81.39	-4.03	78.44	80.58	2.73				82.73	88.97	7.54	81.99	83.65	2.02
SA04-390	78.00	79.52	1.95	87.91	84.57	-3.80				85.22	90.45	6.14	83.71	84.85	1.36
SA04-409	86.85	87.16	0.36	86.91	84.79	-2.44				87.70	88.05	0.40	87.15	86.67	-0.56
SA04-454	83.98	88.60	5.50	82.87	83.27	0.48				86.77	89.49	3.13	84.54	87.12	3.05
SA04-458	89.33	82.44	-7.71	86.13	82.09	-4.69				85.30	91.64	7.43	86.92	85.39	-1.76
SA04-472	85.36	86.11	0.88	80.81	85.93	6.34				85.11	92.55	8.74	83.76	88.20	5.30
SA04-496	86.52	88.19	1.93	85.84	87.98	2.49				88.71	89.51	0.90	87.02	88.56	1.77
SA98-13	83.20	67.67	-18.67	86.15	84.49	-1.93				86.42	89.65	3.74	85.26	80.60	-5.46
Standards															
Check1	89.07	87.22	-2.08	87.29	88.34	1.20				90.98	92.23	1.37	89.11	89.26	0.17
Check2	88.45	88.64	0.21	87.64	89.86	2.53				88.80	92.58	4.26	88.30	90.36	2.34
Check3	88.69	90.58	2.13	86.65	82.07	-5.29				87.39	92.68	6.05	87.58	88.44	0.99
GM	82.42	80.37	-2.49	83.93	84.22	0.35				83.66	88.05	5.25	83.34	84.21	1.05
CV	3.20	2.72		0.94	0.78					3.43	3.47				

Varietal Improvement Programme- AICRP (Sugarcane)
 Principal Investigator's Report (2017-18)
 Evaluation and identification of climate resilient ISH and IGH genetic stocks
 Table 7.1.16: Juice Extraction % at 300 days

Entry	Karnal			Faridkot			Anakapalle			Padegaon			Mean		
	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change
AS04-1687	19.84	32.93	65.98	41.56	37.86	-8.90	47.87	43.61	-8.90	33.31	31.81	-4.50	35.65	36.55	2.55
AS04-1689	41.15	29.16	-29.14	46.82	47.89	2.29	44.26	35.44	-19.93	37.76	34.49	-8.66	42.50	36.75	-13.54
AS04-2097	34.29	37.81	10.27	46.09	42.36	-8.09	35.15	45.78	30.24	36.46	33.98	-6.80	38.00	39.98	5.22
AS04-245	37.96	22.06	-41.89	32.69	36.09	10.40	44.62	43.85	-1.73	27.54	24.99	-9.26	35.70	31.75	-11.08
AS04-635	22.94	26.52	15.61	45.00	31.37	-30.29	44.16	47.44	7.43	31.59	29.43	-6.84	35.92	33.69	-6.21
BM1003-143	41.60	40.61	-2.38	51.21	48.05	-6.17	46.64	48.32	3.60	40.59	36.66	-9.68	45.01	43.41	-3.55
BM1005-149	45.07	45.72	1.44	55.03	52.03	-5.45	46.12	39.58	-14.18	42.89	37.40	-12.80	47.28	43.68	-7.60
BM1009-163	25.45	41.55	63.26	47.02	45.45	-3.34	40.53	48.51	19.69	42.53	39.92	-6.14	38.88	43.86	12.79
BM1010-168	36.21	41.57	14.80	47.29	40.15	-15.10	46.66	43.30	-7.20	32.05	30.16	-5.90	40.55	38.80	-4.33
BM1022-173	52.15	50.32	-3.51	55.62	50.59	-9.04	41.28	42.29	2.45	43.84	41.22	-5.98	48.22	46.11	-4.39
CYM07-986	27.96	29.73	6.33	44.25	37.97	-14.19	43.16	41.60	-3.61	33.87	31.40	-7.29	37.31	35.18	-5.72
GU07-2276	54.59	42.28	-22.55	51.35	49.98	-2.67	41.56	41.37	-0.46	44.41	40.94	-7.81	47.98	43.64	-9.04
GU07-3774	22.55	22.85	1.33	41.15	37.62	-8.58	38.30	41.13	7.39	38.19	33.50	-12.28	35.05	33.78	-3.63
GU07-3849	30.84	28.78	-6.68	43.86	39.43	-10.10	39.96	27.75	-30.56	39.97	36.79	-7.96	38.66	33.19	-14.15
MA05-99	26.05	46.40	78.12	47.39	49.32	4.07	27.14	39.46	45.39	35.62	32.59	-8.51	34.05	41.94	23.18
MA05/22	42.85	41.68	-2.73	45.49	40.66	-10.62	37.29	32.63	-12.50	42.21	36.44	-13.67	41.96	37.85	-9.79
MA05/51	17.39	44.97	158.60	46.93	46.79	-0.30	32.92	36.42	10.63	37.37	34.74	-7.04	33.65	40.73	21.03
MA5/37	45.81	49.61	8.30	50.00	43.00	-14.00	35.48	42.40	19.50	40.71	38.12	-6.36	43.00	43.28	0.66
MA5/5	43.14	42.15	-2.29	50.81	38.29	-24.64	40.54	42.91	5.85	39.76	36.50	-8.20	43.56	39.96	-8.26
PG9869-137	49.57	51.87	4.64	57.83	54.78	-5.27	43.47	42.14	-3.06	44.92	43.52	-3.12	48.95	48.08	-1.78
SA04-390	47.81	39.91	-16.52	56.31	47.58	-15.50	43.58	32.23	-26.04	41.48	37.84	-8.78	47.30	39.39	-16.71
SA04-409	39.19	43.56	11.15	46.01	39.86	-13.37	30.24	49.18	62.63	37.53	35.35	-5.81	38.24	41.99	9.79
SA04-454	41.88	49.69	18.65	50.25	47.73	-5.01	50.14	39.95	-20.32	40.23	37.16	-7.63	45.63	43.63	-4.37
SA04-458	40.02	48.70	21.69	51.23	47.59	-7.11	40.04	38.73	-3.27	39.33	35.66	-9.33	42.66	42.67	0.04
SA04-472	33.87	44.09	30.17	46.39	45.90	-1.06	35.64	47.80	34.12	43.45	38.62	-11.12	39.84	44.10	10.71
SA04-496	39.27	45.08	14.80	51.44	45.51	-11.53	47.39	37.42	-21.04	38.74	36.23	-6.48	44.21	41.06	-7.13
SA98-13	36.56	37.84	3.50	51.99	43.60	-16.14	37.64	53.22	41.39	39.77	35.54	-10.64	41.49	42.55	2.55
Standards															
Check1	45.89	47.80	4.16	54.49	48.17	-11.60	50.05	48.59	-2.92	44.19	42.58	-3.64	48.66	46.79	-3.84
Check2	40.89	40.49	-0.98	53.71	46.37	-13.67	47.59	50.04	5.15	46.39	43.92	-5.32	47.15	45.21	-4.11
Check3	46.07	44.41	-3.60	52.52	46.95	-10.61	50.71	42.42	-16.35	44.05	40.88	-7.20	48.34	43.67	-9.67
GM	37.63	40.34	7.20	48.73	44.30	-9.09	41.67	42.42	1.80	39.36	36.28	-7.83	41.85	40.84	-2.42
CV	28.96	7.50		2.09	2.45		7.61	6.99		4.30	4.56				

Varietal Improvement Programme- AICRP (Sugarcane)
 Principal Investigator's Report (2017-18)
 Evaluation and identification of climate resilient ISH and IGH genetic stocks
 Table 7.1.17: Cane fiber % at 300 days

Entry	Karnal			Faridkot			Anakapalle			Padegaon			Mean		
	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change
AS04-1687							18.34	17.07	-6.92	16.71	15.00	-10.23	17.53	16.04	-8.50
AS04-1689							17.09	20.80	21.71	14.58	24.04	64.88	15.84	22.42	41.59
AS04-2097							19.28	16.87	-12.50	14.35	14.15	-1.39	16.82	15.51	-7.76
AS04-245							16.88	16.54	-2.01	11.26	22.31	98.13	14.07	19.43	38.06
AS04-635							15.23	16.72	9.78	17.36	13.01	-25.06	16.30	14.87	-8.78
BM1003-143							16.67	17.56	5.34	27.44	12.04	-56.12	22.06	14.80	-32.90
BM1005-149							16.37	17.90	9.35	14.97	19.60	30.93	15.67	18.75	19.66
BM1009-163							14.93	20.33	36.17	14.81	21.47	44.97	14.87	20.90	40.55
BM1010-168							20.47	19.77	-3.42	13.44	14.47	7.66	16.96	17.12	0.97
BM1022-173							16.53	15.46	-6.47	11.70	19.12	63.42	14.12	17.29	22.49
CYM07-986							13.75	19.25	40.00	14.74	14.46	-1.90	14.25	16.86	18.32
GU07-2276							19.89	16.56	-16.74	15.88	25.21	58.75	17.89	20.89	16.77
GU07-3774							16.39	19.18	17.02	22.96	21.93	-4.49	19.68	20.56	4.47
GU07-3849							15.85	16.75	5.68	15.22	18.30	20.24	15.54	17.53	12.81
MA05-99							16.05	19.39	20.81	11.34	11.57	2.03	13.70	15.48	13.03
MA05/22							16.33	21.30	30.43	11.40	19.83	73.95	13.87	20.57	48.32
MA05/51							18.58	17.46	-6.03	10.55	11.15	5.69	14.57	14.31	-1.79
MA5/37							15.70	17.64	12.36	14.92	23.30	56.17	15.31	20.47	33.70
MA5/5							17.03	17.01	-0.12	15.83	19.67	24.26	16.43	18.34	11.63
PG9869-137							15.98	17.77	11.20	12.24	15.46	26.31	14.11	16.62	17.75
SA04-390							17.32	18.13	4.68	15.11	13.09	-13.37	16.22	15.61	-3.73
SA04-409							16.25	20.49	26.09	27.13	13.96	-48.54	21.69	17.23	-20.59
SA04-454							18.70	17.99	-3.80	12.38	11.14	-10.02	15.54	14.57	-6.27
SA04-458							17.16	17.42	1.52	20.09	11.91	-40.72	18.63	14.67	-21.26
SA04-472							15.52	20.16	29.90	14.12	25.82	82.86	14.82	22.99	55.13
SA04-496							19.33	18.38	-4.91	14.31	14.39	0.56	16.82	16.39	-2.59
SA98-13							18.16	16.43	-9.53	12.92	11.45	-11.38	15.54	13.94	-10.30
Standards															
Check1							16.44	18.95	15.27	12.68	12.29	-3.08	14.56	15.62	7.28
Check2							18.56	16.44	-11.42	11.67	11.90	1.97	15.12	14.17	-6.25
Check3							17.63	18.16	3.01	12.38	24.04	94.18	15.01	21.10	40.62
GM							17.08	18.16	6.32	15.15	16.87	11.35	16.12	17.52	8.69
CV							3.00	3.73		3.33	5.86				

Varietal Improvement Programme- AICRP (Sugarcane)
 Principal Investigator's Report (2017-18)
 Evaluation and identification of climate resilient ISH and IGH genetic stocks
 Table 7.1.18: Single cane weight at harvest

Entry	Karnal			Faridkot			Anakapalle			Padegaon			Mean		
	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change
AS04-1687	0.60	0.60	0.00				1.15	1.08	-6.09	0.37	0.33	-10.81	0.71	0.67	-5.19
AS04-1689	0.96	0.76	-20.83				1.33	0.56	-57.89	0.68	0.6	-11.76	0.99	0.64	-35.35
AS04-2097	1.08	1.04	-3.70				1.18	0.99	-16.10	0.96	0.89	-7.29	1.07	0.97	-9.32
AS04-245	0.48	0.39	-18.75				1.42	1.06	-25.35	0.56	0.49	-12.50	0.82	0.65	-21.14
AS04-635	0.59	0.56	-5.08				1.23	0.97	-21.14	0.7	0.65	-7.14	0.84	0.73	-13.49
BM1003-143	0.96	0.96	0.00				0.77	0.83	7.79	1.15	1.05	-8.70	0.96	0.95	-1.39
BM1005-149	0.94	0.87	-7.45				0.89	0.62	-30.34	1.1	1.05	-4.55	0.98	0.85	-13.31
BM1009-163	1.00	0.87	-13.00				0.95	1.06	11.58	0.88	0.8	-9.09	0.94	0.91	-3.53
BM1010-168	0.88	0.84	-4.55				0.39	0.52	33.33	0.71	0.63	-11.27	0.66	0.66	0.51
BM1022-173	1.04	0.90	-13.46				1.04	1.08	3.85	1	0.89	-11.00	1.03	0.96	-6.82
CYM07-986	0.63	0.59	-6.35				1.52	0.83	-45.39	0.5	0.46	-8.00	0.88	0.63	-29.06
GU07-2276	1.06	0.95	-10.38				1.05	1.11	5.71	1.14	1.07	-6.14	1.08	1.04	-3.69
GU07-3774	0.61	0.75	22.95				1.06	0.7	-33.96	0.4	0.34	-15.00	0.69	0.60	-13.53
GU07-3849	0.77	0.74	-3.90				1.14	0.49	-57.02	0.21	0.3	42.86	0.71	0.51	-27.83
MA05-99	0.76	0.76	0.00				0.94	0.71	-24.47	1.16	1.02	-12.07	0.95	0.83	-12.94
MA05/22	1.17	0.88	-24.79				1.23	0.65	-47.15	1.12	1.07	-4.46	1.17	0.87	-26.14
MA05/51	0.81	0.71	-12.35				1.33	0.69	-48.12	0.85	0.7	-17.65	1.00	0.70	-29.77
MA5/37	0.89	0.77	-13.48				0.86	0.96	11.63	1.14	1	-12.28	0.96	0.91	-5.54
MA5/5	0.87	0.62	-28.74				1.44	1.05	-27.08	1.43	1.06	-25.87	1.25	0.91	-27.01
PG9869-137	1.08	0.84	-22.22				1.03	0.96	-6.80	1.73	1.5	-13.29	1.28	1.10	-14.06
SA04-390	0.88	0.87	-1.14				0.95	0.53	-44.21	1.07	1.02	-4.67	0.97	0.81	-16.55
SA04-409	0.84	0.68	-19.05				0.68	1.12	64.71	1.14	1.07	-6.14	0.89	0.96	7.89
SA04-454	0.82	0.63	-23.17				1.03	0.8	-22.33	1.11	0.97	-12.61	0.99	0.80	-18.92
SA04-458	0.81	0.78	-3.70				0.67	0.47	-29.85	1.36	1.15	-15.44	0.95	0.80	-15.49
SA04-472	1.08	0.96	-11.11				0.87	0.93	6.90	0.8	0.76	-5.00	0.92	0.88	-3.64
SA04-496	0.76	0.68	-10.53				1.12	0.62	-44.64	1	0.93	-7.00	0.96	0.74	-22.57
SA98-13	1.03	0.87	-15.53				1.52	1.08	-28.95	0.93	0.93	0.00	1.16	0.96	-17.24
Standards															
Check1	1.16	0.97	-16.38				1.12	1.08	-3.57	1.24	1.25	0.81	1.17	1.10	-6.25
Check2	0.88	0.74	-15.91				1.01	1.12	10.89	1.8	1.61	-10.56	1.23	1.16	-5.96
Check3	0.96	0.64	-33.33				1.14	0.85	-25.44	1.04	1.03	-0.96	1.05	0.84	-19.75
GM	0.88	0.77	-12.50				1.07	0.85	-20.56	0.98	0.89	-9.18	0.98	0.84	-14.33
CV	2.93	2.98					5.11	8.64		19	15.7				

Varietal Improvement Programme- AICRP (Sugarcane)
Principal Investigator's Report (2017-18)
Evaluation and identification of climate resilient ISH and IGH genetic stocks

Table 7.1.19: Cane length at harvest (cm)

Entry	Karnal			Faridkot			Anakapalle			Padegaon			Mean		
	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change
AS04-1687	288.75	284.2	-1.58				256.8	259.7	1.13	266.7	233.5	-12.45	270.75	259.13	-4.29
AS04-1689	303.88	283.9	-6.57				292.6	279	-4.65	319.9	278.9	-12.82	305.46	280.60	-8.14
AS04-2097	280.47	275.6	-1.74				210.6	208.6	-0.95	333.5	290.6	-12.86	274.86	258.27	-6.04
AS04-245	272.13	294.1	8.07				281.2	278.4	-1.00	295.5	287	-2.88	282.94	286.50	1.26
AS04-635	280.78	227.6	-18.94				346.6	345.5	-0.32	322.1	290.8	-9.72	316.49	287.97	-9.01
BM1003-143	264	236.8	-10.30				232.2	225.4	-2.93	269.5	241.5	-10.39	255.23	234.57	-8.10
BM1005-149	224.38	211.4	-5.78				230.4	241.5	4.82	237.4	286.4	20.64	230.73	246.43	6.81
BM1009-163	267.13	276.6	3.55				356.7	359.7	0.84	308	282	-8.44	310.61	306.10	-1.45
BM1010-168	292.47	240.6	-17.74				255	251.6	-1.33	278.5	262.1	-5.89	275.32	251.43	-8.68
BM1022-173	235.78	195.1	-17.25				272.4	273.4	0.37	252.1	258.3	2.46	253.43	242.27	-4.40
CYM07-986	240.66	257.8	7.12				342.6	360.6	5.25	244	230.3	-5.61	275.75	282.90	2.59
GU07-2276	262.25	238.9	-8.90				297.8	274.3	-7.89	308.6	222.4	-27.93	289.55	245.20	-15.32
GU07-3774	222.09	205.7	-7.38				336.6	358.7	6.57	192.3	162.1	-15.70	250.33	242.17	-3.26
GU07-3849	248.16	210.3	-15.26				255.2	238.3	-6.62	179	210.3	17.49	227.45	219.63	-3.44
MA05-99	269.59	245.7	-8.86				301.6	293.1	-2.82	297.3	259.6	-12.68	289.50	266.13	-8.07
MA05/22	242.25	213.9	-11.70				338.5	328.6	-2.92	270.6	262.4	-3.03	283.78	268.30	-5.46
MA05/51	217.09	203.2	-6.40				295.4	291.7	-1.25	282.3	249.6	-11.58	264.93	248.17	-6.33
MA5/37	250.66	202.8	-19.09				326.1	338	3.65	239	247.8	3.68	271.92	262.87	-3.33
MA5/5	252.25	241.4	-4.30				277.7	268.4	-3.35	313.6	259.9	-17.12	281.18	256.57	-8.75
PG9869-137	276.25	261.7	-5.27				320.1	329.8	3.03	316.7	271	-14.43	304.35	287.50	-5.54
SA04-390	166.78	132.6	-20.49				285.9	286.4	0.17	267.1	230.8	-13.59	239.93	216.60	-9.72
SA04-409	252.5	249.3	-1.27				302.7	299.6	-1.02	297	299	0.67	284.07	282.63	-0.50
SA04-454	230.78	207.6	-10.04				303.9	302.8	-0.36	282.1	225.8	-19.96	272.26	245.40	-9.87
SA04-458	200.47	193.1	-3.68				290.2	281.1	-3.14	261	168.1	-35.59	250.56	214.10	-14.55
SA04-472	256.25	241.7	-5.68				249.2	239.2	-4.01	231.7	213.5	-7.85	245.72	231.47	-5.80
SA04-496	213.75	216.7	1.38				294.7	282.9	-4.00	234.2	231	-1.37	247.55	243.53	-1.62
SA98-13	302.97	303.1	0.04				271	276.4	1.99	281	218.1	-22.38	284.99	265.87	-6.71
Standards															
Check1	257.09	223.2	-13.18				258.7	249.2	-3.67	249	242.8	-2.49	254.93	238.40	-6.48
Check2	248.16	250.3	0.86				211.8	208.1	-1.75	266.1	252.4	-5.15	242.02	236.93	-2.10
Check3	162.25	163.9	1.02				232.6	230.6	-0.86	262.3	224.6	-14.37	219.05	206.37	-5.79
GM	249.4	233	-6.58				284.2	282	-0.77	271.9	246.4	-9.38	268.50	253.80	-5.47
CV	2.58	2.88					4.88	3.89		6.84	2.14				

Varietal Improvement Programme- AICRP (Sugarcane)
Principal Investigator's Report (2017-18)
Evaluation and identification of climate resilient ISH and IGH genetic stocks

Table 7.1.20: Cane diameter (cm) at harvest

Entry	Karnal			Faridkot			Anakapalle			Padegaon			Mean		
	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change
AS04-1687	1.73	1.81	4.62				2.58	2.31	-10.47	2.43	2.53	4.12	2.25	2.22	-1.34
AS04-1689	1.97	1.93	-2.03				2.89	2.43	-15.92	2.28	2.45	7.46	2.38	2.27	-4.62
AS04-2097	2.23	2.13	-4.48				1.54	1.41	-8.44	2.61	2.67	2.30	2.13	2.07	-2.66
AS04-245	1.55	1.57	1.29				2.32	1.69	-27.16	2.46	2.24	-8.94	2.11	1.83	-13.11
AS04-635	1.69	1.56	-7.69				2.79	2.47	-11.47	1.31	2.2	67.94	1.93	2.08	7.60
BM1003-143	2.22	2.24	0.90				2.83	2.7	-4.59	3.51	3.25	-7.41	2.85	2.73	-4.32
BM1005-149	2.56	2.4	-6.25				2.33	1.95	-16.31	2.63	2.6	-1.14	2.51	2.32	-7.58
BM1009-163	2.44	2.22	-9.02				2.64	2.13	-19.32	3.21	2.84	-11.53	2.76	2.40	-13.27
BM1010-168	2.11	1.98	-6.16				2.46	2.31	-6.10	2.71	2.27	-16.24	2.43	2.19	-9.89
BM1022-173	2.74	2.43	-11.31				1.94	1.44	-25.77	3.21	3.4	5.92	2.63	2.42	-7.86
CYM07-986	2.3	2.08	-9.57				2.39	1.88	-21.34	2.86	2.58	-9.79	2.52	2.18	-13.38
GU07-2276	2.53	2.37	-6.32				2.19	2.02	-7.76	3.01	2.97	-1.33	2.58	2.45	-4.79
GU07-3774	1.46	1.7	16.44				2.35	2.1	-10.64	1.23	2.35	91.06	1.68	2.05	22.02
GU07-3849	1.68	1.66	-1.19				2.74	2.21	-19.34	2.16	2.18	0.93	2.19	2.02	-8.05
MA05-99	2.06	2.5	21.36				1.64	1.4	-14.63	3.13	3.25	3.83	2.28	2.38	4.69
MA05/22	2.63	2.62	-0.38				2.27	1.69	-25.55	3.41	3.17	-7.04	2.77	2.49	-9.99
MA05/51	2.17	2.15	-0.92				1.77	1.19	-32.77	2.68	3.25	21.27	2.21	2.20	-0.45
MA5/37	2.19	2.28	4.11				1.69	1.42	-15.98	3.26	3.18	-2.45	2.38	2.29	-3.64
MA5/5	2.42	2.22	-8.26				2.4	2.14	-10.83	2.96	3.17	7.09	2.59	2.51	-3.21
PG9869-137	2.86	2.89	1.05				2.64	2.15	-18.56	4.43	3.73	-15.80	3.31	2.92	-11.68
SA04-390	2.56	2.31	-9.77				2.17	1.76	-18.89	3.16	3.25	2.85	2.63	2.44	-7.22
SA04-409	2.19	2.24	2.28				1.67	1.53	-8.38	2.81	3.45	22.78	2.22	2.41	8.25
SA04-454	2.51	2.38	-5.18				2.55	2.17	-14.90	2.41	2.95	22.41	2.49	2.50	0.40
SA04-458	2.41	2.43	0.83				2.26	1.92	-15.04	2.66	3.37	26.69	2.44	2.57	5.32
SA04-472	2.2	2.34	6.36				2.05	1.77	-13.66	2.53	2.63	3.95	2.26	2.25	-0.59
SA04-496	2.13	2.19	2.82				2.63	2.32	-11.79	2.38	2.83	18.91	2.38	2.45	2.80
SA98-13	2.39	2.23	-6.69				1.86	1.42	-23.66	3.16	3.17	0.32	2.47	2.27	-7.96
Standards															
Check1	2.69	2.65	-1.49				1.85	1.68	-9.19	3.36	3.43	2.08	2.63	2.59	-1.77
Check2	2.33	2.28	-2.15				2.2	1.84	-16.36	3.91	3.72	-4.86	2.81	2.61	-7.11
Check3	2.25	2.5	11.11				2.84	2.65	-6.69	3.28	3.65	11.28	2.79	2.93	5.14
GM	2.24	2.21	-1.34				2.28	1.94	-14.91	2.84	2.96	4.23	2.45	2.37	-3.40
CV	4.4	5.07					6.42	6.82		4.94	2.9				

Varietal Improvement Programme- AICRP (Sugarcane)
Principal Investigator's Report (2017-18)
Evaluation and identification of climate resilient ISH and IGH genetic stocks

Table 7.1.21: Number of internodes at harvest

Entry	Karnal			Faridkot			Anakapalle			Padegaon			Mean		
	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change
AS04-1687	31.4	27.38	-12.80				20.13	18.29	-9.14	24.46	18.25	-25.39	25.33	21.31	-15.88
AS04-1689	21.46	22.96	6.99				22.88	18.54	-18.97	20.92	17.25	-17.54	21.75	19.58	-9.98
AS04-2097	19.99	18.18	-9.05				22	17.17	-21.95	23.6	18.31	-22.42	21.86	17.89	-18.19
AS04-245	18.71	19.29	3.10				24.34	18.95	-22.14	21	18.5	-11.90	21.35	18.91	-11.41
AS04-635	31.11	26.95	-13.37				21.69	16.79	-22.59	23.44	17.44	-25.60	25.41	20.39	-19.75
BM1003-143	24.33	22.75	-6.49				16.47	16.26	-1.28	23.58	20.25	-14.12	21.46	19.75	-7.95
BM1005-149	21.96	23.46	6.83				18.34	15.95	-13.03	18.42	16.25	-11.78	19.57	18.55	-5.21
BM1009-163	23.21	27.29	17.58				20.69	17.29	-16.43	20.5	16.5	-19.51	21.47	20.36	-5.16
BM1010-168	28.99	23.68	-18.32				19.97	18.76	-6.06	24.1	17.81	-26.10	24.35	20.08	-17.53
BM1022-173	25.11	21.95	-12.58				20.84	17.95	-13.87	22.44	16.94	-24.51	22.80	18.95	-16.89
CYM07-986	27.05	27.86	2.99				20.69	19.29	-6.77	21.98	18.44	-16.11	23.24	21.86	-5.92
GU07-2276	29.27	26.88	-8.17				18.47	15.76	-14.67	23.96	16.5	-31.14	23.90	19.71	-17.52
GU07-3774	21.68	22.26	2.68				21.63	18.29	-15.44	20.06	15.56	-22.43	21.12	18.70	-11.46
GU07-3849	25.05	25.86	3.23				29.38	24.54	-16.47	23.98	16.44	-31.44	26.14	22.28	-14.76
MA05-99	22.68	22.76	0.35				22	18.67	-15.14	23.56	18.56	-21.22	22.75	20.00	-12.09
MA05/22	24.27	26.38	8.69				23.34	18.45	-20.95	23.96	18	-24.87	23.86	20.94	-12.21
MA05/51	22.68	21.76	-4.06				17.69	15.79	-10.74	23.56	18.56	-21.22	21.31	18.70	-12.23
MA5/37	19.05	19.86	4.25				26.97	22.76	-15.61	23.48	17.44	-25.72	23.17	20.02	-13.58
MA5/5	23.27	23.38	0.47				18.31	16.54	-9.67	22.96	20	-12.89	21.51	19.97	-7.16
PG9869-137	21.4	22.38	4.58				29.91	24.95	-16.58	25.46	20.25	-20.46	25.59	22.53	-11.97
SA04-390	19.11	21.45	12.24				22.28	20.51	-7.94	23.44	19.44	-17.06	21.61	20.47	-5.29
SA04-409	18.33	21.25	15.93				17.31	14.54	-16.00	23.58	21.25	-9.88	19.74	19.01	-3.68
SA04-454	19.61	18.45	-5.92				24.41	18.45	-24.42	22.44	17.94	-20.05	22.15	18.28	-17.48
SA04-458	22.99	25.18	9.53				24.28	19.51	-19.65	23.6	16.31	-30.89	23.62	20.33	-13.93
SA04-472	19.4	23.38	20.52				20.31	17.54	-13.64	23.96	17.75	-25.92	21.22	19.56	-7.85
SA04-496	21.9	23.88	9.04				22.91	17.95	-21.65	23.46	20.75	-11.55	22.76	20.86	-8.33
SA98-13	20.99	20.68	-1.48				17.78	16.01	-9.96	20.6	18.31	-11.12	19.79	18.33	-7.36
Standards															
Check1	21.18	20.76	-1.98				21.31	17.04	-20.04	23.48	19.94	-15.08	21.99	19.25	-12.48
Check2	23.05	25.36	10.02				22.91	17.95	-21.65	23.96	20.5	-14.44	23.31	21.27	-8.74
Check3	21.27	23.38	9.92				21.78	20.51	-5.83	22.56	16.56	-26.60	21.87	20.15	-7.86
GM	23.02	23.23	0.91				21.7	18.37	-15.35	22.88	18.2	-20.45	22.53	19.93	-11.54
CV	4.59	8.84					8.12	8.55		3.32	4.09				

Varietal Improvement Programme- AICRP (Sugarcane)
 Principal Investigator's Report (2017-18)
 Evaluation and identification of climate resilient ISH and IGH genetic stocks
 Table 7.1.22: CCS% at harvest

Entry	Karnal			Faridkot			Anakapalle			Padegaon			Mean		
	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change
AS04-1687	7.95	7.81	-1.76	6.38	6.99	9.56				9.39	13.25	41.11	7.91	9.35	18.25
AS04-1689	7.13	7.04	-1.26	6.43	8.25	28.30				7.64	7.6	-0.52	7.07	7.63	7.97
AS04-2097	6.99	10.6	51.65	8.54	7.94	-7.03				7.39	8.98	21.52	7.64	9.17	20.07
AS04-245	7.56	7.16	-5.29	10.8	6.66	-38.33				7.17	8.06	12.41	8.51	7.29	-14.30
AS04-635	9.42	8.65	-8.17	9.11	9.13	0.22				9.02	11.55	28.05	9.18	9.78	6.46
BM1003-143	12.4	11	-11.29	9.27	8.91	-3.88				13	14.31	10.08	11.56	11.41	-1.30
BM1005-149	12.6	14	11.11	10.5	10.8	2.86				13.5	14.84	9.93	12.20	13.21	8.31
BM1009-163	12.7	13	2.36	11.3	10.9	-3.54				12.6	13.45	6.75	12.20	12.45	2.05
BM1010-168	9.43	8.93	-5.30	8.72	6.89	-20.99				11.3	13.4	18.58	9.82	9.74	-0.78
BM1022-173	10.6	10.5	-0.94	9.16	8.33	-9.06				11.2	13.17	17.59	10.32	10.67	3.36
CYM07-986	7.71	7.62	-1.17	6.39	8.36	30.83				9.41	10.78	14.56	7.84	8.92	13.82
GU07-2276	8.77	7.69	-12.31	7.25	8.68	19.72				8.8	10.78	22.50	8.27	9.05	9.39
GU07-3774	9.67	8.38	-13.34	9.23	8.83	-4.33				9.69	12.2	25.90	9.53	9.80	2.87
GU07-3849	9.81	8.11	-17.33	9.64	8.85	-8.20				11.9	14.85	24.79	10.45	10.60	1.47
MA05-99	11.1	13.8	24.32	10.7	10.8	0.93				12.3	13.72	11.54	11.37	12.77	12.38
MA05/22	12.6	13.4	6.35	10.3	11.3	9.71				15.2	14.59	-4.01	12.70	13.10	3.12
MA05/51	13.7	11.8	-13.87	9.97	10.9	9.33				11.5	13.34	16.00	11.72	12.01	2.47
MA5/37	10.2	14.3	40.20	11.4	9.66	-15.26				12.9	14.18	9.92	11.50	12.71	10.55
MA5/5	11.6	11.3	-2.59	10.1	9.38	-7.13				12.7	13.89	9.37	11.47	11.52	0.49
PG9869-137	10.7	13.2	23.36	11.2	11	-1.79				13	14.83	14.08	11.63	13.01	11.83
SA04-390	11.8	12.1	2.54	10.9	11.4	4.59				12	14.97	24.75	11.57	12.82	10.86
SA04-409	13.1	13.9	6.11	11.3	10.6	-6.19				13.5	15.79	16.96	12.63	13.43	6.31
SA04-454	11.6	12.3	6.03	9.17	9.49	3.49				11.5	13.55	17.83	10.76	11.78	9.51
SA04-458	12.7	12.7	0.00	11.7	10.6	-9.40				12.8	14.04	9.69	12.40	12.45	0.38
SA04-472	13.2	12.6	-4.55	11	11.2	1.82				13.2	14.93	13.11	12.47	12.91	3.56
SA04-496	12.6	12.9	2.38	10.4	9.53	-8.37				13.3	15.09	13.46	12.10	12.51	3.36
SA98-13	9.61	12.5	30.07	11.3	10.9	-3.54				13.6	15.14	11.32	11.50	12.85	11.68
Standards															
Check1	13.5	12.3	-8.89	13	11.3	-13.08				14.7	16.13	9.73	13.73	13.24	-3.57
Check2	13.5	13.7	1.48	10.4	11.3	8.65				12.7	15.28	20.31	12.20	13.43	10.05
Check3	11.9	14.5	21.85	12.1	10.9	-9.92				12.5	13.9	11.20	12.17	13.10	7.67
GM	10.9	11.2	2.75	9.95	9.68	-2.71				11.6	13.35	15.09	10.82	11.41	5.49
CV	6.9	7.01		1.95	1.48					8.49	4.78				

Varietal Improvement Programme- AICRP (Sugarcane)
Principal Investigator's Report (2017-18)
Evaluation and identification of climate resilient ISH and IGH genetic stocks

Table 7.1.23: Juice brix % at harvest

Entry	Karnal			Faridkot			Anakapalle			Padegaon			Mean		
	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change
AS04-1687	15.23	14.01	-8.01	13.09	12.93	-1.22	21.64	19.87	-8.18	16.79	18.67	11.20	16.69	16.37	-1.90
AS04-1689	13.69	13.34	-2.56	13.48	13.02	-3.41	20.39	18.48	-9.37	14.37	14	-2.57	15.48	14.71	-4.99
AS04-2097	14.57	16.99	16.61	14.84	15.06	1.48	16.08	14.85	-7.65	14.22	15	5.49	14.93	15.48	3.67
AS04-245	12.9	14.33	11.09	17.53	12.01	-31.49	21.79	19.71	-9.55	13.65	14.21	4.10	16.47	15.07	-8.52
AS04-635	16.67	14.93	-10.44	16.07	15.51	-3.48	19.55	17.53	-10.33	16.7	17.71	6.05	17.25	16.42	-4.80
BM1003-143	19.68	18.78	-4.57	17.5	16.96	-3.09	20.45	19.33	-5.48	22	21.42	-2.64	19.91	19.12	-3.94
BM1005-149	20.68	21.03	1.69	17.48	19.53	11.73	19.79	17.87	-9.70	22.68	21.5	-5.20	20.16	19.98	-0.87
BM1009-163	20.74	20.67	-0.34	18.53	18.61	0.43	18.15	16.23	-10.58	20.67	20.71	0.19	19.52	19.06	-2.39
BM1010-168	16.55	15.42	-6.83	14.54	13.06	-10.18	16.55	15.77	-4.71	18.28	19.5	6.67	16.48	15.94	-3.29
BM1022-173	17.58	17.39	-1.08	15.57	15.01	-3.60	14.19	12.69	-10.57	19.42	19.21	-1.08	16.69	16.08	-3.68
CYM07-986	14.83	14.31	-3.51	13.18	13.57	2.96	21.05	18.92	-10.12	17.05	16.88	-1.00	16.53	15.92	-3.68
GU07-2276	15.36	14.6	-4.95	13.91	14.1	1.37	20.85	19.7	-5.52	15.54	16.54	6.44	16.42	16.24	-1.10
GU07-3774	16.34	15.04	-7.96	15.91	17.08	7.35	20.34	18.64	-8.36	15.54	17.96	15.57	17.03	17.18	0.87
GU07-3849	16.68	14.82	-11.15	15.68	16.92	7.91	17.19	15.46	-10.06	20.74	20.38	-1.74	17.57	16.90	-3.86
MA05-99	19.21	20.87	8.64	17.41	19.48	11.89	19.38	17.91	-7.59	20.57	20.71	0.68	19.14	19.74	3.13
MA05/22	20.13	20.01	-0.60	18.06	17.8	-1.44	17.89	16.11	-9.95	22.54	22.04	-2.22	19.66	18.99	-3.38
MA05/51	20.9	19.11	-8.56	16.91	18.1	7.04	20.85	18.73	-10.17	19.31	18.96	-1.81	19.49	18.73	-3.94
MA5/37	18.44	20.64	11.93	18.68	15.92	-14.78	15.15	14.45	-4.62	21.27	21.13	-0.66	18.39	18.04	-1.90
MA5/5	19.13	18.24	-4.65	17.41	16.88	-3.04	17.27	16	-7.35	20.29	20.54	1.23	18.53	17.92	-3.29
PG9869-137	19.3	20.02	3.73	18.09	17.43	-3.65	21.41	18.97	-11.40	22.56	21.67	-3.95	20.34	19.52	-4.02
SA04-390	19.86	18.96	-4.53	18.57	18.01	-3.02	21.22	19.89	-6.27	21.41	21.21	-0.93	20.27	19.52	-3.69
SA04-409	20.69	21.1	1.98	18	18.96	5.33	9.47	8.79	-7.18	22.79	22.92	0.57	17.74	17.94	1.16
SA04-454	19.2	18.64	-2.92	14.47	15.01	3.73	20.81	18.42	-11.48	19.75	19.96	1.06	18.56	18.01	-2.96
SA04-458	19.84	19.53	-1.56	18.84	18.96	0.64	20.92	19.61	-6.26	20.6	20.75	0.73	20.05	19.71	-1.68
SA04-472	20.94	20.59	-1.67	18.09	18.93	4.64	15.97	14.76	-7.58	22.81	21.67	-5.00	19.45	18.99	-2.39
SA04-496	20.34	20.33	-0.05	18.59	17.63	-5.16	17.91	15.76	-12.00	23.02	22.17	-3.69	19.97	18.97	-4.97
SA98-13	17.46	18.12	3.78	18.84	19.06	1.17	20.62	19.33	-6.26	22.59	23.25	2.92	19.88	19.94	0.31
Standards															
Check1	21.81	21.62	-0.87	21.41	20.48	-4.34	21.67	20.05	-7.48	23.26	22.38	-3.78	22.04	21.13	-4.11
Check2	21.39	20.53	-4.02	18.41	19.7	7.01	20.21	17.9	-11.43	21.22	21.79	2.69	20.31	19.98	-1.61
Check3	20.55	21.34	3.84	19.93	18.92	-5.07	22.18	20.79	-6.27	19.86	20.71	4.28	20.63	20.44	-0.92
GM	18.36	18.18	-0.98	16.97	16.82	-0.88	19.03	17.42	-8.46	19.72	19.85	0.66	18.52	18.07	-2.44
CV	2.81	4.28		2.05	1.98		5.04	4.27		4.43	2.62				

Varietal Improvement Programme- AICRP (Sugarcane)
Principal Investigator's Report (2017-18)
Evaluation and identification of climate resilient ISH and IGH genetic stocks

Table 7.1.24: Juice sucrose % at harvest

Entry	Karnal			Faridkot			Anakapalle			Padegaon			Mean		
	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change
AS04-1687	11.82	11.07	-6.35	9.98	10.53	5.51	19.11	16.37	-14.34	13.99	18.3	30.81	13.73	14.07	2.50
AS04-1689	10.81	10.07	-6.85	10.1	11.79	16.73	17.5	11.62	-33.60	11.58	11.43	-1.30	12.50	11.23	-10.16
AS04-2097	11.68	13.65	16.87	12.6	12.08	-4.13	13.03	16.25	24.71	11.27	13.08	16.06	12.15	13.77	13.34
AS04-245	11.5	10.24	-10.96	15.5	9.95	-35.81	17.87	14.34	-19.75	10.91	11.95	9.53	13.95	11.62	-16.67
AS04-635	13.46	12.37	-8.10	13.5	13.36	-1.04	15.61	15.77	1.02	13.62	16.36	20.12	14.05	14.47	2.97
BM1003-143	17.5	15.74	-10.06	14	13.56	-3.14	16.47	14.62	-11.23	19.11	20.12	5.29	16.77	16.01	-4.53
BM1005-149	18.43	19.12	3.74	15.3	16.21	5.95	16.27	12.88	-20.84	19.71	20.67	4.87	17.43	17.22	-1.19
BM1009-163	18.36	17.93	-2.34	16.3	15.99	-1.90	14.18	14.35	1.20	18.25	19.08	4.55	16.77	16.84	0.39
BM1010-168	13.61	12.51	-8.08	12.6	10.47	-16.90	15.08	9.95	-34.02	16.33	18.68	14.39	14.41	12.90	-10.43
BM1022-173	15.41	14.74	-4.35	13.4	12.44	-7.16	11.69	15.45	32.16	16.57	18.38	10.92	14.27	15.25	6.90
CYM07-986	11.64	10.81	-7.13	10	12.06	20.60	16.7	16.05	-3.89	14.1	15.37	9.01	13.11	13.57	3.53
GU07-2276	12.74	11.16	-12.40	11	12.53	13.91	16.74	15.32	-8.48	13.05	15.27	17.01	13.38	13.57	1.40
GU07-3774	13.76	12.12	-11.92	13.5	13.52	0.15	16.42	11.3	-31.18	13.89	17.07	22.89	14.39	13.50	-6.18
GU07-3849	13.84	11.91	-13.95	13.9	13.49	-2.95	12.53	14.64	16.84	17.66	20.36	15.29	14.48	15.10	4.26
MA05-99	16.85	18.38	9.08	15.4	16.23	5.39	15.99	12.8	-19.95	17.97	19.34	7.62	16.55	16.69	0.82
MA05/22	18.06	18.26	1.11	15.2	16.16	6.32	14.49	15.08	4.07	21.32	20.58	-3.47	17.27	17.52	1.46
MA05/51	18.93	17.01	-10.14	14.5	15.91	9.72	16.34	12.37	-24.30	16.77	18.47	10.14	16.64	15.94	-4.18
MA5/37	15.91	18.59	16.84	16.5	14	-15.15	13.14	14.47	10.12	18.77	19.91	6.07	16.08	16.74	4.12
MA5/5	16.59	15.78	-4.88	14.8	14	-5.41	15.49	15.64	0.97	18.24	19.46	6.69	16.28	16.22	-0.37
PG9869-137	16.27	17.7	8.79	16.2	15.77	-2.65	17.42	16.83	-3.39	19.26	20.7	7.48	17.29	17.75	2.68
SA04-390	16.99	16.83	-0.94	16	16.38	2.37	17.61	7.35	-58.26	17.98	20.71	15.18	17.15	15.32	-10.66
SA04-409	18.85	18.98	0.69	16.2	15.8	-2.47	8.51	14.96	75.79	19.52	22	12.70	15.77	17.94	13.73
SA04-454	16.73	16.89	0.96	13.1	13.57	3.59	16.75	16.28	-2.81	16.97	18.96	11.73	15.89	16.43	3.38
SA04-458	18.05	17.51	-2.99	16.9	15.83	-6.33	17.07	11.68	-31.58	18.39	19.67	6.96	17.60	16.17	-8.12
SA04-472	18.92	17.81	-5.87	15.9	16.37	2.96	12.75	13.5	5.88	19.46	20.79	6.83	16.76	17.12	2.15
SA04-496	18.19	17.9	-1.59	15.5	14.36	-7.35	15.32	15.64	2.09	19.62	21.1	7.54	17.16	17.25	0.54
SA98-13	14.55	16.34	12.30	16.5	16.11	-2.36	16.45	17.66	7.36	19.76	21.46	8.60	16.82	17.89	6.41
Standards															
Check1	19.44	19.36	-0.41	18.8	16.99	-9.63	18.62	16.38	-12.03	21.13	22.18	4.97	19.50	18.73	-3.95
Check2	19.16	18.82	-1.77	15.4	16.78	8.96	18.14	18.36	1.21	18.57	21.17	14.00	17.82	18.78	5.42
Check3	18.01	18.83	4.55	17.6	16.15	-8.24	19.11	14.53	-23.97	17.91	19.52	8.99	18.16	17.26	-4.96
GM	15.87	15.61	-1.64	14.5	14.28	-1.52	15.75	14.53	-7.75	17.06	18.74	9.85	15.80	15.79	-0.03
CV	4.6	4.53		1.96	1.58		4.11	5.07		6.26	3.43				

Varietal Improvement Programme- AICRP (Sugarcane)
Principal Investigator's Report (2017-18)
Evaluation and identification of climate resilient ISH and IGH genetic stocks

Table 7.1.25: Juice purity(%) at harvest

Entry	Karnal			Faridkot			Anakapalle			Padegaon			Mean		
	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change
AS04-1687	77.36	79.01	2.13	76.21	81.39	6.80				83.43	98.01	17.48	79.00	86.14	9.03
AS04-1689	78.83	74.79	-5.12	75.21	90.53	20.37				81.08	82	1.13	78.37	82.44	5.19
AS04-2097	80.57	80.51	-0.07	84.87	80.21	-5.49				78.67	87.1	10.72	81.37	82.61	1.52
AS04-245	89.67	71.72	-20.02	88.99	82.87	-6.88				79.99	84.01	5.03	86.22	79.53	-7.75
AS04-635	80.43	82.59	2.69	84.02	86.19	2.58				81.82	92.28	12.78	82.09	87.02	6.01
BM1003-143	89.07	83.76	-5.96	80.42	79.97	-0.56				86.17	94.05	9.14	85.22	85.93	0.83
BM1005-149	89.25	91.09	2.06	87.71	82.99	-5.38				86.94	96.01	10.43	87.97	90.03	2.35
BM1009-163	88.26	86.77	-1.69	88.42	85.91	-2.84				88.41	92.09	4.16	88.36	88.26	-0.12
BM1010-168	82.57	81.35	-1.48	87.18	80.21	-7.99				89.35	95.9	7.33	86.37	85.82	-0.63
BM1022-173	87.44	84.59	-3.26	86.14	82.87	-3.80				85.18	95.68	12.33	86.25	87.71	1.69
CYM07-986	78.04	75.92	-2.72	75.99	88.87	16.95				82.5	90.97	10.27	78.84	85.25	8.13
GU07-2276	83.12	76.47	-8.00	79.5	88.86	11.77				84.17	92.17	9.50	82.26	85.83	4.34
GU07-3774	84.48	80.64	-4.55	85.35	79.16	-7.25				89.5	95.09	6.25	86.44	84.96	-1.71
GU07-3849	82.6	80.49	-2.55	88.79	79.77	-10.16				84.71	99.96	18.00	85.37	86.74	1.61
MA05-99	87.99	88.1	0.13	88.98	83.35	-6.33				87.42	93.37	6.81	88.13	88.27	0.16
MA05/22	89.69	91.32	1.82	84.47	90.79	7.48				95.02	93.46	-1.64	89.73	91.86	2.37
MA05/51	90.96	89.1	-2.04	86.21	87.86	1.91				86.79	97.58	12.43	87.99	91.51	4.01
MA5/37	85.89	89.85	4.61	88.46	87.98	-0.54				87.85	94.15	7.17	87.40	90.66	3.73
MA5/5	86.72	86.57	-0.17	85.5	82.97	-2.96				90.26	94.8	5.03	87.49	88.11	0.71
PG9869-137	84.14	88.42	5.09	89.64	90.43	0.88				85.05	95.24	11.98	86.28	91.36	5.90
SA04-390	85.3	88.52	3.77	86.33	90.98	5.39				83.69	97.72	16.76	85.11	92.41	8.58
SA04-409	91.31	89.77	-1.69	90.15	83.38	-7.51				86.36	96.22	11.42	89.27	89.79	0.58
SA04-454	87	90.54	4.07	90.65	90.44	-0.23				85.71	95.05	10.90	87.79	92.01	4.81
SA04-458	91.1	89.69	-1.55	89.79	83.51	-6.99				89.59	94.9	5.93	90.16	89.37	-0.88
SA04-472	90.24	86.57	-4.07	88.31	86.45	-2.11				85.15	95.68	12.37	87.90	89.57	1.90
SA04-496	89.29	88.08	-1.36	83.57	81.48	-2.50				85.04	94.85	11.54	85.97	88.14	2.52
SA98-13	83.8	90.24	7.68	87.58	84.52	-3.49				87.98	92.75	5.42	86.45	89.17	3.14
Standards															
Check1	89.51	89.58	0.08	88.27	83	-5.97				90.34	99.11	9.71	89.37	90.56	1.33
Check2	89.15	91.51	2.65	83.99	85.12	1.35				88.23	97.27	10.25	87.12	91.30	4.79
Check3	87.64	88.34	0.80	88.42	85.41	-3.40				90.14	94.24	4.55	88.73	89.33	0.67
GM	86.05	85.2	-0.99	85.64	84.92	-0.84				86.22	94.06	9.09	85.97	88.06	2.43
CV	3.58	2.72		0.47	0.76					6.06	3.65				

Varietal Improvement Programme- AICRP (Sugarcane)
Principal Investigator's Report (2017-18)
Evaluation and identification of climate resilient ISH and IGH genetic stocks

Table 7.1.26: Juice Extraction % at harvest

Entry	Karnal			Faridkot			Anakapalle			Padegaon			Mean		
	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change
AS04-1687	22.32	34.36	53.94				47.33	44.24	-6.53	42.79	40.92	-4.37	37.48	39.84	6.30
AS04-1689	43.73	30.82	-29.52				44.46	35.52	-20.11	47.42	41.58	-12.32	45.20	35.97	-20.42
AS04-2097	42.48	38.18	-10.12				37.31	46.19	23.80	48.98	48.14	-1.71	42.92	44.17	2.90
AS04-245	45.1	23.51	-47.87				44.47	42.7	-3.98	42.44	42.18	-0.61	44.00	36.13	-17.89
AS04-635	23.7	27.21	14.81				43.85	48.64	10.92	40.52	37.14	-8.34	36.02	37.66	4.55
BM1003-143	43.8	41.17	-6.00				47.78	50.26	5.19	51.83	46.03	-11.19	47.80	45.82	-4.15
BM1005-149	42.23	41.82	-0.97				49.16	38.45	-21.79	49.65	43.27	-12.85	47.01	41.18	-12.41
BM1009-163	41.45	41.11	-0.82				39.43	47.52	20.52	52.12	43.87	-15.83	44.33	44.17	-0.38
BM1010-168	39.78	41.53	4.40				47.71	43.16	-9.54	50.33	42.1	-16.35	45.94	42.26	-8.00
BM1022-173	50.45	49.91	-1.07				42.55	43.49	2.21	52.5	42.46	-19.12	48.50	45.29	-6.63
CYM07-986	37.84	34.77	-8.11				44.08	42.54	-3.49	41.46	37.96	-8.44	41.13	38.42	-6.57
GU07-2276	50.53	42.67	-15.56				41.56	41.2	-0.87	42.52	39.21	-7.78	44.87	41.03	-8.57
GU07-3774	31.9	23.78	-25.45				40.51	39.76	-1.85	40.97	38.53	-5.96	37.79	34.02	-9.98
GU07-3849	31.79	30.45	-4.22				42.13	27.3	-35.20	41.85	37.15	-11.23	38.59	31.63	-18.03
MA05-99	33.1	45.63	37.85				30.24	38.96	28.84	49.62	48.04	-3.18	37.65	44.21	17.41
MA05/22	43.06	39.82	-7.52				38.94	32.09	-17.59	51.12	41.05	-19.70	44.37	37.65	-15.14
MA05/51	28.4	43.81	54.26				34.38	37.66	9.54	49.09	47.61	-3.01	37.29	43.03	15.38
MA5/37	45.58	48.72	6.89				38.07	44.25	16.23	40.9	39.01	-4.62	41.52	43.99	5.97
MA5/5	42.61	42.02	-1.38				41.64	41.41	-0.55	50.69	49.05	-3.24	44.98	44.16	-1.82
PG9869-137	48.42	52.31	8.03				43.76	45.92	4.94	49.2	43.04	-12.52	47.13	47.09	-0.08
SA04-390	43.65	39.11	-10.40				43.74	32.45	-25.81	45.31	40.15	-11.39	44.23	37.24	-15.82
SA04-409	44.47	42.27	-4.95				31.15	49.46	58.78	50.46	47.44	-5.98	42.03	46.39	10.38
SA04-454	44.13	49.91	13.10				50.62	42.13	-16.77	48.41	42	-13.24	47.72	44.68	-6.37
SA04-458	43.88	45.98	4.79				41.61	38.99	-6.30	42.65	39.33	-7.78	42.71	41.43	-3.00
SA04-472	41.07	43.86	6.79				38.07	45.07	18.39	44.1	40.45	-8.28	41.08	43.13	4.98
SA04-496	43.22	44.46	2.87				47.93	39.21	-18.19	48.26	40.32	-16.45	46.47	41.33	-11.06
SA98-13	39.93	38.33	-4.01				38.85	50.1	28.96	47.93	42.83	-10.64	42.24	43.75	3.59
Standards															
Check1	49.9	46.43	-6.95				49.84	45.6	-8.51	54.36	50.3	-7.47	51.37	47.44	-7.64
Check2	46.44	43.95	-5.36				48.95	51.1	4.39	53.78	52.89	-1.65	49.72	49.31	-0.82
Check3	54.91	50.72	-7.63				49.49	42.53	-14.06	49.56	45.05	-9.10	51.32	46.10	-10.17
GM	41.33	40.62	-1.72				42.65	42.53	-0.28	47.36	42.97	-9.27	43.78	42.04	-3.97
CV	5.5	5.58					7.39	6.59		1.52	4.88				

Varietal Improvement Programme- AICRP (Sugarcane)
Principal Investigator's Report (2017-18)
Evaluation and identification of climate resilient ISH and IGH genetic stocks

Table 7.1.27: Cane fiber % at harvest

Entry	Karnal			Faridkot			Anakapalle			Padegaon			Mean		
	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change
AS04-1687	25.41	25.49	0.31				18.72	17.83	-4.75	20.36	21.92	7.66	21.50	21.75	1.16
AS04-1689	19.52	19.7	0.92				16.36	20.84	27.38	16.8	33.87	101.61	17.56	24.80	41.25
AS04-2097	16.82	18.02	7.13				21.65	15.73	-27.34	17.94	17.55	-2.17	18.80	17.10	-9.06
AS04-245	21.57	23.15	7.32				16.56	15.68	-5.31	13.8	28.86	109.13	17.31	22.56	30.35
AS04-635	22.87	23.19	1.40				16.14	17.01	5.39	22.45	19.17	-14.61	20.49	19.79	-3.40
BM1003-143	13.56	13.45	-0.81				16.35	17.23	5.38	31.27	14.24	-54.46	20.39	14.97	-26.58
BM1005-149	17.02	15.85	-6.87				17.25	16.82	-2.49	17.03	30.58	79.57	17.10	21.08	23.29
BM1009-163	15.57	15.75	1.16				17.47	21.02	20.32	17.15	31.83	85.60	16.73	22.87	36.68
BM1010-168	14.12	14.67	3.90				19.93	20.15	1.10	14.17	16.24	14.61	16.07	17.02	5.89
BM1022-173	13.57	15.49	14.15				19.44	14.77	-24.02	12.7	28.71	126.06	15.24	19.66	29.01
CYM07-986	18.46	19.44	5.31				15.07	18.75	24.42	16.55	18.05	9.06	16.69	18.75	12.30
GU07-2276	17.28	18.4	6.48				18.85	16.42	-12.89	18.28	31.28	71.12	18.14	22.03	21.49
GU07-3774	16.76	17.86	6.56				16.22	18.44	13.69	30.38	28.76	-5.33	21.12	21.69	2.68
GU07-3849	22.36	21.99	-1.65				18.44	17.13	-7.10	19.11	21.92	14.70	19.97	20.35	1.89
MA05-99	14.16	14.21	0.35				16.72	19.19	14.77	13.57	13.84	1.99	14.82	15.75	6.28
MA05/22	14.03	13.5	-3.78				19.05	19.89	4.41	12.85	24.47	90.43	15.31	19.29	25.97
MA05/51	13.96	14.76	5.73				20.84	17.84	-14.40	13.59	13.28	-2.28	16.13	15.29	-5.19
MA5/37	14.36	14.74	2.65				17.09	17.69	3.51	18.11	25.93	43.18	16.52	19.45	17.76
MA5/5	15.48	13.8	-10.85				16.98	16.64	-2.00	18.81	30.52	62.25	17.09	20.32	18.90
PG9869-137	14.91	15.34	2.88				16.65	18.11	8.77	13.78	18.01	30.70	15.11	17.15	13.50
SA04-390	15.97	16.89	5.76				17.69	18.23	3.05	16.85	15.41	-8.55	16.84	16.84	0.04
SA04-409	14.71	15.2	3.33				17.46	19.2	9.97	33.92	14.59	-56.99	22.03	16.33	-25.87
SA04-454	13.47	12.79	-5.05				20.09	18.34	-8.71	11.94	14.2	18.93	15.17	15.11	-0.37
SA04-458	14.72	13.47	-8.49				17.89	17.45	-2.46	26.82	12.94	-51.75	19.81	14.62	-26.20
SA04-472	13.41	12.44	-7.23				16.77	20.21	20.51	18	33.15	84.17	16.06	21.93	36.57
SA04-496	15.41	15.34	-0.45				21.24	18.79	-11.53	17.9	16.73	-6.54	18.18	16.95	-6.76
SA98-13	14.92	15.27	2.35				18.29	16.36	-10.55	15.19	12.63	-16.85	16.13	14.75	-8.55
Standards															
Check1	13.26	13.86	4.52				15.79	18.79	19.00	14.89	15.45	3.76	14.65	16.03	9.47
Check2	16.36	16.64	1.71				18.57	16.63	-10.45	12.06	13.48	11.77	15.66	15.58	-0.51
Check3	14.18	14.45	1.90				16.37	18.01	10.02	15.3	27.18	77.65	15.28	19.88	30.08
GM	16.27	16.51	1.48				17.86	18.01	0.84	18.05	21.49	19.06	17.39	18.67	7.34
CV	2.86	2.2					6.03	3.49		5.59	6.94				

Varietal Improvement Programme- AICRP (Sugarcane)
Principal Investigator's Report (2017-18)
Evaluation and identification of climate resilient ISH and IGH genetic stocks

Table 7.1.28: Cane yield (tones/ha) at harvest

Entry	Karnal			Faridkot			Anakapalle			Padegaon			Mean		
	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change
AS04-1687	95.6	76.06	-20.44	165	151	-8.48	40.54	54.18	33.65	81.99	50.26	-38.70	95.78	82.88	-13.48
AS04-1689	168.4	101	-40.02	170.8	132.3	-22.54	79.87	33.73	-57.77	163.2	132.1	-19.06	145.57	99.78	-31.45
AS04-2097	143.8	112.6	-21.70	121.7	112.7	-7.40	99.14	67.41	-32.01	153.3	105.4	-31.25	129.49	99.53	-23.14
AS04-245	60.52	49.33	-18.49	119.7	74.07	-38.12	72.6	50.04	-31.07	111.2	111.1	-0.09	91.01	71.14	-21.83
AS04-635	77.66	59.66	-23.18	150.9	73.33	-51.40	64.66	22.88	-64.61	173.5	129	-25.65	116.68	71.22	-38.96
BM1003-143	94.12	78.55	-16.54	79.07	32.83	-58.48	25.75	31.99	24.23	148.9	82.84	-44.37	86.96	56.55	-34.97
BM1005-149	77.31	68.18	-11.81	115.2	73.84	-35.90	45.54	21.12	-53.62	168.2	158.5	-5.77	101.56	80.41	-20.83
BM1009-163	103.8	71.64	-30.98	136.7	73.34	-46.35	47.06	47.61	1.17	136.5	119.3	-12.60	106.02	77.97	-26.45
BM1010-168	98.21	71.69	-27.00	98.81	30.48	-69.15	16.21	32.6	101.11	124.4	118.2	-4.98	84.41	63.24	-25.07
BM1022-173	96.52	55.78	-42.21	81.33	32.59	-59.93	86.95	37.29	-57.11	143.8	109.8	-23.64	102.15	58.87	-42.37
CYM07-986	54.48	46.39	-14.85	47.42	17.16	-63.81	76.62	52.18	-31.90	63.55	57.58	-9.39	60.52	43.33	-28.41
GU07-2276	124.7	80.44	-35.49	142.5	81.36	-42.91	99.9	46.25	-53.70	213.4	172.8	-19.03	145.13	95.21	-34.39
GU07-3774	95.89	96.32	0.45	93.73	78.52	-16.23	52.8	27.82	-47.31	85	58.23	-31.49	81.86	65.22	-20.32
GU07-3849	128.9	85.52	-33.65	97.05	74.94	-22.78	55.97	29.38	-47.51	37.22	47.03	26.36	79.79	59.22	-25.78
MA05-99	73.86	36.92	-50.01	42.62	23.71	-44.37	106	38.5	-63.68	126.8	121.4	-4.26	87.32	55.13	-36.86
MA05/22	91.81	53.49	-41.74	151.4	58.39	-61.43	53.56	29.7	-44.55	137.3	127.3	-7.28	108.52	67.22	-38.06
MA05/51	68.96	43.16	-37.41	84.03	50.24	-40.21	101.2	46.1	-54.45	77.89	65.93	-15.35	83.02	51.36	-38.14
MA5/37	68.17	37.73	-44.65	64.46	0.86	-98.67	80.05	49.91	-37.65	105	121.9	16.10	79.42	52.60	-33.77
MA5/5	79.45	44.58	-43.89	37.44	4.59	-87.74	85.6	45.83	-46.46	165.1	180.3	9.21	91.90	68.83	-25.11
PG9869-137	68.07	15.31	-77.51	93.2	50.26	-46.07	60.47	26.53	-56.13	179.7	149.6	-16.75	100.36	60.43	-39.79
SA04-390	30.02	24.4	-18.72	159.8	37.78	-76.36	43.26	46.83	8.25	112.4	94.83	-15.63	86.37	50.96	-41.00
SA04-409	64.38	42.27	-34.34	54.63	4.68	-91.43	54.81	31.08	-43.30	94.05	91.1	-3.14	66.97	42.28	-36.86
SA04-454	45.4	33.1	-27.09	81.33	44.44	-45.36	39.39	39.01	-0.96	125.8	113.6	-9.70	72.98	57.54	-21.16
SA04-458	45.72	40.44	-11.55	69.18	70.48	1.88	35.46	36.99	4.31	178.4	159.8	-10.43	82.19	76.93	-6.40
SA04-472	112.8	76.53	-32.15	119.8	51.75	-56.80	77.29	50.99	-34.03	98.48	87.09	-11.57	102.09	66.59	-34.77
SA04-496	50.75	41.4	-18.42	109.4	40.63	-62.86	89.09	38.75	-56.50	137.1	132.9	-3.06	96.59	63.42	-34.34
SA98-13	95.84	69.34	-27.65	53.63	19.37	-63.88	97.7	36.44	-62.70	109.7	108	-1.55	89.22	58.29	-34.67
Standards															
Check1	89.1	52.55	-41.02	64.1	32.59	-49.16	60.8	28.37	-53.34	147.2	119.9	-18.55	90.30	58.35	-35.38
Check2	77.94	53.53	-31.32	78.84	45.8	-41.91	60.39	36.02	-40.35	185.3	166	-10.42	100.62	75.34	-25.12
Check3	67.21	34.81	-48.21	74.09	27.53	-62.84	52.86	38.91	-26.39	140.9	97.37	-30.89	83.77	49.66	-40.72
GM	84.99	58.43	-31.25	98.62	53.39	-45.86	65.39	38.91	-40.50	130.8	113	-13.61	94.95	65.93	-30.56
CV	9.36	12.6		15.53	13.48		19.5	10.46		21.44	19.4				

Varietal Improvement Programme- AICRP (Sugarcane)
Principal Investigator's Report (2017-18)
Evaluation and identification of climate resilient ISH and IGH genetic stocks

Table 7.1.29: CCS yield (tones/ha) at harvest

Entry	Karnal			Faridkot			Anakapalle			Padegaon			Mean		
	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change
AS04-1687	7.66	5.96	-22.19							7.72	6.75	-12.56	7.69	6.36	-17.36
AS04-1689	12.1	6.9	-42.98							12.3	10.3	-16.26	12.20	8.60	-29.51
AS04-2097	10.4	11.8	13.46							10.9	9.5	-12.84	10.65	10.65	0.00
AS04-245	4.48	3.59	-19.87							8.22	9.08	10.46	6.35	6.34	-0.24
AS04-635	7.2	5.16	-28.33							15.7	14.6	-7.01	11.45	9.88	-13.71
BM1003-143	11.5	8.66	-24.70							19.5	11.8	-39.49	15.50	10.23	-34.00
BM1005-149	9.82	9.65	-1.73							22.7	23.6	3.96	16.26	16.63	2.24
BM1009-163	13.3	9.32	-29.92							17.1	16.1	-5.85	15.20	12.71	-16.38
BM1010-168	9.35	6.32	-32.41							14	15.8	12.86	11.68	11.06	-5.27
BM1022-173	10	5.79	-42.10							15.9	14.1	-11.32	12.95	9.95	-23.20
CYM07-986	4.05	3.58	-11.60							6	6.1	1.67	5.03	4.84	-3.68
GU07-2276	11.1	6.12	-44.86							18.8	18.7	-0.53	14.95	12.41	-16.99
GU07-3774	9.42	7.95	-15.61							7.94	6.94	-12.59	8.68	7.45	-14.23
GU07-3849	12.3	7.1	-42.28							4.53	7.03	55.19	8.42	7.07	-16.04
MA05-99	8.32	5.23	-37.14							16	16.9	5.62	12.16	11.07	-9.00
MA05/22	11.5	6.98	-39.30							20.2	18.3	-9.41	15.85	12.64	-20.25
MA05/51	9.61	5.18	-46.10							8.97	8.98	0.11	9.29	7.08	-23.79
MA5/37	6.9	5.42	-21.45							13.6	17.1	25.74	10.25	11.26	9.85
MA5/5	9.19	4.95	-46.14							20.7	24.7	19.32	14.95	14.83	-0.80
PG9869-137	7.38	2.33	-68.43							23.9	22.7	-5.02	15.64	12.52	-19.98
SA04-390	3.58	2.84	-20.67							13.2	13.7	3.79	8.39	8.27	-1.43
SA04-409	8.47	5.72	-32.47							12.8	14.3	11.72	10.64	10.01	-5.88
SA04-454	5.28	3.95	-25.19							14.3	15	4.90	9.79	9.48	-3.22
SA04-458	5.71	5	-12.43							23	22.3	-3.04	14.36	13.65	-4.91
SA04-472	15.2	9.89	-34.93							13.3	13.3	0.00	14.25	11.60	-18.63
SA04-496	6.55	5.61	-14.35							18.5	20.5	10.81	12.53	13.06	4.23
SA98-13	9.33	8.57	-8.15							15.2	16.3	7.24	12.27	12.44	1.39
Standards															
Check1	14.1	11.8	-16.31							21.7	19.2	-11.52	17.90	15.50	-13.41
Check2	10.5	7.37	-29.81							23.1	25	8.23	16.80	16.19	-3.66
Check3	13.8	8.31	-39.78							17.8	13.8	-22.47	15.80	11.06	-30.03
GM	9.29	6.57	-29.28							15.2	15.1	-0.66	12.25	10.84	-11.51
CV	11.9	12.2								23.4	19.9				

Varietal Improvement Programme- AICRP (Sugarcane)
Principal Investigator's Report (2017-18)
Evaluation and identification of climate resilient ISH and IGH genetic stocks

Table 7.1.30: Tiller mortality

Entry	Karnal			Faridkot			Anakapalle			Padegaon			Mean		
	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change
AS04-1687	4.83	4.74	-1.86	3.13	3.98	27.16	49.31	48.73	-1.18	30.54	34.12	11.72	21.95	22.89	4.28
AS04-1689	8.87	9.66	8.91	9.39	2.46	-73.80	47.62	35.81	-24.80	35.07	37.76	7.67	25.24	21.42	-15.12
AS04-2097	5.73	5.33	-6.98	17.1	15.7	-8.19	28.9	31.46	8.86	43.24	32.12	-25.72	23.74	21.15	-10.91
AS04-245	11.2	0.61	-94.55	4.31	20.4	373.32	37.57	30.27	-19.43	33.38	28.63	-14.23	21.62	19.98	-7.58
AS04-635	19.1	-20	-204.71	17.7	21.1	19.21	40.94	43.06	5.18	18.57	37.2	100.32	24.08	20.34	-15.52
BM1003-143	12.2	20.4	67.21	15.1	31.6	109.27	56.15	52.07	-7.27	56.59	60.73	7.32	35.01	41.20	17.68
BM1005-149	30.6	14.8	-51.63	20.4	26	27.45	34.23	47.14	37.72	51.06	39.56	-22.52	34.07	31.88	-6.45
BM1009-163	9.38	16	70.58	21.4	21.8	1.87	42.25	47.39	12.17	31.47	33.23	5.59	26.13	29.61	13.32
BM1010-168	0.37	6.05	1535.14	22.9	44.5	94.32	48.48	31.31	-35.42	42.35	31.18	-26.38	28.53	28.26	-0.93
BM1022-173	20.1	19.5	-2.99	20.7	28.9	39.61	17.22	28.35	64.63	30.93	44.25	43.06	22.24	30.25	36.03
CYM07-986	7.71	3.11	-59.66	16.1	50.5	213.66	40.41	52.58	30.12	21.45	37.31	73.94	21.42	35.88	67.50
GU07-2276	16.2	20.4	25.93	7.19	32.6	353.41	30.48	23.67	-22.34	32.57	31.35	-3.75	21.61	27.01	24.97
GU07-3774	13.8	9.81	-28.91	6.48	20	208.64	39.74	43.05	8.33	29.5	38.81	31.56	22.38	27.92	24.74
GU07-3849	3.95	18.3	363.29	3.98	17.5	339.70	48.75	39.83	-18.30	51.36	33.73	-34.33	27.01	27.34	1.22
MA05-99	13.6	23	69.12	30.7	39.5	28.66	25.21	26.39	4.68	58.86	57.67	-2.02	32.09	36.64	14.17
MA05/22	28.6	26.2	-8.39	18.6	38.2	105.38	40.72	32.2	-20.92	33.78	30.17	-10.69	30.43	31.69	4.17
MA05/51	9.75	16.1	65.13	14	22.5	60.71	30.66	36.35	18.56	44.61	40.42	-9.39	24.76	28.84	16.51
MA5/37	19.8	22.9	15.66	23.1	63.3	174.03	27.3	28	2.56	46.71	50.04	7.13	29.23	41.06	40.48
MA5/5	6.65	14.2	113.53	16.3	64.3	294.48	32.3	32.83	1.64	47.34	27.99	-40.87	25.65	34.83	35.80
PG9869-137	1.61	48	2881.37	19.6	35.1	79.08	37.09	41.79	12.67	21.71	48.27	122.34	20.00	43.29	116.42
SA04-390	23.6	7.8	-66.95	17.4	54	210.34	35.75	51.77	44.81	42.08	25.45	-39.52	29.71	34.76	16.99
SA04-409	21.2	10.1	-52.36	7.94	58.5	636.78	39.15	23.36	-40.33	47.76	49.72	4.10	29.01	35.42	22.09
SA04-454	31.9	35.6	11.60	19.7	28.2	43.15	49.24	55.15	12.00	64.23	39.48	-38.53	41.27	39.61	-4.02
SA04-458	39.5	30.8	-22.03	40.2	35.7	-11.19	30.28	28.61	-5.52	43.99	54.12	23.03	38.49	37.31	-3.08
SA04-472	18.2	18.2	0.00	7.65	29.4	284.31	28.49	28.94	1.58	31.08	45.53	46.49	21.36	30.52	42.91
SA04-496	19.9	14.8	-25.63	8.55	34.5	303.51	27.14	29.24	7.74	17.65	27.98	58.53	18.31	26.63	45.44
SA98-13	19.7	14.8	-24.87	13.7	43.9	220.44	29.38	18.79	-36.04	59.78	38.88	-34.96	30.64	29.09	-5.05
Standards															
Check1	26.4	28.1	6.44	16.6	35.4	113.25	38.66	55.22	42.83	33.4	45.59	36.50	28.77	41.08	42.80
Check2	23.8	16.1	-32.35	34.9	44.2	26.65	45.13	58.15	28.85	51.27	44.07	-14.04	38.78	40.63	4.78
Check3	20.5	25.6	24.88	10.9	45.8	320.18	45.84	52.05	13.55	30.15	52.14	72.94	26.85	43.90	63.51
GM	16.3	16	-1.84	16.2	33.7	108.02	37.48	38.45	2.59	39.42	39.92	1.27	27.35	32.02	17.07
CV	31.1	35.3		38.3	21.6		22.16	11.77		18.77	14.16				

Varietal Improvement Programme- AICRP (Sugarcane)
 Principal Investigator's Report (2017-18)
 Evaluation and identification of climate resilient ISH and IGH genetic stocks
 Table 7.1.31: Relative Water Content before imposition of drought

Entry	Karnal			Faridkot			Anakapalle			Padegaon			Mean		
	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change
AS04-1687	83.08	83.52	0.53	57.12	60.78	6.41				71.76	73.59	2.55	70.65	72.63	2.80
AS04-1689	85.65	85.13	-0.61	53.37	63.22	18.46				68.73	67.39	-1.95	69.25	71.91	3.85
AS04-2097	87.78	87.44	-0.39	66.97	59.99	-10.42				71.55	69.1	-3.42	75.43	72.18	-4.32
AS04-245	94.59	94.03	-0.59	72.13	64.12	-11.10				69.1	68.46	-0.93	78.61	75.54	-3.91
AS04-635	83.83	81.86	-2.35	65.48	61.37	-6.28				73.35	71.46	-2.58	74.22	71.56	-3.58
BM1003-143	90.74	90.68	-0.07	65.55	77.25	17.85				76.35	78.04	2.21	77.55	81.99	5.73
BM1005-149	87.57	87.43	-0.16	79.92	74.96	-6.21				70.39	69.67	-1.02	79.29	77.35	-2.45
BM1009-163	87.58	87.83	0.29	75.11	73.22	-2.52				74.23	72.2	-2.73	78.97	77.75	-1.55
BM1010-168	90.98	90.44	-0.59	54.53	74	35.71				76.8	77.9	1.43	74.10	80.78	9.01
BM1022-173	92.04	91.38	-0.72	77.61	73.21	-5.67				77.17	77.61	0.57	82.27	80.73	-1.87
CYM07-986	92.15	92.07	-0.09	69.89	74.06	5.97				80.4	81.54	1.42	80.81	82.56	2.16
GU07-2276	89.18	87.26	-2.15	71.3	81.03	13.65				80.57	80.04	-0.66	80.35	82.78	3.02
GU07-3774	89.91	89.01	-1.00	71.83	74.95	4.34				73.79	77.12	4.51	78.51	80.36	2.36
GU07-3849	86.14	87.3	1.35	74.55	73.51	-1.40				80	79.48	-0.65	80.23	80.10	-0.17
MA05-99	90.05	89.65	-0.44	68.91	84.34	22.39				82.04	82.38	0.41	80.33	85.46	6.38
MA05/22	88.64	88.26	-0.43	65.2	75.38	15.61				75.79	72.3	-4.60	76.54	78.65	2.75
MA05/51	89.39	89.35	-0.04	64.12	66.36	3.49				70.61	71.97	1.93	74.71	75.89	1.59
MA5/37	89.35	88.92	-0.48	70.56	71.56	1.42				77.11	75.58	-1.98	79.01	78.69	-0.41
MA5/5	91.34	91.42	0.09	64.62	74.62	15.48				73.65	73.85	0.27	76.54	79.96	4.48
PG9869-137	90	89.65	-0.39	76.61	75.08	-2.00				77.47	77.68	0.27	81.36	80.80	-0.68
SA04-390	85.18	83.68	-1.76	75.67	72.78	-3.82				77.19	77.71	0.67	79.35	78.06	-1.63
SA04-409	91.24	93.56	2.54	80.73	82.87	2.65				81.58	81.77	0.23	84.52	86.07	1.83
SA04-454	86.88	85.42	-1.68	65.07	75.41	15.89				78.06	81.51	4.42	76.67	80.78	5.36
SA04-458	87.59	88.17	0.66	65.9	84.59	28.36				83.51	82.65	-1.03	79.00	85.14	7.77
SA04-472	88.18	87.84	-0.39	81.59	73.63	-9.76				80.8	80.81	0.01	83.52	80.76	-3.31
SA04-496	90.21	92.76	2.83	80.4	80.39	-0.01				78.27	78.47	0.26	82.96	83.87	1.10
SA98-13	88.42	87.1	-1.49	66.32	77.07	16.21				77.92	78.76	1.08	77.55	80.98	4.41
Standards															
Check1	88.04	89.25	1.37	75.22	75.7	0.64				78.13	82.52	5.62	80.46	82.49	2.52
Check2	86.11	85.92	-0.22	76.41	76.79	0.50				73.36	72.47	-1.21	78.63	78.39	-0.30
Check3	96	96.26	0.27	71.49	84.41	18.07				80.62	81.39	0.96	82.70	87.35	5.62
GM	88.93	88.75	-0.20	70.14	73.89	5.35				76.34	76.51	0.22	78.47	79.72	1.59
CV	1.34	1.29		2.7	1.86					6.38	5.49				

Varietal Improvement Programme- AICRP (Sugarcane)
Principal Investigator's Report (2017-18)
Evaluation and identification of climate resilient ISH and IGH genetic stocks

Table 7.1.32: Relative Water Content during of drought

Entry	Karnal			Faridkot			Anakapalle			Padegaon			Mean		
	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change
AS04-1687	71.42	68.81	-3.65	78.78	77.69	-1.38							75.10	73.25	-2.46
AS04-1689	82.98	83.91	1.12	77.55	51.77	-33.24							80.27	67.84	-15.48
AS04-2097	76.77	74.6	-2.83	72.91	63.79	-12.51							74.84	69.20	-7.54
AS04-245	88.08	85.76	-2.63	74.47	71.24	-4.34							81.28	78.50	-3.41
AS04-635	76.31	75.32	-1.30	66.63	66.18	-0.68							71.47	70.75	-1.01
BM1003-143	88.29	80.83	-8.45	84.83	72.54	-14.49							86.56	76.69	-11.41
BM1005-149	83.61	82.05	-1.87	78.2	83.98	7.39							80.91	83.02	2.61
BM1009-163	85.08	83.64	-1.69	84.24	71.37	-15.28							84.66	77.51	-8.45
BM1010-168	86.29	84.62	-1.94	75.69	80.08	5.80							80.99	82.35	1.68
BM1022-173	84.57	83.39	-1.40	76.1	82.29	8.13							80.34	82.84	3.12
CYM07-986	90.02	90.01	-0.01	77.21	77.83	0.80							83.62	83.92	0.36
GU07-2276	76.22	75.39	-1.09	85.43	78.53	-8.08							80.83	76.96	-4.78
GU07-3774	83.51	81.27	-2.68	77.1	69.09	-10.39							80.31	75.18	-6.38
GU07-3849	80.99	79.36	-2.01	83.01	78.58	-5.34							82.00	78.97	-3.70
MA05-99	75.29	75.37	0.11	78.97	76.94	-2.57							77.13	76.16	-1.26
MA05/22	80.25	77.97	-2.84	76.06	73.51	-3.35							78.16	75.74	-3.09
MA05/51	77.15	78.43	1.66	74.58	69.08	-7.37							75.87	73.76	-2.78
MA5/37	82	80.98	-1.24	77.18	66.5	-13.84							79.59	73.74	-7.35
MA5/5	74.41	75	0.79	75.1	75.62	0.69							74.76	75.31	0.74
PG9869-137	83.45	81.94	-1.81	76.05	84.75	11.44							79.75	83.35	4.51
SA04-390	82.53	81.15	-1.67	85.96	78.86	-8.26							84.25	80.01	-5.03
SA04-409	79.89	83.56	4.59	77.31	79.87	3.31							78.60	81.72	3.96
SA04-454	83.43	83.53	0.12	76.62	75.75	-1.14							80.03	79.64	-0.48
SA04-458	80.79	82.33	1.91	71.02	78.91	11.11							75.91	80.62	6.21
SA04-472	83.34	83.94	0.72	75.59	76.4	1.07							79.47	80.17	0.89
SA04-496	88.28	83	-5.98	84.5	85.89	1.64							86.39	84.45	-2.25
SA98-13	81.77	82.51	0.90	78.04	81.11	3.93							79.91	81.81	2.38
Standards															
Check1	89.1	84.25	-5.44	81.58	86.57	6.12							85.34	85.41	0.08
Check2	81.99	81.08	-1.11	71.31	80.27	12.56							76.65	80.68	5.25
Check3	78.93	78.24	-0.87	85.23	70.87	-16.85							82.08	74.56	-9.17
GM	81.89	80.74	-1.40	77.91	75.53	-3.05							79.90	78.14	-2.21
CV	1.61	2.34		1.4	0.99										

Varietal Improvement Programme- AICRP (Sugarcane)
 Principal Investigator's Report (2017-18)
 Evaluation and identification of climate resilient ISH and IGH genetic stocks
 Table 7.1.33: Relative Water Content after withdrawing of drought

Entry	Karnal			Faridkot			Anakapalle			Padegaon			Mean		
	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change
AS04-1687	82.27	83.33	1.29	69.16	72.7	5.12				76.84	74.62	-2.89	76.09	76.88	1.04
AS04-1689	81.71	81.92	0.26	55.64	67.19	20.76				68.55	72.73	6.10	68.63	73.95	7.74
AS04-2097	87.71	88.45	0.84	69.94	80.86	15.61				75.01	81.2	8.25	77.55	83.50	7.67
AS04-245	93.83	91.84	-2.12	72.79	78.78	8.23				73.01	67.15	-8.03	79.88	79.26	-0.78
AS04-635	84.85	82.69	-2.55	79.54	73.49	-7.61				63.84	73.73	15.49	76.08	76.64	0.74
BM1003-143	92.21	89.75	-2.67	70.97	76.78	8.19				84.8	85.37	0.67	82.66	83.97	1.58
BM1005-149	84.85	87.1	2.65	77.65	79.35	2.19				70.75	84.07	18.83	77.75	83.51	7.40
BM1009-163	87.59	85.81	-2.03	67.07	78.47	17.00				76.51	86.05	12.47	77.06	83.44	8.29
BM1010-168	85.75	87.46	1.99	67.59	79.86	18.15				82.98	84.23	1.51	78.77	83.85	6.44
BM1022-173	91.29	89.82	-1.61	91.82	79.67	-13.23				80.9	82.41	1.87	88.00	83.97	-4.59
CYM07-986	91.8	88.9	-3.16	77.81	74.63	-4.09				83.87	80.15	-4.44	84.49	81.23	-3.87
GU07-2276	86.42	86.58	0.19	82.09	77.51	-5.58				83.26	75.96	-8.77	83.92	80.02	-4.66
GU07-3774	85.58	86.27	0.81	82.59	75.29	-8.84				79.93	81.9	2.46	82.70	81.15	-1.87
GU07-3849	88	86.01	-2.26	81.51	85.07	4.37				82.37	82.6	0.28	83.96	84.56	0.71
MA05-99	85.62	87.13	1.76	78.08	82.7	5.92				85.94	84.8	-1.33	83.21	84.88	2.00
MA05/22	83.59	84.38	0.95	75.11	73.98	-1.50				75.27	79.75	5.95	77.99	79.37	1.77
MA05/51	83.6	82.74	-1.03	74.13	82.92	11.86				73.04	80.79	10.61	76.92	82.15	6.79
MA5/37	89.34	87.2	-2.40	66.64	72.33	8.54				79.07	73.45	-7.11	78.35	77.66	-0.88
MA5/5	86.57	88.42	2.14	78.61	75.85	-3.51				69.95	73.01	4.37	78.38	79.09	0.91
PG9869-137	86.97	87.14	0.20	82.36	89.96	9.23				82.02	87.29	6.43	83.78	88.13	5.19
SA04-390	82.76	80.82	-2.34	77.47	83.11	7.28				78.74	84.14	6.86	79.66	82.69	3.81
SA04-409	90.88	89.63	-1.38	77.99	82.46	5.73				83.7	87.31	4.31	84.19	86.47	2.70
SA04-454	87.54	83.69	-4.40	72.58	75.9	4.57				81.09	91.05	12.28	80.40	83.55	3.91
SA04-458	87.75	89.46	1.95	83.55	98.77	18.22				85.18	83.6	-1.85	85.49	90.61	5.98
SA04-472	84.85	83.56	-1.52	78.97	91.18	15.46				89.66	79.79	-11.01	84.49	84.84	0.41
SA04-496	89.57	88.32	-1.40	85.46	86.42	1.12				81.43	84.43	3.68	85.49	86.39	1.06
SA98-13	82.68	85.22	3.07	84.36	84.87	0.60				88.14	81.55	-7.48	85.06	83.88	-1.39
Standards															
Check1	83.56	86.32	3.30	82	84.07	2.52				85.72	83.7	-2.36	83.76	84.70	1.12
Check2	86.77	84.98	-2.06	74.89	75.25	0.48				80.38	77.91	-3.07	80.68	79.38	-1.61
Check3	91.42	92.6	1.29	82.29	79.08	-3.90				87.19	80.88	-7.24	86.97	84.19	-3.20
GM	86.91	86.58	-0.38	76.69	79.95	4.25				79.64	80.85	1.52	81.08	82.46	1.70
CV	2.61	2.19		1.9	1.34					6.46	6.73				

Varietal Improvement Programme- AICRP (Sugarcane)
 Principal Investigator's Report (2017-18)
 Evaluation and identification of climate resilient ISH and IGH genetic stocks
 Table 7.1.34: Leaf area (m²) before and after stress (Karnal center)

Entry	Leaf area before stress			Leaf area after stress					
	Normal	Drought	% change	Normal	Drought	% change			
AS04-1687	0.93	0.99	6.45	3.26	2.48	-23.93			
AS04-1689	1.16	1.14	-1.72	4.84	3.27	-32.44			
AS04-2097	1.12	1.06	-5.36	4.24	3.39	-20.05			
AS04-245	1.01	1.02	0.99	3.65	3.22	-11.78			
AS04-635	0.97	0.97	0.00	3.94	3.86	-2.03			
BM1003-143	1.04	1.08	3.85	3.77	3.23	-14.32			
BM1005-149	1.04	1.03	-0.96	4.14	3.55	-14.25			
BM1009-163	1.19	1.24	4.20	3.93	3.22	-18.07			
BM1010-168	1.1	1.08	-1.82	3.82	3.24	-15.18			
BM1022-173	1.12	1.2	7.14	5.6	4.32	-22.86			
CYM07-986	0.74	0.68	-8.11	3.68	3.41	-7.34			
GU07-2276	1.27	1.22	-3.94	4.01	3.69	-7.98			
GU07-3774	0.94	0.99	5.32	3.61	3.34	-7.48			
GU07-3849	1.15	1.1	-4.35	4.48	3.55	-20.76			
MA05-99	1.32	1.37	3.79	3.75	3.36	-10.40			
MA05/22	1.03	1.06	2.91	3.67	3.43	-6.54			
MA05/51	1.16	1.14	-1.72	3.65	2.39	-34.52			
MA5/37	0.88	0.93	5.68	3.25	2.55	-21.54			
MA5/5	1.79	1.66	-7.26	3.49	3.24	-7.16			
PG9869-137	0.97	1.04	7.22	3.92	3.22	-17.86			
SA04-390	0.56	0.58	3.57	3.24	3.26	0.62			
SA04-409	1.19	1.12	-5.88	3.01	2.53	-15.95			
SA04-454	0.8	0.83	3.75	3.8	3.26	-14.21			
SA04-458	0.53	0.56	5.66	3.04	2.46	-19.08			
SA04-472	1.12	1.15	2.68	3.76	3.58	-4.79			
SA04-496	1.69	1.64	-2.96	2.92	2.84	-2.74			
SA98-13	1.04	1.02	-1.92	3.94	3.22	-18.27			
Standards									
Check1	1.29	1.37	6.20	3.63	3.35	-7.71			
Check2	0.98	0.87	-11.22	4.35	4.11	-5.52			
Check3	0.65	0.68	4.62	2.89	2.36	-18.34			
GM	1.06	1.06	0.00	3.78	3.23	-14.55			
CV	4.25	5.59		1.2	1.14				

Table 7.1.35: List of clones in each traits showing less than 5% reduction under drought condition

Trait	Number of entries	Clones with less than 5% reduction due to drought
Tillers at 90 days (000 ⁷ /ha)	5	AS04-635, BM1022-173, CYM07-986, MA05/51 and PG9869-137
Tillers at 120 days (000 ⁷ /ha)	4	CYM07-986, PG9869-137, SA04-472 and SA04-472
Shoots at 150 days (000 ⁷ /ha)	1	SA04-458
Shoots at 180 days (000 ⁷ /ha)	7	AS04-1687, AS04-1689, AS04-2097, AS04-635, BM1005-149, GU07-3774 and SA04-458
Number of Millable Canes at 240 days (000 ⁷ /ha)	3	GU07-3849, PG9869-137 and SA04-458
Number of Millable Canes at harvest (000 ⁷ /ha)	1	SA04-458
Single Cane Weight (Kg) at 300 days	2	GU07-3774 and MA05-99
Cane Length (cm) at 300 days	11	AS04-1687, AS04-2097, AS04-245, BM1005-149, BM1009-163, CYM07-986, GU07-3774, MA05-99, MA5/5, SA04-458 and SA98-13
Cane Diameter (cm) at 300 days	20	AS04-1687, AS04-1689, AS04-245, AS04-635, BM1003-143, BM1005-149, BM1009-163, BM1022-173, GU07-2276, GU07-3774, GU07-3849, MA05-99, MA5/37, MA5/5, PG9869-137, SA04-390, SA04-409, SA04-454, SA04-472, SA04-496
Number of Internodes at 300 days	22	AS04-1689, AS04-2097, AS04-245, AS04-635, BM1003-143, BM1005-149, BM1022-173, CYM07-986, GU07-3774, GU07-3849, MA05-99, MA05/22, MA05/51, MA5/37, MA5/5, SA04-390, SA04-409, SA04-454, SA04-458, SA04-472, SA04-496, SA98-13
CCS% at 300 days	24	AS04-1687, AS04-1689, AS04-2097, AS04-245, AS04-635, BM1005-149, BM1009-163, BM1010-168, BM1022-173, GU07-2276, GU07-3774, GU07-3849, MA05-99, MA05/22, MA05/51, MA5/37, MA5/5, PG9869-137, SA04-390, SA04-409, SA04-454, SA04-458, SA04-472, SA04-496
Juice Brix at 300 days	19	AS04-1687, AS04-2097, AS04-635, BM1005-149, BM1009-163, CYM07-986, GU07-2276, GU07-3849, MA05-99, MA05/22, MA05/51, MA5/5, PG9869-137, SA04-390, SA04-454, SA04-458, SA04-472, SA04-496, SA98-13
Juice sucrose (%) at 300 days	18	AS04-1687, AS04-2097, AS04-635, BM1005-149, BM1009-163, BM1022-173, CYM07-986, GU07-3849, MA05-99, MA05/22, MA5/37, MA5/5, PG9869-137, SA04-409, SA04-454, SA04-

Varietal Improvement Programme- AICRP (Sugarcane)

Principal Investigator's Report (2017-18)

Evaluation and identification of climate resilient ISH and IGH genetic stocks

		472, SA04-496, SA98-13
Juice Purity % at 300 days	26	AS04-1687, AS04-1689, AS04-2097, AS04-245, AS04-635, BM1003-143, BM1005-149, BM1009-163, BM1010-168, BM1022-173, CYM07-986, GU07-2276, GU07-3774, GU07-3849, MA05-99, MA05/22, MA05/51, MA5/37, MA5/5, PG9869-137, SA04-390, SA04-409, SA04-454, SA04-458, SA04-472, SA04-496
Juice Extraction % at 300 days	16	AS04-1687, AS04-2097, BM1003-143, BM1009-163, BM1010-168, BM1022-173, GU07-3774, MA05-99, MA05/51, MA5/37, PG9869-137, SA04-409, SA04-454, SA04-458, SA04-472, SA98-13
Cane fiber % at 300 days	19	AS04-1689, AS04-245, BM1005-149, BM1009-163, BM1010-168, BM1022-173, CYM07-986, GU07-2276, GU07-3774, GU07-3849, MA05-99, MA05/22, MA05/51, MA5/37, MA5/5, PG9869-137, SA04-390, SA04-472, SA04-496
Single cane weight (Kg) at harvest	06	BM1003-143, BM1009-163, BM1010-168, GU07-2276, SA04-409, SA04-472
Cane length (cm) at harvest	11	AS04-1687, AS04-245, BM1005-149, BM1009-163, BM1022-173, CYM07-986, GU07-3774, GU07-3849, MA5/37, SA04-409, SA04-496
Cane diameter (cm) at harvest	16	AS04-1687, AS04-1689, AS04-2097, AS04-635, BM1003-143, GU07-2276, GU07-3774, MA05-99, MA05/51, MA5/37, MA5/5, SA04-409, SA04-454, SA04-458, SA04-472, SA04-496
Number of inter nodes at harvest	1	SA04-409
CCS% at harvest	26	AS04-1687, AS04-1689, AS04-2097, AS04-635, BM1003-143, BM1005-149, BM1009-163, BM1010-168, BM1022-173, CYM07-986, GU07-2276, GU07-3774, GU07-3849, MA05-99, MA05/22, MA05/51, MA5/37, MA5/5, PG9869-137, SA04-390, SA04-409, SA04-454, SA04-458, SA04-472, SA04-496, SA98-13
Juice brix % at harvest	26	AS04-1687, AS04-1689, AS04-2097, AS04-635, BM1003-143, BM1005-149, BM1009-163, BM1010-168, BM1022-173, CYM07-986, GU07-2276, GU07-3774, GU07-3849, MA05-99, MA05/22, MA05/51, MA5/37, MA5/5, PG9869-137, SA04-390, SA04-409, SA04-454, SA04-458, SA04-472, SA04-496, SA98-13
Juice sucrose % at harvest	21	AS04-1687, AS04-2097, AS04-635, BM1003-143, BM1005-149, BM1009-163, BM1022-173, CYM07-986, GU07-2276, GU07-3849, MA05-99, MA05/22, MA05/51, MA5/37, MA5/5, PG9869-137, SA04-409, SA04-454, SA04-472, SA04-496, SA98-13
Juice purity(%) at harvest	26	AS04-1687, AS04-1689, AS04-2097, AS04-635, BM1003-143, BM1005-149, BM1009-163, BM1010-168, BM1022-173, CYM07-986, GU07-2276, GU07-3774, GU07-3849, MA05-99, MA05/22, MA05/51, MA5/37, MA5/5, PG9869-137, SA04-390, SA04-409, SA04-454, SA04-458, SA04-472, SA04-496, SA98-13

Varietal Improvement Programme- AICRP (Sugarcane)

Principal Investigator's Report (2017-18)

Evaluation and identification of climate resilient ISH and IGH genetic stocks

Juice Extraction % at harvest	14	AS04-1687, AS04-2097, AS04-635, BM1003-143, BM1009-163, MA05-99, MA05/51, MA5/37, MA5/5, PG9869-137, SA04-409, SA04-458, SA04-472, SA98-13
Cane fiber % at harvest	20	AS04-1687, AS04-1689, AS04-245, AS04-635, BM1005-149, BM1009-163, BM1010-168, BM1022-173, CYM07-986, GU07-2276, GU07-3774, GU07-3849, MA05-99, MA05/22, MA5/37, MA5/5, PG9869-137, SA04-390, SA04-454, SA04-472
Cane yield (tones/ha) at harvest	7*	AS04-1687, AS04-2097, AS04-245, BM1005-149, GU07-3774, SA04-454, A04-458
CCS yield (tones/ha) at harvest	11	AS04-2097, AS04-245, BM1005-149, CYM07-986, MA5/37, MA5/5, SA04-390, SA04-454, SA04-458, SA04-496, SA98-13
Tiller mortality	21	AS04-1687, BM1003-143, BM1009-163, BM1010-168, BM1022-173, CYM07-986, GU07-2276, GU07-3774, GU07-3849, MA05-99, MA05/22, MA05/51, MA5/37, MA5/5, PG9869-137, SA04-390, SA04-409, SA04-454, SA04-458, SA04-472, SA04-496
Relative Water Content before imposition of drought	27	AS04-1687, AS04-1689, AS04-2097, AS04-245, AS04-635, BM1003-143, BM1005-149, BM1009-163, BM1010-168, BM1022-173, CYM07-986, GU07-2276, GU07-3774, GU07-3849, MA05-99, MA05/22, MA05/51, MA5/37, MA5/5, PG9869-137, SA04-390, SA04-409, SA04-454, SA04-458, SA04-472, SA04-496, SA98-13
Relative Water Content during drought period	20	AS04-1687, AS04-245, AS04-635, BM1005-149, BM1010-168, BM1022-173, CYM07-986, GU07-2276, GU07-3849, MA05-99, MA05/22, MA05/51, MA5/5, PG9869-137, SA04-409, SA04-454, SA04-458, SA04-472, SA04-496, SA98-13
Relative Water Content after withdrawing the drought	27	AS04-1687, AS04-1689, AS04-2097, AS04-245, AS04-635, BM1003-143, BM1005-149, BM1009-163, BM1010-168, BM1022-173, CYM07-986, GU07-2276, GU07-3774, GU07-3849, MA05-99, MA05/22, MA05/51, MA5/37, MA5/5, PG9869-137, SA04-390, SA04-409, SA04-454, SA04-458, SA04-472, SA04-496, SA98-13

* < 25 % yield reduction

B. III 7 Evaluation and identification of climate resilient ISH and IGH genetic stocks (2017-18)

7.2 Evaluation for drought tolerance (Ratoon)

Locations (4)	Tropical: Padegaon, Anakapalle Subtropical: Karnal, Faridkot
Entries (27)	BM 1003143, BM 1005149, BM 1009163, BM 1010168, BM 1022173, PG 9869137, SA 98-13, SA 04-454, SA 04-4792, SA 04-458, SA 04-390, SA 04-496, SA 04-409, AS 04-1689, AS 04-245, AS 04-2097, AS 04-635, AS 04-1687, MA 5/51, MA 5/5, MA 5/37, MA 5/99, MA 5/22, GU 07-3849, GU 07-3774, GU 07-2276 and CYM 07-986
Standards (3 for each region)	Padegaon :CoM 88121 (Check1), CoM 0265 (Check 2) and Co 86032 (Check 3) Anakapalle :83 R 23 (Check 1), CoA 06231 (Check 2) and Co A92081(Check 3) Faridkot : Co 98014 (Check 1), CoJ 88 (Check 2) and CoPb 91 (Check 3) Karnal : Co 0238 (Check 1), CoJ 88 (Check 2) and Co 98014 (Check 3)
Design	Alpha
Replications	Two
Plot size	6m x 2R x 0.90m
Seed rate	
Year of start	2016-17
Crop duration	11 months

Results of the previous year:

Considering cane yield, juice quality and other physiological parameters, three entries viz., AS 04-1689, AS 04-1687 and AS 04-635 were found to be tolerant to drought in I plant crop.

Results of the current year:

Twenty seven ISH/IGH clones were evaluated under drought condition by withdrawing irrigation between 60 to 150 days after planting at four centers. Data on cane yield, juice quality, physiological and agronomical traits contributing to drought tolerance

were recorded. Percentage change due to imposition of drought for the characters was worked out (Table 7.2.1 to Table 7.2.22).

Response of traits to drought:

Twenty seven entries were analyzed individually for different cane yield, juice quality and drought related traits for their response to drought (Table 7.2.23). Six traits viz., Brix % at harvest, Sucrose % at harvest, Cane fibre % at harvest, Juice Brix % at harvest, Cane fibre % at harvest, Water Content after water stress showed less than 5% change, hence less sensitive to the drought. tillers at 90 days (000'/ha), tillers at 120 days (000'/ha), shoots at 150 days (000'/ha), shoots at 180 days (000'/ha), number of millable canes at 240 days (000'/ha), number of millable canes at harvest (000'/ha), single cane weight (kg) at harvest, cane length (cm) at harvest, cane diameter (cm) at harvest number of internodes at harvest were more influenced by drought as most of the entries showed more 5% reduction in comparison to normal.

Analysis of yield contributing traits indicated that AS 04-1687, AS 04-1689, BM 1005-149, BM 1022-173, MA 05/22, MA 05-99, SA 04-390, SA 04-409 for tillers at 90 days (000'/ha), AS 04-1687, AS 04-1689, MA 05-99, MA 05/22, SA 98-13 for tillers at 120 days (000'/ha), AS 04-1687, MA 05-99, MA 05/22, SA 04-390, SA 04-409, SA 98-13, BM 1022-173 for shoots at 150 days (000'/ha), AS 04-1687, MA 05-99, MA 05/22, SA 04-409 for shoots at 180 days (000'/ha), AS 04-1687, AS 04-635, MA 05-99, MA 05/22, MA 05-51, SA 04-409 for number of millable canes at 240 days (000'/ha), AS 04-1687, AS 04-635, SA 04-409, SA 98-13 for number of millable canes at harvest (000'/ha), AS 04-1687, GU 07-2276, GU 07-3774, GU 07-3849, MA 05-99, MA 5/37, SA 04-390, SA 04-472 for single cane weight (Kg) at harvest, AS 04-1687, AS 04-2097, AS 04-245, AS 04-635, BM 1022-173, GU 07-3774, GU 07-3849, MA 05-99, MA 5/37, SA 04-390, SA 04-409, SA 04-454, CYM 07-986 for cane length (cm) at harvest, AS 04-1687, AS 04-2097, AS 04-245, BM 1010-168, MA 5/5, SA 04-409, SA 04-454 number of internodes at harvest showed less than five percent reduction in comparison to normal. The juice quality trait extraction percent at harvest was influenced by drought and entries viz., AS 04-1687, AS 04-2097, BM 1010-168, GU 07-3774, MA 05-99, MA 05/51, MA 5/37, SA 04-472, SA 04-496 showed less than five percent reduction. Whereas for yield the three entries viz., MA 05-99, SA 04-390, SA 04-409 showed less than ten percent yield reduction and entry MA 05-99 was found in the category of less than five percent.

Considering yield and other quality parameters, the entries AS 04-1687, AS 04-390 and MA 05-99 are found to be relatively tolerant to drought in ratoon crop.

Varietal Improvement Programme- AICRP (Sugarcane)
Principal Investigator's Report (2017-18)
Evaluation and identification of climate resilient ISH and IGH genetic stocks

Table 7.2.1: Tillers at 90 days (000'/ha)

Entry	Karnal			Faridkot			Anakapalle			Padegaon			Mean		
	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change
AS04-1687	242.40	187.50	-22.65	529.80	588.60	11.10	189.10	178.50	-5.61	288.30	373.60	29.59	312.40	332.05	6.29
AS04-1689	265.30	203.50	-23.29	396.70	585.90	47.69	258.90	272.50	5.25	414.00	321.90	-22.25	333.73	345.95	3.66
AS04-2097	116.40	98.27	-15.58	308.80	243.30	-21.21	167.80	171.90	2.44	324.40	186.80	-42.42	229.35	175.07	-23.67
AS04-245	277.80	198.20	-28.65	337.60	280.60	-16.88	305.00	212.30	-30.39	415.50	383.80	-7.63	333.98	268.73	-19.54
AS04-635	288.80	167.30	-42.07	662.00	712.40	7.61	221.20	241.70	9.27	502.90	457.90	-8.95	418.73	394.83	-5.71
BM1003-143	84.99	40.39	-52.48	304.90	309.00	1.34	142.40	103.40	-27.39	182.40	161.80	-11.29	178.67	153.65	-14.01
BM1005-149	89.43	71.57	-19.97	196.70	371.80	89.02	98.77	100.30	1.55	256.60	166.40	-35.15	160.38	177.52	10.69
BM1009-163	39.00	13.97	-64.18	224.20	185.80	-17.13	129.10	157.70	22.15	228.40	207.80	-9.02	155.18	141.32	-8.93
BM1010-168	192.70	126.90	-34.15	187.30	215.10	14.84	170.10	133.90	-21.28	306.80	238.70	-22.20	214.23	178.65	-16.61
BM1022-173	66.64	47.47	-28.77	190.20	194.60	2.31	77.26	107.90	39.66	157.50	131.10	-16.76	122.90	120.27	-2.14
CYM07-986	213.10	133.40	-37.40	299.60	318.80	6.41	167.10	189.30	13.29	242.00	196.70	-18.72	230.45	209.55	-9.07
GU07-2276	117.00	46.43	-60.32	108.90	132.70	21.85	162.80	143.90	-11.61	319.00	272.80	-14.48	176.93	148.96	-15.81
GU07-3774	246.60	69.97	-71.63	492.90	246.90	-49.91	152.30	198.20	30.14	353.70	446.10	26.12	311.38	240.29	-22.83
GU07-3849	185.30	29.43	-84.12	195.90	177.40	-9.44	157.40	127.20	-19.19	365.20	290.20	-20.54	225.95	156.06	-30.93
MA05-99	28.62	81.28	184.00	279.20	316.40	13.32	304.20	223.60	-26.50	209.70	232.10	10.68	205.43	213.35	3.85
MA05/22	82.76	123.70	49.47	69.28	84.82	22.43	54.99	86.52	57.34	144.80	63.37	-56.24	87.96	89.60	1.87
MA05/51	72.14	117.20	62.46	114.10	54.20	-52.50	108.80	83.88	-22.90	173.60	163.60	-5.76	117.16	104.72	-10.62
MA5/37	64.08	13.10	-79.56	77.36	113.50	46.72	70.41	37.47	-46.78	117.60	98.96	-15.85	82.36	65.76	-20.16
MA5/5	48.97	46.56	-4.92	173.60	26.91	-84.50	60.55	80.03	32.17	203.70	150.80	-25.97	121.71	76.08	-37.49
PG9869-137	22.98	26.52	15.40	32.07	21.23	-33.80	28.96	9.55	-67.02	66.11	57.93	-12.37	37.53	28.81	-23.24
SA04-390	37.93	44.51	17.35	216.10	318.40	47.34	94.86	90.31	-4.80	251.10	317.20	26.32	150.00	192.61	28.41
SA04-409	49.34	42.39	-14.09	102.70	199.30	94.06	116.00	91.43	-21.18	207.40	175.60	-15.33	118.86	127.18	7.00
SA04-454	44.42	7.96	-82.08	222.00	249.50	12.39	119.80	116.20	-3.01	137.20	85.76	-37.49	130.86	114.86	-12.23
SA04-458	45.10	29.42	-34.77	177.70	224.00	26.06	243.70	313.50	28.64	208.70	64.64	-69.03	168.80	157.89	-6.46
SA04-472	74.37	33.91	-54.40	131.30	123.40	-6.02	114.60	77.14	-32.69	180.00	199.50	10.83	125.07	108.49	-13.26
SA04-496	63.26	26.18	-58.62	169.80	117.50	-30.80	105.30	101.20	-3.89	154.00	170.80	10.91	123.09	103.92	-15.57
SA98-13	52.51	29.29	-44.22	49.55	32.96	-33.48	76.66	107.50	40.23	126.30	72.97	-42.22	76.26	60.68	-20.42
Standards															
Check1	61.02	61.20	0.29	192.90	363.90	88.65	86.63	62.12	-28.29	167.90	123.50	-26.44	127.11	152.68	20.11
Check2	122.80	33.42	-72.79	140.00	180.80	29.14	56.85	70.32	23.69	228.20	101.50	-55.52	136.96	96.51	-29.54
Check3	30.91	22.35	-27.69	203.30	222.50	9.44	87.08	44.88	-48.46	233.30	167.40	-28.25	138.65	114.28	-17.57
GM	110.90	72.45	-34.67	226.20	240.40	6.28	137.60	131.10	-4.72	238.92	202.75	-15.14	178.41	161.68	-9.38
CV	12.49	11.54		7.59	7.69		21.82	24.94		12.72	14.85				

Varietal Improvement Programme- AICRP (Sugarcane)
Principal Investigator's Report (2017-18)
Evaluation and identification of climate resilient ISH and IGH genetic stocks
Table 7.2.2: Tillers at 120 days (000'/ha)

Entry	Karnal			Faridkot			Anakapalle			Padegaon			Mean		
	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change
AS04-1687	244.90	198.00	-19.15	466.60	451.20	-3.30	202.70	172.50	-14.90	563.00	313.40	-44.33	369.30	283.78	-23.16
AS04-1689	277.90	213.20	-23.28	559.30	662.40	18.43	273.10	250.00	-8.46	330.60	381.80	15.49	360.23	376.85	4.62
AS04-2097	177.20	133.00	-24.94	426.60	184.10	-56.84	173.70	187.30	7.83	251.00	242.40	-3.43	257.13	186.70	-27.39
AS04-245	335.10	212.70	-36.53	406.90	392.10	-3.64	319.40	223.30	-30.09	441.40	365.40	-17.22	375.70	298.38	-20.58
AS04-635	297.30	254.30	-14.46	634.80	590.50	-6.98	239.60	248.00	3.51	521.10	494.10	-5.18	423.20	396.73	-6.26
BM1003-143	99.63	49.90	-49.91	278.80	232.10	-16.75	167.60	122.40	-26.97	205.70	198.00	-3.74	187.93	150.60	-19.86
BM1005-149	119.60	80.41	-32.77	259.30	277.90	7.17	122.60	123.10	0.41	251.00	186.50	-25.70	188.13	166.98	-11.24
BM1009-163	44.98	21.40	-52.42	207.60	154.30	-25.67	150.40	168.70	12.17	270.10	238.50	-11.70	168.27	145.73	-13.40
BM1010-168	218.70	149.60	-31.60	247.30	282.60	14.27	174.20	142.80	-18.03	326.00	273.00	-16.26	241.55	212.00	-12.23
BM1022-173	74.23	55.87	-24.73	269.60	207.50	-23.03	108.20	124.40	14.97	183.10	176.50	-3.60	158.78	141.07	-11.16
CYM07-986	218.10	172.40	-20.95	336.20	237.90	-29.24	190.10	202.90	6.73	283.10	233.00	-17.70	256.88	211.55	-17.64
GU07-2276	134.00	53.63	-59.98	166.20	125.40	-24.55	183.30	153.10	-16.48	375.70	320.90	-14.59	214.80	163.26	-24.00
GU07-3774	263.50	71.68	-72.80	490.00	356.60	-27.22	156.60	218.90	39.78	376.30	483.90	28.59	321.60	282.77	-12.07
GU07-3849	197.70	25.17	-87.27	305.10	258.60	-15.24	177.10	144.50	-18.41	410.90	332.10	-19.18	272.70	190.09	-30.29
MA05-99	38.55	89.06	131.02	226.20	246.10	8.80	305.20	242.00	-20.71	254.40	273.70	7.59	206.09	212.72	3.22
MA05/22	95.62	142.40	48.92	82.16	92.73	12.87	86.12	122.10	41.78	175.70	84.93	-51.66	109.90	110.54	0.58
MA05/51	79.29	123.00	55.13	144.00	74.34	-48.38	130.70	111.00	-15.07	196.10	204.20	4.13	137.52	128.14	-6.83
MA5/37	65.83	19.82	-69.89	91.55	76.63	-16.30	96.12	75.13	-21.84	125.40	137.60	9.73	94.73	77.30	-18.40
MA5/5	63.68	52.48	-17.59	243.40	19.60	-91.95	87.51	110.10	25.81	217.00	170.00	-21.66	152.90	88.05	-42.42
PG9869-137	21.41	35.56	66.09	24.45	10.54	-56.89	58.29	41.95	-28.03	99.11	81.00	-18.27	50.82	42.26	-16.83
SA04-390	45.53	42.52	-6.61	263.70	256.40	-2.77	118.30	107.70	-8.96	255.30	217.20	-14.92	170.71	155.96	-8.64
SA04-409	52.87	50.63	-4.24	135.90	144.70	6.48	129.20	106.20	-17.80	236.20	210.10	-11.05	138.54	127.91	-7.68
SA04-454	39.05	7.80	-80.03	347.40	242.30	-30.25	136.40	129.00	-5.43	154.40	166.30	7.71	169.31	134.40	-20.62
SA04-458	55.74	23.00	-58.74	214.00	149.30	-30.23	245.50	313.70	27.78	234.30	113.70	-51.47	187.39	149.93	-19.99
SA04-472	83.91	38.32	-54.33	186.60	123.10	-34.03	135.10	106.30	-21.32	206.50	193.00	-6.54	153.03	115.18	-24.73
SA04-496	77.90	22.07	-71.67	155.50	134.20	-13.70	132.30	130.30	-1.51	170.40	194.80	14.32	134.03	120.34	-10.21
SA98-13	65.00	34.48	-46.95	51.79	27.08	-47.71	90.91	125.30	37.83	132.50	160.00	20.75	85.05	86.72	1.96
Standards															
Check1	78.36	64.75	-17.37	233.00	290.70	24.76	100.60	91.14	-9.40	217.30	156.20	-28.12	157.32	150.70	-4.21
Check2	121.30	35.12	-71.05	225.50	250.60	11.13	79.64	91.61	15.03	255.30	247.70	-2.98	170.44	156.26	-8.32
Check3	34.97	40.03	14.47	262.10	201.60	-23.08	112.30	70.03	-37.64	169.80	168.20	-0.94	144.79	119.97	-17.15
GM	124.00	83.76	-32.45	264.70	225.10	-14.96	156.10	148.50	-4.87	262.99	233.98	-11.03	201.95	172.84	-14.42
CV	12.33	8.19		7.87	7.91		14.44	15.69		9.64	13.28				

Varietal Improvement Programme- AICRP (Sugarcane)
Principal Investigator's Report (2017-18)
Evaluation and identification of climate resilient ISH and IGH genetic stocks
Table 7.2.3: Shoots at 150 days (000'/ha)

Entry	Karnal			Faridkot			Anakapalle			Padegaon			Mean		
	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change
AS04-1687	239.40	192.50	-19.59	497.60	417.10	-16.18	168.90	166.70	-1.30	341.70	259.00	-24.20	311.90	258.83	-17.02
AS04-1689	268.60	224.70	-16.34	576.70	516.10	-10.51	217.50	214.70	-1.29	313.10	347.10	10.86	343.98	325.65	-5.33
AS04-2097	164.30	137.10	-16.56	265.20	175.80	-33.71	142.60	150.80	5.75	221.70	182.20	-17.82	198.45	161.48	-18.63
AS04-245	303.80	204.80	-32.59	301.20	331.30	9.99	240.00	192.00	-20.00	382.10	309.10	-19.10	306.78	259.30	-15.48
AS04-635	285.50	262.90	-7.92	567.50	533.60	-5.97	203.70	201.80	-0.93	493.00	470.60	-4.54	387.43	367.23	-5.21
BM1003-143	83.99	40.79	-51.43	313.10	226.60	-27.63	130.90	109.90	-16.04	174.00	153.00	-12.07	175.50	132.57	-24.46
BM1005-149	101.00	71.05	-29.65	275.90	219.80	-20.33	111.00	111.90	0.81	204.80	170.20	-16.89	173.18	143.24	-17.29
BM1009-163	46.88	22.23	-52.58	207.90	155.00	-25.44	116.80	137.30	17.55	227.50	195.20	-14.20	149.77	127.43	-14.91
BM1010-168	192.10	154.70	-19.47	195.50	218.80	11.92	135.70	112.40	-17.17	200.40	190.60	-4.89	180.93	169.13	-6.52
BM1022-173	81.40	56.01	-31.19	224.50	211.40	-5.84	88.42	108.30	22.48	154.10	157.70	2.34	137.11	133.35	-2.74
CYM07-986	201.60	173.70	-13.84	289.90	250.20	-13.69	160.10	154.30	-3.62	241.90	209.40	-13.44	223.38	196.90	-11.85
GU07-2276	120.10	48.41	-59.69	156.60	110.20	-29.63	150.60	126.10	-16.27	291.50	221.20	-24.12	179.70	126.48	-29.62
GU07-3774	251.80	61.27	-75.67	277.90	269.10	-3.17	141.90	179.20	26.29	351.60	351.70	0.03	255.80	215.32	-15.83
GU07-3849	202.50	27.34	-86.50	258.80	196.90	-23.92	155.00	129.30	-16.58	365.10	256.60	-29.72	245.35	152.54	-37.83
MA05-99	19.87	93.08	368.44	176.60	220.60	24.92	245.10	198.20	-19.14	203.50	162.90	-19.95	161.27	168.70	4.61
MA05/22	94.20	147.90	57.01	83.99	62.83	-25.19	79.36	102.00	28.53	137.30	75.21	-45.22	98.71	96.99	-1.75
MA05/51	82.37	120.90	46.78	117.30	79.91	-31.88	110.40	102.80	-6.88	172.10	150.80	-12.38	120.54	113.60	-5.76
MA5/37	64.63	12.78	-80.23	91.23	66.90	-26.67	87.94	76.13	-13.43	117.40	122.00	3.92	90.30	69.45	-23.09
MA5/5	67.35	48.17	-28.48	227.50	29.12	-87.20	82.14	89.53	9.00	172.00	146.10	-15.06	137.25	78.23	-43.00
PG9869-137	17.18	25.74	49.83	42.08	11.20	-73.38	68.43	32.93	-51.88	76.97	73.90	-3.99	51.17	35.94	-29.75
SA04-390	39.73	45.06	13.42	215.60	241.00	11.78	99.06	101.80	2.77	203.10	179.90	-11.42	139.37	141.94	1.84
SA04-409	53.90	31.51	-41.54	96.11	155.50	61.79	101.20	103.90	2.67	213.80	168.70	-21.09	116.25	114.90	-1.16
SA04-454	46.67	2.70	-94.21	266.00	245.50	-7.71	109.70	111.60	1.73	126.30	143.80	13.86	137.17	125.90	-8.21
SA04-458	46.80	16.19	-65.41	253.30	177.30	-30.00	204.20	223.50	9.45	182.80	96.16	-47.40	171.78	128.29	-25.32
SA04-472	82.92	38.02	-54.15	196.90	122.30	-37.89	119.30	92.19	-22.72	198.20	163.70	-17.41	149.33	104.05	-30.32
SA04-496	75.51	21.75	-71.20	182.80	141.50	-22.59	127.20	116.70	-8.25	167.70	131.30	-21.71	138.30	102.81	-25.66
SA98-13	73.65	27.87	-62.16	27.42	27.73	1.13	71.39	108.70	52.26	113.30	121.10	6.88	71.44	71.35	-0.13
Standards															
Check1	75.43	64.73	-14.19	271.90	195.00	-28.28	86.39	75.55	-12.55	189.10	123.30	-34.80	155.71	114.65	-26.37
Check2	111.30	29.55	-73.45	190.60	189.50	-0.58	71.50	71.01	-0.69	209.10	125.80	-39.84	145.63	103.97	-28.61
Check3	34.94	39.90	14.20	210.60	194.60	-7.60	92.11	69.65	-24.38	130.30	141.50	8.60	116.99	111.41	-4.77
GM	117.60	81.46	-30.73	235.30	199.70	-15.13	130.60	125.70	-3.75	219.23	186.70	-14.84	175.68	148.39	-15.54
CV	5.82	14.48		7.90	7.96		14.11	17.28		8.31	6.15				

Varietal Improvement Programme- AICRP (Sugarcane)
Principal Investigator's Report (2017-18)
Evaluation and identification of climate resilient ISH and IGH genetic stocks
Table 7.2.4: Shoots at 180 days (000'/ha)

Entry	Karnal			Faridkot			Anakapalle			Padegaon			Mean		
	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change
AS04-1687	208.90	189.10	-9.48	347.30	265.60	-23.52	121.30	160.00	31.90	252.90	192.80	-23.76	232.60	201.88	-13.21
AS04-1689	260.10	214.20	-17.65	411.20	372.10	-9.51	139.40	166.90	19.73	294.50	228.30	-22.48	276.30	245.38	-11.19
AS04-2097	163.90	123.10	-24.89	166.10	139.10	-16.26	98.11	95.38	-2.78	190.50	147.80	-22.41	154.65	126.35	-18.30
AS04-245	347.00	186.50	-46.25	248.80	210.60	-15.35	113.50	149.60	31.81	288.00	229.50	-20.31	249.33	194.05	-22.17
AS04-635	299.60	263.10	-12.18	464.90	444.10	-4.47	152.30	143.20	-5.98	483.30	418.60	-13.39	350.03	317.25	-9.36
BM1003-143	72.92	36.76	-49.59	202.10	132.80	-34.29	78.05	88.00	12.75	141.50	126.30	-10.74	123.64	95.97	-22.39
BM1005-149	64.73	53.56	-17.26	196.40	153.50	-21.84	96.84	99.34	2.58	159.30	143.10	-10.17	129.32	112.38	-13.10
BM1009-163	48.00	20.33	-57.65	128.80	98.77	-23.32	103.80	99.69	-3.96	172.30	113.80	-33.95	113.23	83.15	-26.56
BM1010-168	180.50	144.90	-19.72	143.10	139.80	-2.31	83.76	72.70	-13.20	172.00	152.40	-11.40	144.84	127.45	-12.01
BM1022-173	68.66	47.91	-30.22	167.90	137.40	-18.17	59.75	90.43	51.35	130.50	98.24	-24.72	106.70	93.50	-12.38
CYM07-986	197.20	166.30	-15.67	267.00	204.30	-23.48	109.20	117.70	7.78	223.20	189.60	-15.05	199.15	169.48	-14.90
GU07-2276	128.60	45.70	-64.46	124.50	65.25	-47.59	107.10	92.25	-13.87	181.40	144.60	-20.29	135.40	86.95	-35.78
GU07-3774	213.90	70.97	-66.82	321.70	216.30	-32.76	117.40	121.40	3.41	315.60	299.00	-5.26	242.15	176.92	-26.94
GU07-3849	192.10	22.27	-88.41	184.80	136.90	-25.92	118.00	108.50	-8.05	286.20	206.20	-27.95	195.28	118.47	-39.33
MA05-99	15.75	81.06	414.67	126.00	134.80	6.98	148.90	139.00	-6.65	159.20	115.00	-27.76	112.46	117.47	4.45
MA05/22	73.09	129.40	77.04	72.26	39.14	-45.83	73.33	77.90	6.23	102.90	67.38	-34.52	80.40	78.46	-2.41
MA05/51	64.83	97.82	50.89	108.20	57.84	-46.54	79.94	92.75	16.02	148.10	119.60	-19.24	100.27	92.00	-8.24
MA5/37	55.14	9.08	-83.53	77.30	57.10	-26.13	72.65	76.11	4.76	97.13	82.39	-15.18	75.56	56.17	-25.66
MA5/5	61.05	37.55	-38.49	138.70	15.62	-88.74	80.28	60.31	-24.88	97.13	86.09	-11.37	94.29	49.89	-47.09
PG9869-137	12.79	21.58	68.73	23.69	13.77	-41.87	78.72	20.67	-73.74	78.90	65.97	-16.39	48.53	30.50	-37.15
SA04-390	35.32	39.49	11.81	146.40	136.70	-6.63	69.48	91.82	32.15	165.70	99.17	-40.15	104.23	91.80	-11.93
SA04-409	53.01	33.38	-37.03	76.98	96.55	25.42	63.23	100.00	58.15	169.20	133.80	-20.92	90.61	90.93	0.36
SA04-454	43.19	5.79	-86.59	262.70	132.20	-49.68	73.64	79.32	7.71	100.90	89.91	-10.89	120.11	76.81	-36.05
SA04-458	37.54	16.43	-56.23	176.50	99.88	-43.41	148.10	111.50	-24.71	126.60	110.70	-12.56	122.19	84.63	-30.74
SA04-472	60.47	33.52	-44.57	134.00	115.20	-14.03	93.53	77.15	-17.51	141.80	120.60	-14.95	107.45	86.62	-19.39
SA04-496	50.29	16.89	-66.41	135.50	128.50	-5.17	116.20	99.38	-14.48	142.70	91.90	-35.60	111.17	84.17	-24.29
SA98-13	57.91	24.54	-57.62	35.77	20.62	-42.35	47.65	86.59	81.72	111.80	72.82	-34.87	63.28	51.14	-19.18
Standards															
Check1	65.75	49.31	-25.00	155.00	143.00	-7.74	66.98	52.00	-22.36	170.50	108.10	-36.60	114.56	88.10	-23.09
Check2	76.90	33.10	-56.96	82.30	82.28	-0.02	64.07	41.79	-34.77	110.10	76.16	-30.83	83.34	58.33	-30.01
Check3	37.91	29.64	-21.81	155.90	147.20	-5.58	58.29	78.42	34.53	141.50	121.20	-14.35	98.40	94.12	-4.35
GM	108.20	74.79	-30.88	176.10	137.90	-21.69	94.46	96.34	1.99	178.55	141.73	-20.62	139.33	112.69	-19.12
CV	6.28	6.44		9.13	9.26		26.84	26.87		6.48	8.41				

Varietal Improvement Programme- AICRP (Sugarcane)
Principal Investigator's Report (2017-18)
Evaluation and identification of climate resilient ISH and IGH genetic stocks

Table 7.2.5: Number of Millable Canes at 240 days (000'/ha)

Entry	Karnal			Faridkot			Anakapalle			Padegaon			Mean		
	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change
AS04-1687	192.30	183.80	-4.42	304.40	246.50	-19.02	97.70	117.90	20.68	276.90	252.00	-8.99	217.83	200.05	-8.16
AS04-1689	233.80	205.50	-12.10	374.10	342.40	-8.47	119.30	129.10	8.21	221.40	160.80	-27.37	237.15	209.45	-11.68
AS04-2097	158.30	117.60	-25.71	142.90	129.90	-9.10	70.57	77.02	9.14	195.00	181.50	-6.92	141.69	126.51	-10.72
AS04-245	334.40	178.20	-46.71	206.90	195.90	-5.32	94.52	119.10	26.01	268.90	228.80	-14.91	226.18	180.50	-20.20
AS04-635	274.60	245.30	-10.67	418.60	425.70	1.70	123.40	117.00	-5.19	302.10	279.30	-7.55	279.68	266.83	-4.59
BM1003-143	69.25	34.26	-50.53	177.30	120.80	-31.87	61.15	74.46	21.77	158.20	118.60	-25.03	116.48	87.03	-25.28
BM1005-149	62.05	51.43	-17.12	185.30	127.60	-31.14	80.91	81.45	0.67	138.60	117.30	-15.37	116.72	94.45	-19.08
BM1009-163	46.48	17.09	-63.23	99.57	95.19	-4.40	86.65	74.65	-13.85	71.68	66.82	-6.78	76.10	63.44	-16.63
BM1010-168	175.40	141.20	-19.50	121.40	92.93	-23.45	73.35	58.03	-20.89	207.50	201.00	-3.13	144.41	123.29	-14.63
BM1022-173	63.53	44.84	-29.42	150.40	110.10	-26.80	47.47	72.60	52.94	83.14	63.18	-24.01	86.14	72.68	-15.62
CYM07-986	187.40	157.80	-15.80	241.40	192.00	-20.46	84.63	91.54	8.16	200.10	133.90	-33.08	178.38	143.81	-19.38
GU07-2276	122.90	41.56	-66.18	100.40	61.51	-38.74	92.54	70.06	-24.29	154.60	113.10	-26.84	117.61	71.56	-39.16
GU07-3774	199.20	66.16	-66.79	289.90	187.20	-35.43	92.26	98.12	6.35	214.60	149.60	-30.29	198.99	125.27	-37.05
GU07-3849	185.60	21.70	-88.31	165.80	127.50	-23.10	92.97	85.99	-7.51	199.70	140.40	-29.69	161.02	93.90	-41.68
MA05-99	16.38	68.92	320.76	106.30	113.30	6.59	123.20	110.60	-10.23	124.10	107.60	-13.30	92.50	100.11	8.23
MA05/22	66.97	123.20	83.96	53.27	37.93	-28.80	55.51	63.58	14.54	72.85	50.63	-30.50	62.15	68.84	10.76
MA05/51	60.83	94.86	55.94	77.49	50.40	-34.96	60.32	74.50	23.51	131.00	115.00	-12.21	82.41	83.69	1.55
MA5/37	56.47	9.83	-82.59	69.98	40.56	-42.04	59.17	54.04	-8.67	76.20	60.28	-20.89	65.46	41.18	-37.09
MA5/5	55.39	35.13	-36.58	95.91	7.22	-92.47	68.01	48.77	-28.29	94.71	66.76	-29.51	78.51	39.47	-49.72
PG9869-137	15.17	21.87	44.17	19.24	9.47	-50.78	61.59	16.59	-73.06	57.49	43.20	-24.86	38.37	22.78	-40.63
SA04-390	31.12	38.38	23.33	111.90	98.34	-12.12	53.95	79.08	46.58	88.70	51.14	-42.34	71.42	66.74	-6.56
SA04-409	48.88	31.42	-35.72	62.53	78.64	25.76	45.88	82.33	79.45	145.20	140.30	-3.37	75.62	83.17	9.98
SA04-454	38.07	5.61	-85.26	230.40	113.10	-50.91	57.66	62.88	9.05	91.01	66.88	-26.51	104.29	62.12	-40.43
SA04-458	34.73	16.14	-53.53	135.50	81.82	-39.62	116.80	83.50	-28.51	76.03	76.49	0.61	90.77	64.49	-28.95
SA04-472	60.54	31.48	-48.00	119.20	78.36	-34.26	71.31	56.87	-20.25	129.20	64.96	-49.72	95.06	57.92	-39.07
SA04-496	48.97	17.06	-65.16	120.70	93.18	-22.80	94.92	97.15	2.35	93.14	70.98	-23.79	89.43	69.59	-22.18
SA98-13	54.63	23.62	-56.76	28.09	16.63	-40.80	36.78	67.76	84.23	40.38	43.16	6.88	39.97	37.79	-5.45
Standards															
Check1	59.90	47.28	-21.07	130.70	102.00	-21.96	45.97	43.49	-5.39	87.20	56.18	-35.57	80.94	62.24	-23.11
Check2	68.97	32.00	-53.60	64.89	66.70	2.79	53.19	33.95	-36.17	78.27	69.65	-11.01	66.33	50.58	-23.75
Check3	33.17	27.32	-17.64	144.30	126.00	-12.68	50.84	66.08	29.98	84.53	69.08	-18.28	78.21	72.12	-7.79
GM	101.80	71.03	-30.23	151.60	118.90	-21.57	75.76	76.94	1.56	138.77	111.98	-19.31	116.98	94.71	-19.04
CV	4.96	5.35		11.21	10.33		30.07	30.44		13.83	11.89				

Varietal Improvement Programme- AICRP (Sugarcane)
 Principal Investigator's Report (2017-18)
 Evaluation and identification of climate resilient ISH and IGH genetic stocks
 Table 7.2.6: Number of Millable Canes at 360 days (000'/ha)

Entry	Karnal			Faridkot			Anakapalle			Padegaon			Mean		
	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change
AS04-1687				288.80	219.50	-24.00	87.14	100.50	15.33	268.40	244.40	-8.94	214.78	188.13	-12.41
AS04-1689				347.00	336.70	-2.97	102.10	115.10	12.73	210.70	155.40	-26.25	219.93	202.40	-7.97
AS04-2097				131.20	88.63	-32.45	61.64	68.84	11.68	191.10	176.00	-7.90	127.98	111.16	-13.15
AS04-245				184.00	160.40	-12.83	82.87	97.41	17.55	261.80	220.20	-15.89	176.22	159.34	-9.58
AS04-635				353.10	374.00	5.92	104.40	101.90	-2.39	287.50	274.80	-4.42	248.33	250.23	0.77
BM1003-143				161.40	113.20	-29.86	54.82	65.20	18.93	152.30	115.00	-24.49	122.84	97.80	-20.38
BM1005-149				138.80	109.30	-21.25	71.10	76.27	7.27	132.00	113.70	-13.86	113.97	99.76	-12.47
BM1009-163				91.48	81.91	-10.46	80.09	65.01	-18.83	69.75	62.42	-10.51	80.44	69.78	-13.25
BM1010-168				111.30	80.48	-27.69	58.86	51.24	-12.95	199.90	194.00	-2.95	123.35	108.57	-11.98
BM1022-173				147.90	108.90	-26.37	42.88	64.46	50.33	79.24	64.22	-18.96	90.01	79.19	-12.01
CYM07-986				183.80	165.00	-10.23	73.27	78.96	7.77	194.40	130.10	-33.08	150.49	124.69	-17.15
GU07-2276				103.70	62.10	-40.12	84.42	65.31	-22.64	149.00	109.00	-26.85	112.37	78.80	-29.87
GU07-3774				250.90	174.30	-30.53	83.97	88.59	5.50	209.30	143.70	-31.34	181.39	135.53	-25.28
GU07-3849				154.20	101.30	-34.31	81.61	76.18	-6.65	193.90	136.10	-29.81	143.24	104.53	-27.03
MA05-99				102.20	105.00	2.74	109.90	97.38	-11.39	118.90	104.30	-12.28	110.33	102.23	-7.35
MA05/22				46.11	30.20	-34.50	48.31	57.91	19.87	68.48	48.64	-28.97	54.30	45.58	-16.05
MA05/51				69.63	53.21	-23.58	53.41	70.53	32.05	126.80	111.30	-12.22	83.28	78.35	-5.92
MA5/37				62.78	39.55	-37.00	49.66	47.02	-5.32	73.23	56.69	-22.59	61.89	47.75	-22.84
MA5/5				92.41	8.44	-90.87	57.11	45.87	-19.68	90.82	61.32	-32.48	80.11	38.54	-51.89
PG9869-137				17.04	6.91	-59.45	53.81	14.86	-72.38	60.61	43.10	-28.89	43.82	21.62	-50.65
SA04-390				103.50	90.39	-12.67	46.12	71.40	54.81	83.87	52.18	-37.78	77.83	71.32	-8.36
SA04-409				54.81	75.43	37.62	39.54	73.07	84.80	141.20	137.20	-2.83	78.52	95.23	21.29
SA04-454				183.50	90.39	-50.74	50.75	56.58	11.49	86.19	67.92	-21.20	106.81	71.63	-32.94
SA04-458				103.10	81.22	-21.22	97.29	73.46	-24.49	74.04	72.77	-1.72	91.48	75.82	-17.12
SA04-472				101.40	70.62	-30.36	60.75	50.97	-16.10	123.10	60.23	-51.07	95.08	60.61	-36.26
SA04-496				114.80	78.77	-31.39	84.37	100.00	18.53	90.70	64.86	-28.49	96.62	81.21	-15.95
SA98-13				29.07	18.26	-37.19	32.47	60.50	86.33	42.55	44.99	5.73	34.70	41.25	18.89
Standards															
Check1				125.70	92.15	-26.69	40.92	41.83	2.22	108.70	106.50	-2.02	91.77	80.16	-12.65
Check2				65.93	60.62	-8.05	46.00	31.98	-30.48	105.90	108.50	2.46	72.61	67.03	-7.68
Check3				123.80	99.09	-19.96	43.64	54.43	24.73	100.00	97.90	-2.10	89.15	83.81	-5.99
GM				134.80	105.80	-21.51	66.11	68.77	4.02	136.51	112.61	-17.51	112.47	95.73	-14.89
CV				10.69	8.67		28.85	27.89		12.99	12.26				

Varietal Improvement Programme- AICRP (Sugarcane)
 Principal Investigator's Report (2017-18)
 Evaluation and identification of climate resilient ISH and IGH genetic stocks
 Table 7.2.7: Juice Brix % at harvest

Entry	Karnal			Faridkot			Anakapalle			Padegaon			Mean		
	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change
AS04-1687	14.50	15.57	7.38	11.91	11.97	0.50	15.24	14.33	-5.97	15.47	16.24	4.98	14.28	14.53	1.73
AS04-1689	13.06	14.57	11.56	11.74	12.00	2.21	18.42	15.67	-14.93	17.80	17.13	-3.76	15.26	14.84	-2.70
AS04-2097	15.99	14.56	-8.94	13.55	14.43	6.49	19.31	15.80	-18.18	15.40	13.34	-13.38	16.06	14.53	-9.53
AS04-245	16.11	16.26	0.93	12.67	13.58	7.18	18.82	17.41	-7.49	15.62	14.40	-7.81	15.81	15.41	-2.48
AS04-635	16.55	16.83	1.69	14.54	14.11	-2.96	18.76	19.15	2.08	15.31	15.24	-0.46	16.29	16.33	0.26
BM1003-143	17.89	18.49	3.35	15.70	17.02	8.41	20.58	20.16	-2.04	21.17	20.17	-4.72	18.84	18.96	0.66
BM1005-149	20.68	20.83	0.73	16.24	17.65	8.68	17.32	18.68	7.85	22.24	21.88	-1.62	19.12	19.76	3.35
BM1009-163	21.16	20.18	-4.63	14.07	17.53	24.59	16.07	14.35	-10.70	21.29	21.27	-0.09	18.15	18.33	1.02
BM1010-168	17.21	16.99	-1.28	12.05	14.43	19.75	19.51	19.41	-0.51	18.17	17.59	-3.19	16.74	17.11	2.21
BM1022-173	17.02	18.08	6.23	14.94	13.61	-8.90	18.01	17.96	-0.28	20.19	18.49	-8.42	17.54	17.04	-2.88
CYM07-986	15.27	14.22	-6.88	14.71	14.13	-3.94	20.03	19.42	-3.05	17.55	15.99	-8.89	16.89	15.94	-5.62
GU07-2276	15.13	21.76	43.82	13.60	15.01	10.37	16.64	15.59	-6.31	17.32	16.67	-3.75	15.67	17.26	10.11
GU07-3774	17.24	21.72	25.99	12.89	13.86	7.53	15.38	14.83	-3.58	16.20	15.37	-5.12	15.43	16.45	6.60
GU07-3849	17.16	20.44	19.11	15.61	15.13	-3.07	18.88	19.71	4.40	18.32	19.26	5.13	17.49	18.64	6.53
MA05-99	19.93	16.65	-16.46	14.90	13.61	-8.66	9.12	8.86	-2.85	18.13	20.17	11.25	15.52	14.82	-4.49
MA05/22	20.07	17.29	-13.85	16.71	16.62	-0.54	17.23	18.25	5.92	20.42	17.35	-15.03	18.61	17.38	-6.61
MA05/51	19.02	17.18	-9.67	16.30	16.56	1.60	18.24	16.07	-11.90	19.77	18.67	-5.56	18.33	17.12	-6.61
MA5/37	19.55	18.16	-7.11	13.89	18.36	32.18	20.05	19.99	-0.30	19.05	17.80	-6.56	18.14	18.58	2.44
MA5/5	20.65	19.81	-4.07	16.44	16.86	2.55	20.20	18.81	-6.88	19.87	19.30	-2.87	19.29	18.70	-3.08
PG9869-137	20.00	17.44	-12.80	16.41	14.97	-8.78	17.41	19.21	10.34	20.37	19.49	-4.32	18.55	17.78	-4.15
SA04-390	20.10	19.40	-3.48	17.64	16.61	-5.84	20.36	19.34	-5.01	21.28	20.49	-3.71	19.85	18.96	-4.46
SA04-409	21.66	19.85	-8.36	15.70	18.02	14.78	15.67	18.93	20.80	22.55	21.92	-2.79	18.90	19.68	4.15
SA04-454	19.61	67.12	242.27	12.04	12.66	5.15	18.94	16.66	-12.04	19.84	19.24	-3.02	17.61	28.92	64.25
SA04-458	18.58	19.44	4.63	19.05	19.43	1.99	13.82	12.38	-10.42	20.20	20.09	-0.54	17.91	17.84	-0.43
SA04-472	20.58	20.57	-0.05	18.41	18.27	-0.76	18.71	15.65	-16.35	20.63	20.99	1.75	19.58	18.87	-3.64
SA04-496	21.25	19.22	-9.55	16.91	13.87	-17.98	19.83	19.57	-1.31	22.38	20.49	-8.45	20.09	18.29	-8.98
SA98-13	13.51	19.27	42.64	16.05	16.43	2.37	19.85	17.56	-11.54	20.62	20.34	-1.36	17.51	18.40	5.10
Standards															
Check1	22.95	13.87	-39.56	21.39	18.36	-14.17	20.18	20.12	-0.30	22.05	19.85	-9.98	21.64	18.05	-16.60
Check2	21.01	21.09	0.38	18.40	18.01	-2.12	18.55	17.73	-4.42	21.39	20.17	-5.70	19.84	19.25	-2.96
Check3	19.90	13.66	-31.36	17.71	15.13	-14.57	21.06	20.89	-0.81	22.12	19.30	-12.75	20.20	17.25	-14.62
GM	18.44	19.68	6.72	15.41	15.61	1.30	18.07	17.42	-3.60	19.42	18.62	-4.12	17.84	17.83	-0.01
CV	3.37	3.50		2.62	2.52		10.07	4.38		3.59	4.45				

Varietal Improvement Programme- AICRP (Sugarcane)
Principal Investigator's Report (2017-18)
Evaluation and identification of climate resilient ISH and IGH genetic stocks
Table 7.2.8: Single Cane Weight (Kg) at harvest

Entry	Karnal			Faridkot			Anakapalle			Padegaon			Mean		
	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change
AS04-1687	0.73	0.77	5.48	0.49	0.45	-8.16	1.04	0.73	-29.81	0.50	0.51	2.00	0.69	0.62	-10.87
AS04-1689	0.76	0.55	-27.63	0.81	0.77	-4.94	1.34	0.66	-50.75	0.70	0.63	-10.00	0.90	0.65	-27.70
AS04-2097	1.07	0.81	-24.30	0.89	0.71	-20.22	1.01	0.72	-28.71	0.88	0.64	-27.27	0.96	0.72	-25.19
AS04-245	0.45	0.46	2.22	0.64	0.59	-7.81	0.86	0.50	-41.86	0.63	0.63	0.00	0.65	0.55	-15.50
AS04-635	0.53	0.45	-15.09	0.79	0.61	-22.78	1.02	0.62	-39.22	0.53	0.57	7.55	0.72	0.56	-21.60
BM1003-143	0.91	0.66	-27.47	0.99	0.67	-32.32	1.14	0.88	-22.81	1.08	0.91	-15.74	1.03	0.78	-24.27
BM1005-149	0.84	0.64	-23.81	1.19	0.77	-35.29	1.17	1.00	-14.53	0.85	0.81	-4.71	1.01	0.81	-20.49
BM1009-163	1.01	0.78	-22.77	0.82	0.66	-19.51	0.98	0.61	-37.76	1.10	0.86	-21.82	0.98	0.73	-25.58
BM1010-168	0.83	0.87	4.82	0.77	0.72	-6.49	1.20	1.00	-16.67	0.82	0.67	-18.29	0.91	0.82	-9.94
BM1022-173	1.25	1.10	-12.00	0.97	0.74	-23.71	1.27	1.08	-14.96	1.17	0.98	-16.24	1.17	0.98	-16.31
CYM07-986	0.68	0.86	26.47	0.85	0.64	-24.71	1.03	0.67	-34.95	0.68	0.62	-8.82	0.81	0.70	-13.89
GU07-2276	1.14	1.30	14.04	0.93	0.81	-12.90	1.21	0.92	-23.97	0.79	0.84	6.33	1.02	0.97	-4.91
GU07-3774	0.47	0.92	95.74	0.42	0.46	9.52	0.98	0.51	-47.96	0.44	0.33	-25.00	0.58	0.56	-3.90
GU07-3849	0.24	0.63	162.50	0.51	0.41	-19.61	0.75	0.83	10.67	0.74	0.78	5.41	0.56	0.66	18.30
MA05-99	0.71	1.14	60.56	1.02	0.88	-13.73	0.79	0.61	-22.78	1.08	1.03	-4.63	0.90	0.92	1.67
MA05/22	1.45	0.25	-82.76	1.08	0.76	-29.63	0.74	1.08	45.95	0.79	0.80	1.27	1.02	0.72	-28.82
MA05/51	1.05	0.51	-51.43	0.89	0.77	-13.48	1.33	1.02	-23.31	1.18	0.79	-33.05	1.11	0.77	-30.56
MA5/37	1.01	1.01	0.00	0.56	0.45	-19.64	0.81	0.96	18.52	0.99	0.79	-20.20	0.84	0.80	-4.75
MA5/5	0.93	1.03	10.75	0.83	0.65	-21.69	1.12	1.04	-7.14	1.07	0.90	-15.89	0.99	0.91	-8.35
PG9869-137	1.28	0.68	-46.88	1.12	0.67	-40.18	0.94	1.01	7.45	0.93	0.97	4.30	1.07	0.83	-22.01
SA04-390	0.77	0.97	25.97	1.03	0.76	-26.21	1.28	1.09	-14.84	0.66	0.84	27.27	0.94	0.92	-2.14
SA04-409	1.18	0.99	-16.10	0.93	0.70	-24.73	0.99	1.15	16.16	0.91	0.86	-5.49	1.00	0.93	-7.73
SA04-454	0.94	0.99	5.32	0.81	0.69	-14.81	1.00	0.65	-35.00	0.88	0.88	0.00	0.91	0.80	-11.57
SA04-458	0.98	0.47	-52.04	0.90	0.78	-13.33	1.16	0.51	-56.03	0.91	0.61	-32.97	0.99	0.59	-40.00
SA04-472	0.82	0.68	-17.07	0.69	0.64	-7.25	0.78	1.13	44.87	0.96	0.81	-15.63	0.81	0.82	0.31
SA04-496	0.75	0.79	5.33	0.71	0.55	-22.54	1.18	0.87	-26.27	0.64	0.62	-3.13	0.82	0.71	-13.72
SA98-13	1.98	0.85	-57.07	0.65	0.70	7.69	1.13	0.89	-21.24	1.19	0.85	-28.57	1.24	0.82	-33.54
Standards															
Check1	1.52	0.80	-47.37	0.85	0.65	-23.53	1.36	1.11	-18.38	1.22	1.26	3.28	1.24	0.96	-22.83
Check2	0.90	0.73	-18.89	1.21	0.87	-28.10	1.11	1.03	-7.21	1.49	1.36	-8.72	1.18	1.00	-15.29
Check3	0.81	0.86	6.17	0.88	0.66	-25.00	1.05	1.12	6.67	1.28	1.09	-14.84	1.01	0.93	-7.21
GM	0.93	0.78	-16.13	0.84	0.67	-20.24	1.06	0.87	-17.92	0.90	0.81	-10.00	0.93	0.78	-16.09
CV	15.60	24.20		10.20	9.87		20.00	5.23		13.76	10.40				

Varietal Improvement Programme- AICRP (Sugarcane)
Principal Investigator's Report (2017-18)
Evaluation and identification of climate resilient ISH and IGH genetic stocks

Table 7.2.9: Juice Sucrose % at harvest

Entry	Karnal			Faridkot			Anakapalle			Padegaon			Mean		
	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change
AS04-1687	10.37	12.55	21.02	9.91	9.94	0.30	13.03	12.75	-2.15	12.77	13.14	2.90	11.52	12.10	4.99
AS04-1689	9.44	11.24	19.07	9.78	10.60	8.38	13.98	11.95	-14.52	15.25	15.48	1.51	12.11	12.32	1.69
AS04-2097	13.29	11.26	-15.27	11.10	11.90	7.21	15.54	12.84	-17.37	12.76	10.38	-18.65	13.17	11.60	-11.98
AS04-245	13.10	12.85	-1.91	11.10	10.00	-9.91	15.31	14.52	-5.16	12.88	11.26	-12.58	13.10	12.16	-7.18
AS04-635	13.76	13.27	-3.56	11.30	12.00	6.19	15.18	15.45	1.78	12.46	11.86	-4.82	13.18	13.15	-0.23
BM1003-143	15.68	16.33	4.15	12.60	14.50	15.08	18.38	18.01	-2.01	19.57	19.01	-2.86	16.56	16.96	2.45
BM1005-149	18.48	19.15	3.63	14.10	15.70	11.35	14.81	16.63	12.29	20.41	20.67	1.27	16.95	18.04	6.42
BM1009-163	19.16	18.06	-5.74	11.40	15.70	37.72	12.71	11.74	-7.63	20.39	19.83	-2.75	15.92	16.33	2.62
BM1010-168	14.62	14.83	1.44	9.96	12.50	25.50	15.84	16.02	1.14	16.23	15.41	-5.05	14.16	14.69	3.72
BM1022-173	16.26	16.12	-0.86	12.60	11.60	-7.94	15.47	14.76	-4.59	18.20	17.08	-6.15	15.63	14.89	-4.75
CYM07-986	13.04	11.51	-11.73	12.20	10.80	-11.48	16.55	15.77	-4.71	14.45	12.48	-13.63	14.06	12.64	-10.10
GU07-2276	12.16	20.12	65.46	11.00	12.20	10.91	13.62	13.67	0.37	14.06	14.74	4.84	12.71	15.18	19.45
GU07-3774	14.67	19.64	33.88	11.00	12.20	10.91	12.19	12.11	-0.66	14.10	13.16	-6.67	12.99	14.28	9.91
GU07-3849	14.91	19.02	27.57	11.20	12.50	11.61	16.49	16.36	-0.79	16.19	17.15	5.93	14.70	16.26	10.61
MA05-99	17.58	14.25	-18.94	13.00	11.90	-8.46	8.07	8.12	0.62	15.89	17.71	11.45	13.64	13.00	-4.69
MA05/22	18.14	15.70	-13.45	12.90	12.70	-1.55	14.53	15.02	3.37	18.41	14.92	-18.96	16.00	14.59	-8.82
MA05/51	16.91	14.10	-16.62	13.80	14.10	2.17	15.32	14.69	-4.11	17.61	16.37	-7.04	15.91	14.82	-6.88
MA5/37	18.06	15.42	-14.62	10.60	15.20	43.40	16.70	16.87	1.02	16.80	15.09	-10.18	15.54	15.65	0.68
MA5/5	18.22	17.77	-2.47	14.90	15.20	2.01	16.20	15.64	-3.46	17.75	17.48	-1.52	16.77	16.52	-1.46
PG9869-137	17.19	15.16	-11.81	13.10	11.50	-12.21	13.43	15.89	18.32	17.90	17.24	-3.69	15.41	14.95	-2.97
SA04-390	18.15	16.52	-8.98	15.50	13.80	-10.97	17.11	15.79	-7.71	18.97	18.67	-1.58	17.43	16.20	-7.10
SA04-409	19.87	17.56	-11.63	12.50	13.40	7.20	12.92	15.48	19.81	20.64	19.84	-3.88	16.48	16.57	0.53
SA04-454	17.90	9.80	-45.25	9.98	10.10	1.20	15.24	13.42	-11.94	15.49	18.23	17.69	14.65	12.89	-12.05
SA04-458	17.07	17.02	-0.29	16.50	16.30	-1.21	11.08	10.20	-7.94	18.03	18.72	3.83	15.67	15.56	-0.70
SA04-472	18.63	18.17	-2.47	15.10	15.20	0.66	15.70	14.58	-7.13	18.28	18.90	3.39	16.93	16.71	-1.27
SA04-496	19.63	17.02	-13.30	15.00	11.40	-24.00	16.51	16.14	-2.24	20.13	18.07	-10.23	17.82	15.66	-12.12
SA98-13	8.01	17.00	112.23	13.60	14.80	8.82	15.95	14.51	-9.03	18.52	18.23	-1.57	14.02	16.14	15.09
Standards															
Check1	20.30	11.41	-43.79	17.50	16.10	-8.00	16.72	17.63	5.44	20.13	19.05	-5.37	18.66	16.05	-14.01
Check2	19.67	18.89	-3.97	15.40	15.90	3.25	15.66	16.32	4.21	19.90	18.36	-7.74	17.66	17.37	-1.64
Check3	18.48	11.31	-38.80	15.50	12.70	-18.06	18.38	18.28	-0.54	20.43	18.00	-11.89	18.20	15.07	-17.17
GM	16.09	15.44	-4.04	12.80	13.10	2.34	14.95	14.71	-1.61	17.15	16.55	-3.50	15.25	14.95	-1.95
CV	3.79	4.80		2.24	2.24		10.23	4.44		5.55	7.66				

Varietal Improvement Programme- AICRP (Sugarcane)
Principal Investigator's Report (2017-18)
Evaluation and identification of climate resilient ISH and IGH genetic stocks
Table 7.2.10: Juice Extraction % at harvest

Entry	Karnal			Faridkot			Anakapalle			Padegaon			Mean		
	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change
AS04-1687	43.99	28.08	-36.17	39.65	39.44	-0.53	39.53	38.04	-3.77	44.25	42.47	-4.02	41.86	37.01	-11.58
AS04-1689	45.80	31.49	-31.24	44.41	44.83	0.95	37.67	36.97	-1.86	47.45	44.04	-7.19	43.83	39.33	-10.27
AS04-2097	46.58	36.46	-21.73	41.96	49.99	19.14	39.52	39.23	-0.73	50.84	47.71	-6.16	44.73	43.35	-3.08
AS04-245	51.69	11.99	-76.80	35.75	32.44	-9.26	32.81	31.14	-5.09	41.11	39.13	-4.82	40.34	28.68	-28.92
AS04-635	42.16	22.03	-47.75	45.48	43.78	-3.74	41.22	31.70	-23.10	38.17	34.96	-8.41	41.76	33.12	-20.69
BM1003-143	60.35	40.73	-32.51	46.45	39.16	-15.69	50.97	43.50	-14.66	52.23	47.88	-8.33	52.50	42.82	-18.44
BM1005-149	59.66	44.43	-25.53	54.33	49.68	-8.56	39.65	44.30	11.73	48.52	44.98	-7.30	50.54	45.85	-9.28
BM1009-163	51.56	39.28	-23.82	46.19	41.07	-11.08	35.22	33.95	-3.61	47.70	45.05	-5.56	45.17	39.84	-11.80
BM1010-168	51.01	36.68	-28.09	40.45	45.67	12.90	37.06	43.51	17.40	46.10	43.17	-6.36	43.66	42.26	-3.20
BM1022-173	54.53	46.00	-15.64	58.23	51.27	-11.95	43.74	39.63	-9.40	51.87	47.60	-8.23	52.09	46.13	-11.46
CYM07-986	38.83	31.81	-18.08	48.15	42.95	-10.80	40.25	33.70	-16.27	43.35	40.17	-7.34	42.65	37.16	-12.87
GU07-2276	67.44	53.44	-20.76	47.12	41.23	-12.50	41.62	46.24	11.10	43.59	41.03	-5.87	49.94	45.49	-8.93
GU07-3774	61.55	50.84	-17.40	34.72	37.07	6.77	37.12	39.30	5.87	40.66	40.05	-1.50	43.51	41.82	-3.90
GU07-3849	65.30	46.36	-29.00	41.98	38.37	-8.60	44.97	37.71	-16.14	42.70	40.45	-5.27	48.74	40.72	-16.45
MA05-99	45.09	40.16	-10.93	45.06	55.43	23.01	30.46	30.57	0.36	50.03	46.01	-8.04	42.66	43.04	0.90
MA05/22	48.96	17.38	-64.50	48.98	43.50	-11.19	49.55	45.81	-7.55	41.21	38.87	-5.68	47.18	36.39	-22.86
MA05/51	40.72	35.00	-14.05	43.84	44.43	1.35	42.20	43.27	2.54	51.51	49.47	-3.96	44.57	43.04	-3.42
MA5/37	42.47	51.93	22.27	44.92	38.47	-14.36	46.59	42.76	-8.22	51.21	49.21	-3.91	46.30	45.59	-1.52
MA5/5	62.87	45.55	-27.55	56.12	49.14	-12.44	45.52	41.23	-9.42	51.56	49.54	-3.92	54.02	46.37	-14.17
PG9869-137	52.34	39.75	-24.05	58.60	49.85	-14.93	41.86	44.21	5.61	48.36	45.67	-5.56	50.29	44.87	-10.78
SA04-390	59.10	46.54	-21.25	54.62	57.39	5.07	49.67	45.64	-8.11	44.97	41.92	-6.78	52.09	47.87	-8.10
SA04-409	39.65	41.09	3.63	40.08	37.41	-6.66	43.20	37.16	-13.98	51.44	48.28	-6.14	43.59	40.99	-5.98
SA04-454	59.18	54.12	-8.55	47.37	47.66	0.61	40.84	37.54	-8.08	47.82	45.17	-5.54	48.80	46.12	-5.49
SA04-458	66.00	43.71	-33.77	45.64	45.02	-1.36	39.44	36.62	-7.15	41.80	38.69	-7.44	48.22	41.01	-14.95
SA04-472	44.19	38.59	-12.67	49.27	40.33	-18.14	36.74	47.48	29.23	39.77	37.76	-5.05	42.49	41.04	-3.42
SA04-496	47.12	47.67	1.17	39.04	41.08	5.23	40.01	40.34	0.82	45.36	40.90	-9.83	42.88	42.50	-0.90
SA98-13	54.28	42.95	-20.87	53.18	47.09	-11.45	46.34	44.48	-4.01	46.89	43.81	-6.57	50.17	44.58	-11.14
Standards															
Check1	52.04	35.88	-31.05	50.24	47.70	-5.06	47.27	51.61	9.18	53.52	50.78	-5.12	50.77	46.49	-8.42
Check2	48.10	43.61	-9.33	49.98	51.99	4.02	44.86	47.58	6.06	53.74	51.70	-3.80	49.17	48.72	-0.92
Check3	49.50	32.64	-34.06	47.17	39.30	-16.68	50.60	48.38	-4.39	51.24	47.30	-7.69	49.63	41.91	-15.56
GM	51.74	39.21	-24.22	46.63	44.42	-4.74	41.88	40.79	-2.60	46.97	44.13	-6.05	46.81	42.14	-9.97
CV	12.84	19.08		2.09	6.12		12.30	4.15		3.95	3.05				

Varietal Improvement Programme- AICRP (Sugarcane)
Principal Investigator's Report (2017-18)
Evaluation and identification of climate resilient ISH and IGH genetic stocks

Table 7.2.11: Cane Length (cm) at harvest

Entry	Karnal			Faridkot			Anakapalle			Padegaon			Mean		
	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change
AS04-1687	273.20	280.20	2.56	278.90	229.50	-17.71	310.80	318.90	2.61	284.70	252.70	-11.24	286.90	270.33	-5.78
AS04-1689	312.70	236.20	-24.46	343.20	304.30	-11.33	253.80	238.30	-6.11	306.40	287.90	-6.04	304.03	266.68	-12.29
AS04-2097	275.90	275.90	0.00	269.50	238.00	-11.69	331.00	345.60	4.41	303.40	293.50	-3.26	294.95	288.25	-2.27
AS04-245	301.60	310.20	2.85	342.00	321.20	-6.08	325.00	288.90	-11.11	297.00	290.00	-2.36	316.40	302.58	-4.37
AS04-635	293.20	266.30	-9.17	306.90	285.90	-6.84	250.10	289.60	15.79	296.70	296.20	-0.17	286.73	284.50	-0.78
BM1003-143	253.10	183.50	-27.50	238.30	204.20	-14.31	240.20	252.00	4.91	294.00	259.50	-11.73	256.40	224.80	-12.32
BM1005-149	207.70	186.20	-10.35	272.00	199.30	-26.73	314.60	284.00	-9.73	253.90	230.40	-9.26	262.05	224.98	-14.15
BM1009-163	266.60	200.20	-24.91	250.30	197.50	-21.09	291.20	202.60	-30.43	304.50	267.50	-12.15	278.15	216.95	-22.00
BM1010-168	288.40	270.90	-6.07	301.20	246.30	-18.23	325.60	284.40	-12.65	291.90	273.50	-6.30	301.78	268.78	-10.94
BM1022-173	235.70	216.30	-8.23	206.10	183.40	-11.01	282.60	322.00	13.94	246.70	206.20	-16.42	242.78	231.98	-4.45
CYM07-986	276.30	282.80	2.35	240.30	227.60	-5.29	237.60	260.40	9.60	207.50	216.00	4.10	240.43	246.70	2.61
GU07-2276	281.00	178.40	-36.51	247.30	240.60	-2.71	355.20	293.70	-17.31	201.20	192.70	-4.22	271.18	226.35	-16.53
GU07-3774	205.10	217.80	6.19	231.10	217.50	-5.88	252.60	239.30	-5.27	178.70	193.70	8.39	216.88	217.08	0.09
GU07-3849	248.80	206.20	-17.12	205.10	183.90	-10.34	210.80	273.00	29.51	210.00	186.00	-11.43	218.68	212.28	-2.93
MA05-99	165.10	263.70	59.72	282.60	210.60	-25.48	311.80	300.00	-3.78	213.70	205.20	-3.98	243.30	244.88	0.65
MA05/22	191.00	148.40	-22.30	215.10	205.10	-4.65	312.70	306.40	-2.01	227.50	206.00	-9.45	236.58	216.48	-8.50
MA05/51	240.10	172.80	-28.03	264.10	193.30	-26.81	288.80	270.60	-6.30	228.70	222.70	-2.62	255.43	214.85	-15.89
MA5/37	211.30	218.40	3.36	189.90	183.30	-3.48	215.20	273.50	27.09	266.20	238.70	-10.33	220.65	228.48	3.55
MA5/5	226.00	208.70	-7.65	205.80	184.50	-10.35	345.50	335.60	-2.87	256.20	231.20	-9.76	258.38	240.00	-7.11
PG9869-137	203.20	213.40	5.02	240.70	136.00	-43.50	223.80	213.10	-4.78	314.70	285.20	-9.37	245.60	211.93	-13.71
SA04-390	153.20	222.80	45.43	243.60	181.90	-25.33	269.30	349.90	29.93	264.20	238.70	-9.65	232.58	248.33	6.77
SA04-409	260.60	233.70	-10.32	244.10	193.10	-20.89	308.00	356.90	15.88	256.50	247.00	-3.70	267.30	257.68	-3.60
SA04-454	188.20	212.70	13.02	256.90	227.40	-11.48	344.30	356.50	3.54	229.20	193.70	-15.49	254.65	247.58	-2.78
SA04-458	165.90	121.30	-26.88	225.40	180.50	-19.92	262.60	277.10	5.52	183.40	166.00	-9.49	209.33	186.23	-11.04
SA04-472	193.20	186.00	-3.73	202.60	182.90	-9.72	243.90	241.70	-0.90	187.20	147.70	-21.10	206.73	189.58	-8.30
SA04-496	168.20	161.30	-4.10	253.70	202.20	-20.30	278.00	278.50	0.18	164.70	142.70	-13.36	216.15	196.18	-9.24
SA98-13	268.40	155.90	-41.92	216.20	183.80	-14.99	321.00	243.50	-24.14	223.40	213.50	-4.43	257.25	199.18	-22.58
Standards															
Check1	165.10	242.70	47.00	269.30	190.60	-29.22	278.00	250.70	-9.82	250.00	231.00	-7.60	240.60	228.75	-4.93
Check2	273.80	177.70	-35.10	211.10	172.90	-18.10	316.60	215.40	-31.96	246.20	215.20	-12.59	261.93	195.30	-25.44
Check3	141.00	278.40	97.45	271.60	198.80	-26.80	187.50	214.00	14.13	233.70	153.70	-34.23	208.45	211.23	1.33
GM	231.10	217.60	-5.84	250.80	210.20	-16.19	282.90	279.20	-1.31	247.45	226.17	-8.60	253.06	233.29	-7.81
CV	10.79	21.41		3.30	3.66		14.61	4.51		1.78	8.12				

Varietal Improvement Programme- AICRP (Sugarcane)
Principal Investigator's Report (2017-18)
Evaluation and identification of climate resilient ISH and IGH genetic stocks

Table 7.2.12: Cane Diameter (cm) at harvest

Entry	Karnal			Faridkot			Anapakalle			Padegaon			Mean		
	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change
AS04-1687	1.72	1.90	10.47	1.83	1.92	4.92	1.56	1.36	-12.82	2.25	2.03	-9.78	1.84	1.80	-2.04
AS04-1689	1.91	1.93	1.05	1.86	2.08	11.83	1.97	2.25	14.21	2.38	2.95	23.95	2.03	2.30	13.42
AS04-2097	1.95	2.24	14.87	2.10	2.05	-2.38	2.08	1.78	-14.42	2.84	2.70	-4.93	2.24	2.19	-2.23
AS04-245	1.49	1.57	5.37	1.65	1.62	-1.82	1.77	1.29	-27.12	2.19	2.07	-5.48	1.78	1.64	-7.75
AS04-635	1.76	1.46	-17.05	1.92	1.72	-10.42	1.85	1.14	-38.38	2.75	2.47	-10.18	2.07	1.70	-18.00
BM1003-143	2.33	2.08	-10.73	2.47	2.28	-7.69	2.36	2.24	-5.08	3.24	3.18	-1.85	2.60	2.45	-5.96
BM1005-149	2.28	2.07	-9.21	2.43	2.33	-4.12	1.90	2.47	30.00	3.38	3.25	-3.85	2.50	2.53	1.30
BM1009-163	2.11	2.30	9.00	2.10	2.19	4.29	1.62	1.25	-22.84	3.24	3.22	-0.62	2.27	2.24	-1.21
BM1010-168	1.82	1.97	8.24	1.88	2.13	13.30	1.65	1.81	9.70	3.29	3.10	-5.78	2.16	2.25	4.28
BM1022-173	2.49	2.59	4.02	2.76	2.64	-4.35	2.47	2.36	-4.45	3.55	3.52	-0.85	2.82	2.78	-1.42
CYM07-986	1.80	1.98	10.00	2.43	2.19	-9.88	1.47	1.40	-4.76	2.28	2.41	5.70	2.00	2.00	0.00
GU07-2276	2.24	2.53	12.95	2.15	1.74	-19.07	2.24	2.23	-0.45	3.06	3.03	-0.98	2.42	2.38	-1.65
GU07-3774	1.50	2.16	44.00	1.64	1.86	13.41	1.79	1.72	-3.91	2.46	1.66	-32.52	1.85	1.85	0.14
GU07-3849	1.49	1.85	24.16	1.78	1.87	5.06	1.73	1.87	8.09	2.78	2.51	-9.71	1.95	2.03	4.11
MA05-99	1.85	2.30	24.32	2.57	2.39	-7.00	1.44	1.40	-2.78	3.31	3.28	-0.91	2.29	2.34	2.18
MA05/22	2.78	1.41	-49.28	2.48	2.37	-4.44	2.42	2.11	-12.81	3.13	3.06	-2.24	2.70	2.24	-17.21
MA05/51	2.24	1.58	-29.46	2.37	2.39	0.84	2.04	2.11	3.43	2.91	3.03	4.12	2.39	2.28	-4.71
MA5/37	2.52	2.54	0.79	2.61	2.46	-5.75	2.04	1.74	-14.71	2.86	2.76	-3.50	2.51	2.38	-5.28
MA5/5	2.16	2.60	20.37	2.59	2.56	-1.16	2.38	2.15	-9.66	3.21	2.96	-7.79	2.59	2.57	-0.68
PG9869-137	2.47	2.36	-4.45	2.56	2.31	-9.77	2.19	2.63	20.09	4.45	4.03	-9.44	2.92	2.83	-2.91
SA04-390	2.42	2.23	-7.85	2.61	2.49	-4.60	1.94	1.84	-5.15	3.35	3.12	-6.87	2.58	2.42	-6.20
SA04-409	2.22	2.31	4.05	2.34	2.31	-1.28	1.90	2.01	5.79	3.29	3.08	-6.38	2.44	2.43	-0.41
SA04-454	2.56	2.37	-7.42	1.77	2.12	19.77	2.25	2.11	-6.22	3.35	3.27	-2.39	2.48	2.47	-0.60
SA04-458	2.44	2.42	-0.82	2.33	2.53	8.58	1.53	1.47	-3.92	3.34	3.10	-7.19	2.41	2.38	-1.24
SA04-472	2.24	1.87	-16.52	2.30	2.16	-6.09	1.40	2.23	59.29	3.25	2.68	-17.54	2.30	2.24	-2.72
SA04-496	2.27	2.41	6.17	2.18	2.14	-1.83	1.83	1.94	6.01	2.95	2.78	-5.76	2.31	2.32	0.43
SA98-13	2.34	1.92	-17.95	2.48	2.58	4.03	2.03	1.95	-3.94	3.14	2.85	-9.24	2.50	2.33	-6.91
Standards															
Check1	2.50	2.12	-15.20	1.97	2.25	14.21	1.86	1.57	-15.59	3.83	3.26	-14.88	2.54	2.30	-9.45
Check2	2.00	2.35	17.50	2.45	2.49	1.63	2.28	1.74	-23.68	4.36	3.98	-8.72	2.77	2.64	-4.78
Check3	1.86	2.21	18.82	2.25	1.99	-11.56	2.41	2.57	6.64	3.71	3.11	-16.17	2.56	2.47	-3.42
GM	2.13	2.12	-0.47	2.23	2.21	-0.90	1.95	1.89	-3.08	3.14	2.95	-6.05	2.36	2.29	-2.96
CV	7.17	13.80		5.00	4.56		22.30	6.98		1.80	10.90				

Varietal Improvement Programme- AICRP (Sugarcane)
Principal Investigator's Report (2017-18)
Evaluation and identification of climate resilient ISH and IGH genetic stocks

Table 7.2.13: Number of Internodes at harvest

Entry	Karnal			Faridkot			Anakapalle			Padegaon			Mean		
	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change
AS04-1687	28.22	25.58	-9.36				22.78	24.70	8.43	21.84	17.50	-19.87	24.28	22.59	-6.95
AS04-1689	19.69	14.71	-25.29				19.67	25.83	31.32	24.58	19.63	-20.14	21.31	20.06	-5.90
AS04-2097	20.77	22.18	6.79				21.73	20.33	-6.44	21.40	18.53	-13.41	21.30	20.35	-4.48
AS04-245	15.92	25.40	59.55				23.21	20.13	-13.27	22.29	16.38	-26.51	20.47	20.64	0.80
AS04-635	30.36	18.75	-38.24				18.49	15.97	-13.63	23.76	20.47	-13.85	24.20	18.40	-23.99
BM1003-143	23.66	15.72	-33.56				19.13	19.54	2.14	21.63	19.00	-12.16	21.47	18.09	-15.77
BM1005-149	22.03	17.71	-19.61				22.67	19.83	-12.53	22.58	18.13	-19.71	22.43	18.56	-17.26
BM1009-163	17.98	19.24	7.01				19.21	18.63	-3.02	19.79	15.88	-19.76	18.99	17.92	-5.67
BM1010-168	18.58	24.18	30.14				20.23	20.83	2.97	20.90	17.53	-16.12	19.90	20.85	4.74
BM1022-173	26.53	22.25	-16.13				18.49	18.47	-0.11	20.26	16.47	-18.71	21.76	19.06	-12.39
CYM07-986	22.22	19.28	-13.23				18.60	16.83	-9.52	22.52	16.34	-27.44	21.11	17.48	-17.19
GU07-2276	23.12	14.52	-37.20				22.09	19.26	-12.81	24.03	18.50	-23.01	23.08	17.43	-24.49
GU07-3774	19.99	17.78	-11.06				19.80	17.91	-9.55	21.95	15.16	-30.93	20.58	16.95	-17.64
GU07-3849	23.56	19.03	-19.23				20.60	22.33	8.40	23.52	16.84	-28.40	22.56	19.40	-14.01
MA05-99	21.99	22.20	0.95				14.80	14.91	0.74	23.53	17.50	-25.63	20.11	18.20	-9.47
MA05/22	17.12	17.68	3.27				20.59	20.26	-1.60	20.02	14.84	-25.87	19.24	17.59	-8.57
MA05/51	17.99	14.11	-21.57				19.30	16.41	-14.97	21.53	16.50	-23.36	19.61	15.67	-20.06
MA5/37	19.22	12.52	-34.86				18.60	21.83	17.37	22.45	17.66	-21.34	20.09	17.34	-13.70
MA5/5	17.95	20.53	14.37				24.59	26.26	6.79	20.95	15.16	-27.64	21.16	20.65	-2.43
PG9869-137	22.39	15.52	-30.68				16.28	15.20	-6.63	23.34	18.50	-20.74	20.67	16.41	-20.63
SA04-390	22.36	18.45	-17.49				18.99	19.97	5.16	23.26	18.97	-18.44	21.54	19.13	-11.17
SA04-409	16.33	22.70	39.01				18.63	19.54	4.88	23.63	19.00	-19.59	19.53	20.41	4.52
SA04-454	17.20	20.58	19.65				20.99	18.97	-9.62	19.26	17.47	-9.29	19.15	19.01	-0.75
SA04-458	18.58	14.25	-23.30				17.73	18.83	6.20	21.90	17.03	-22.24	19.40	16.70	-13.92
SA04-472	19.05	15.06	-20.94				15.78	19.20	21.67	20.84	16.50	-20.83	18.56	16.92	-8.82
SA04-496	24.55	16.91	-31.12				18.28	16.70	-8.64	21.34	15.00	-29.71	21.39	16.20	-24.25
SA98-13	18.08	17.68	-2.21				18.73	16.33	-12.81	23.40	17.53	-25.09	20.07	17.18	-14.40
Standards															
Check1	17.66	16.08	-8.95				19.80	17.91	-9.55	23.02	18.34	-20.33	20.16	17.44	-13.48
Check2	25.50	21.58	-15.37				21.59	19.26	-10.79	24.53	19.00	-22.54	23.87	19.95	-16.45
Check3	13.95	19.84	42.22				20.10	21.83	8.61	23.45	16.66	-28.96	19.17	19.44	1.44
GM	20.75	18.73	-9.73				19.72	19.47	-1.27	22.25	17.40	-21.80	20.91	18.53	-11.35
CV	16.22	16.50					13.54	8.73		3.18	6.51				

Varietal Improvement Programme- AICRP (Sugarcane)
Principal Investigator's Report (2017-18)
Evaluation and identification of climate resilient ISH and IGH genetic stocks

Table 7.2.14: Cane Fibre % at harvest

Entry	Karnal			Faridkot			Anakapalle			Padegaon			Mean		
	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change
AS04-1687	21.32	26.36	23.64				20.23	19.18	-5.19	22.12	23.13	4.57	21.22	22.89	7.85
AS04-1689	15.96	16.07	0.69				19.63	18.97	-3.36	20.50	19.56	-4.59	18.70	18.20	-2.66
AS04-2097	18.67	14.46	-22.55				18.66	18.43	-1.23	19.91	21.24	6.68	19.08	18.04	-5.43
AS04-245	27.41	27.47	0.22				17.15	17.55	2.33	17.62	25.23	43.19	20.73	23.42	12.98
AS04-635	23.72	19.68	-17.03				19.53	20.90	7.01	22.43	21.61	-3.66	21.89	20.73	-5.31
BM1003-143	14.88	14.46	-2.82				19.31	19.69	1.97	16.51	15.98	-3.21	16.90	16.71	-1.12
BM1005-149	16.06	15.77	-1.81				18.30	18.55	1.37	17.11	18.31	7.01	17.16	17.54	2.25
BM1009-163	17.56	15.07	-14.18				19.48	20.82	6.88	15.51	16.24	4.71	17.52	17.38	-0.80
BM1010-168	14.92	12.36	-17.16				16.90	16.93	0.18	14.90	15.41	3.42	15.57	14.90	-4.32
BM1022-173	14.21	14.18	-0.21				17.59	17.40	-1.08	14.48	15.63	7.94	15.43	15.74	2.01
CYM07-986	20.27	20.97	3.45				19.02	19.67	3.42	20.97	26.47	26.23	20.09	22.37	11.37
GU07-2276	18.01	12.85	-28.65				20.03	20.94	4.54	17.24	17.42	1.04	18.43	17.07	-7.36
GU07-3774	19.02	19.77	3.94				18.27	18.96	3.78	19.00	19.79	4.16	18.76	19.51	3.96
GU07-3849	21.27	13.48	-36.62				19.14	19.20	0.31	20.49	20.27	-1.07	20.30	17.65	-13.05
MA05-99	12.07	17.48	44.82				18.98	19.66	3.58	16.23	17.41	7.27	15.76	18.18	15.38
MA05/22	15.91	19.35	21.62				20.78	21.04	1.25	14.71	13.95	-5.17	17.13	18.11	5.72
MA05/51	16.92	16.27	-3.84				19.03	19.61	3.05	16.15	18.28	13.19	17.37	18.05	3.95
MA5/37	11.27	10.15	-9.94				17.99	18.79	4.45	21.86	16.29	-25.48	17.04	15.08	-11.52
MA5/5	18.21	12.48	-31.47				19.34	18.65	-3.57	14.22	14.46	1.69	17.26	15.20	-11.94
PG9869-137	11.34	14.25	25.66				18.65	18.07	-3.11	16.62	14.70	-11.55	15.54	15.67	0.88
SA04-390	18.52	10.57	-42.93				16.97	17.42	2.65	17.10	16.71	-2.28	17.53	14.90	-15.00
SA04-409	17.28	15.68	-9.26				18.35	17.64	-3.87	13.12	14.42	9.91	16.25	15.91	-2.07
SA04-454	13.22	11.11	-15.96				17.92	18.51	3.29	18.73	14.21	-24.13	16.62	14.61	-12.11
SA04-458	11.27	15.48	37.36				20.72	19.40	-6.37	16.37	13.83	-15.52	16.12	16.24	0.72
SA04-472	17.92	13.96	-22.10				21.03	20.37	-3.14	19.05	18.54	-2.68	19.33	17.62	-8.84
SA04-496	16.12	11.88	-26.30				19.35	20.16	4.19	15.49	16.55	6.84	16.99	16.20	-4.65
SA98-13	18.07	10.96	-39.35				16.33	17.52	7.29	15.45	15.66	1.36	16.62	14.71	-11.45
Standards															
Check1	13.32	17.36	30.33				17.08	18.10	5.97	15.54	14.02	-9.78	15.31	16.49	7.71
Check2	19.27	17.56	-8.87				17.92	18.30	2.12	15.19	13.95	-8.16	17.46	16.60	-4.91
Check3	15.21	14.16	-6.90				17.28	17.44	0.93	14.37	14.28	-0.63	15.62	15.29	-2.09
GM	16.97	15.72	-7.37				18.70	18.93	1.23	17.30	17.45	0.87	17.66	17.37	-1.64
CV	6.07	6.93					7.73	2.04		10.05	3.54				

Varietal Improvement Programme- AICRP (Sugarcane)
Principal Investigator's Report (2017-18)
Evaluation and identification of climate resilient ISH and IGH genetic stocks

Table 7.2.15: Cane yield (t/ha) at harvest

Entry	Karnal			Faridkot			Anakapalle			Padegaon			Mean		
	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change
AS04-1687	152.20	134.10	-11.89	141.30	99.83	-29.35	75.34	73.23	-2.80	144.00	120.30	-16.46	128.21	106.87	-16.65
AS04-1689	186.10	123.60	-33.58	276.70	237.50	-14.17	111.40	77.41	-30.51	149.10	96.53	-35.26	180.83	133.76	-26.03
AS04-2097	174.00	105.50	-39.37	100.90	59.66	-40.87	78.79	45.05	-42.82	165.00	119.00	-27.88	129.67	82.30	-36.53
AS04-245	163.60	75.40	-53.91	108.90	92.78	-14.80	78.73	45.05	-42.78	163.30	134.80	-17.45	128.63	87.01	-32.36
AS04-635	163.80	123.80	-24.42	263.60	216.00	-18.06	119.80	63.96	-46.61	154.20	148.40	-3.76	175.35	138.04	-21.28
BM1003-143	69.42	25.41	-63.40	161.70	70.43	-56.44	63.77	53.18	-16.61	166.30	105.60	-36.50	115.30	63.66	-44.79
BM1005-149	54.88	33.71	-38.58	152.20	79.75	-47.60	89.55	77.24	-13.75	111.80	92.34	-17.41	102.11	70.76	-30.70
BM1009-163	44.96	17.83	-60.34	61.55	52.04	-15.45	95.25	37.05	-61.10	77.01	52.12	-32.32	69.69	39.76	-42.95
BM1010-168	149.70	131.80	-11.96	71.31	52.25	-26.73	82.14	49.53	-39.70	159.40	136.90	-14.12	115.64	92.62	-19.90
BM1022-173	84.77	53.92	-36.39	132.50	60.51	-54.33	51.33	69.09	34.60	91.58	65.13	-28.88	90.05	62.16	-30.97
CYM07-986	142.30	131.30	-7.73	143.00	95.40	-33.29	97.88	51.82	-47.06	136.50	78.65	-42.38	129.92	89.29	-31.27
GU07-2276	140.70	60.46	-57.03	69.51	43.81	-36.97	97.57	60.93	-37.55	114.90	89.94	-21.72	105.67	63.79	-39.64
GU07-3774	97.01	60.62	-37.51	114.00	82.27	-27.83	73.71	41.85	-43.22	95.80	53.31	-44.35	95.13	59.51	-37.44
GU07-3849	53.68	15.17	-71.74	71.96	43.55	-39.48	53.49	62.01	15.93	146.70	104.90	-28.49	81.46	56.41	-30.75
MA05-99	17.88	96.68	440.72	97.66	85.29	-12.67	76.02	55.73	-26.69	129.10	107.40	-16.81	80.17	86.28	7.62
MA05/22	99.54	35.41	-64.43	34.19	19.11	-44.11	51.10	63.54	24.34	50.04	40.89	-18.29	58.72	39.74	-32.32
MA05/51	72.97	45.64	-37.45	48.77	23.81	-51.18	69.30	69.65	0.51	151.00	86.22	-42.90	85.51	56.33	-34.12
MA5/37	55.60	8.54	-84.64	33.35	18.56	-44.35	47.09	43.89	-6.80	73.28	43.66	-40.42	52.33	28.66	-45.23
MA5/5	52.43	42.21	-19.49	65.94	5.23	-92.07	60.39	48.84	-19.13	97.33	54.16	-44.35	69.02	37.61	-45.51
PG9869-137	19.09	14.72	-22.89	11.73	11.68	-0.43	41.76	16.66	-60.11	51.54	42.40	-17.73	31.03	21.37	-31.15
SA04-390	25.31	35.94	42.00	88.07	56.81	-35.49	61.51	75.93	23.44	54.01	45.78	-15.24	57.23	53.62	-6.31
SA04-409	65.09	34.97	-46.27	53.58	39.32	-26.61	42.27	79.85	88.90	129.70	121.60	-6.25	72.66	68.94	-5.13
SA04-454	38.66	4.84	-87.48	139.10	41.25	-70.35	48.78	37.77	-22.57	73.16	59.75	-18.33	74.93	35.90	-52.08
SA04-458	37.04	6.20	-83.26	86.13	54.47	-36.76	98.50	31.25	-68.27	71.53	44.22	-38.18	73.30	34.04	-53.57
SA04-472	51.02	23.46	-54.02	68.02	48.72	-28.37	25.24	58.44	131.54	118.00	48.82	-58.63	65.57	44.86	-31.58
SA04-496	39.17	12.06	-69.21	73.21	39.83	-45.59	84.54	87.19	3.13	58.66	41.05	-30.02	63.90	45.03	-29.52
SA98-13	114.10	23.86	-79.09	20.94	8.55	-59.17	29.14	51.02	75.09	58.49	34.74	-40.61	55.67	29.54	-46.93
Standards															
Check1	105.30	36.55	-65.29	110.30	60.04	-45.57	45.43	45.59	0.35	129.90	133.00	2.39	97.73	68.80	-29.61
Check2	70.26	22.31	-68.25	63.58	35.66	-43.91	47.72	33.79	-29.19	161.40	147.70	-8.49	85.74	59.87	-30.18
Check3	27.31	28.88	5.75	107.50	54.66	-49.15	50.20	56.87	13.29	128.60	107.30	-16.56	78.40	61.93	-21.01
GM	85.61	52.18	-39.05	99.06	62.96	-36.44	68.26	55.45	-18.77	113.74	85.23	-25.07	91.67	63.96	-30.23
CV	17.60	26.49		23.26	18.93		30.31	34.86		17.19	15.51				

Varietal Improvement Programme- AICRP (Sugarcane)
 Principal Investigator's Report (2017-18)
 Evaluation and identification of climate resilient ISH and IGH genetic stocks
 Table 7.2.16: CCS% at harvest

Entry	Karnal			Faridkot			Anakapalle			Padegaon			Mean		
	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change
AS04-1687				6.65	6.66	0.15				11.81	8.82	-25.32	9.23	7.74	-16.14
AS04-1689				6.56	7.39	12.65				13.65	10.80	-20.88	10.11	9.10	-10.00
AS04-2097				7.43	8.00	7.67				12.14	6.59	-45.72	9.79	7.30	-25.45
AS04-245				7.70	6.29	-18.31				11.42	8.30	-27.32	9.56	7.30	-23.69
AS04-635				7.36	8.18	11.14				9.11	7.67	-15.81	8.24	7.93	-3.76
BM1003-143				8.32	9.90	18.99				9.79	13.50	37.90	9.06	11.70	29.21
BM1005-149				9.70	10.90	12.37				13.40	14.70	9.70	11.55	12.80	10.82
BM1009-163				7.64	10.90	42.67				10.25	14.00	36.59	8.95	12.45	39.18
BM1010-168				6.66	8.57	28.68				9.52	10.40	9.24	8.09	9.49	17.24
BM1022-173				8.60	7.97	-7.33				7.57	12.00	58.52	8.09	9.99	23.50
CYM07-986				8.17	6.98	-14.57				10.85	8.21	-24.33	9.51	7.60	-20.14
GU07-2276				7.27	8.15	12.10				12.55	10.00	-20.32	9.91	9.08	-8.43
GU07-3774				7.52	8.46	12.50				14.45	8.96	-37.99	10.99	8.71	-20.71
GU07-3849				6.89	8.41	22.06				11.30	12.00	6.19	9.10	10.21	12.20
MA05-99				9.03	8.23	-8.86				11.91	12.00	0.76	10.47	10.12	-3.39
MA05/22				8.39	8.13	-3.10				10.55	10.30	-2.37	9.47	9.22	-2.69
MA05/51				9.38	9.64	2.77				12.59	11.10	-11.83	10.99	10.37	-5.60
MA5/37				6.84	10.20	49.12				11.13	10.20	-8.36	8.99	10.20	13.52
MA5/5				10.40	10.60	1.92				12.57	12.20	-2.94	11.49	11.40	-0.74
PG9869-137				8.64	7.41	-14.24				12.89	12.00	-6.90	10.77	9.71	-9.85
SA04-390				10.70	9.31	-12.99				12.51	13.10	4.72	11.61	11.21	-3.45
SA04-409				8.22	8.52	3.65				10.68	13.80	29.21	9.45	11.16	18.10
SA04-454				6.68	6.65	-0.45				12.11	13.00	7.35	9.40	9.83	4.58
SA04-458				11.30	11.00	-2.65				11.21	13.10	16.86	11.26	12.05	7.06
SA04-472				10.10	10.20	0.99				11.59	13.30	14.75	10.85	11.75	8.34
SA04-496				10.40	7.64	-26.54				15.00	12.60	-16.00	12.70	10.12	-20.31
SA98-13				9.25	10.40	12.43				14.23	12.50	-12.16	11.74	11.45	-2.47
Standards															
Check1				11.60	11.10	-4.31				11.06	13.80	24.77	11.33	12.45	9.89
Check2				10.40	11.00	5.77				9.43	12.70	34.68	9.92	11.85	19.52
Check3				10.60	8.65	-18.40				11.31	12.70	12.29	10.96	10.68	-2.56
GM				8.63	8.86	2.67				11.62	11.50	-1.03	10.13	10.18	0.54
CV				2.17	2.14					19.51	8.83				

Varietal Improvement Programme- AICRP (Sugarcane)
Principal Investigator's Report (2017-18)
Evaluation and identification of climate resilient ISH and IGH genetic stocks

Table 7.2.17: Purity % at harvest

Entry	Karnal			Faridkot			Anakapalle			Padegaon			Mean		
	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change
AS04-1687	71.51	80.55	12.64	83.07	83.03	-0.05				82.41	80.41	-2.43	79.00	81.33	2.95
AS04-1689	73.02	75.91	3.96	83.17	88.80	6.77				85.82	90.05	4.93	80.67	84.92	5.27
AS04-2097	83.21	77.31	-7.09	82.22	82.82	0.73				82.82	78.59	-5.11	82.75	79.57	-3.84
AS04-245	81.16	79.80	-1.68	88.06	73.85	-16.14				82.45	77.45	-6.06	83.89	77.03	-8.17
AS04-635	83.08	78.80	-5.15	78.18	85.40	9.24				81.52	77.74	-4.64	80.93	80.65	-0.35
BM1003-143	87.67	88.29	0.71	80.51	85.52	6.22				92.52	94.42	2.05	86.90	89.41	2.89
BM1005-149	89.05	91.36	2.59	86.97	89.42	2.82				91.71	94.43	2.97	89.24	91.74	2.79
BM1009-163	90.61	90.22	-0.43	81.67	89.65	9.77				95.88	93.03	-2.97	89.39	90.97	1.77
BM1010-168	84.99	87.16	2.55	82.73	86.65	4.74				89.27	88.08	-1.33	85.66	87.30	1.91
BM1022-173	95.79	89.28	-6.80	84.97	85.98	1.19				90.04	92.37	2.59	90.27	89.21	-1.17
CYM07-986	85.13	82.19	-3.45	82.97	76.91	-7.30				82.05	77.57	-5.46	83.38	78.89	-5.39
GU07-2276	80.49	91.54	13.73	80.95	81.66	0.88				81.42	88.84	9.11	80.95	87.35	7.90
GU07-3774	85.09	91.16	7.13	85.58	88.27	3.14				87.02	85.54	-1.70	85.90	88.32	2.83
GU07-3849	86.87	93.22	7.31	71.64	83.01	15.87				88.23	88.62	0.44	82.25	88.28	7.34
MA05-99	88.13	85.61	-2.86	87.85	87.67	-0.20				87.67	87.92	0.29	87.88	87.07	-0.93
MA05/22	90.24	89.62	-0.69	77.64	76.39	-1.61				90.19	85.57	-5.12	86.02	83.86	-2.51
MA05/51	88.84	82.98	-6.60	84.89	85.52	0.74				89.00	87.94	-1.19	87.58	85.48	-2.39
MA5/37	92.60	84.02	-9.27	76.72	83.28	8.55				88.21	84.87	-3.79	85.84	84.06	-2.08
MA5/5	88.04	89.83	2.03	90.66	90.28	-0.42				89.39	90.55	1.30	89.36	90.22	0.96
PG9869-137	85.87	85.92	0.06	80.09	77.01	-3.85				87.84	88.05	0.24	84.60	83.66	-1.11
SA04-390	90.35	85.97	-4.85	88.47	83.45	-5.67				89.12	91.12	2.24	89.31	86.85	-2.76
SA04-409	92.01	88.54	-3.77	79.88	74.85	-6.30				91.69	90.62	-1.17	87.86	84.67	-3.63
SA04-454	91.29	14.56	-84.05	82.96	79.98	-3.59				78.20	94.92	21.38	84.15	63.15	-24.95
SA04-458	92.01	87.73	-4.65	86.97	84.14	-3.25				89.15	93.42	4.79	89.38	88.43	-1.06
SA04-472	90.42	88.24	-2.41	82.47	83.55	1.31				88.65	89.72	1.21	87.18	87.17	-0.01
SA04-496	92.33	88.76	-3.87	88.86	82.45	-7.21				89.98	87.86	-2.36	90.39	86.36	-4.46
SA98-13	59.00	88.00	49.15	84.97	90.60	6.63				89.77	89.96	0.21	77.91	89.52	14.90
Standards															
Check1	88.33	82.11	-7.04	81.84	87.92	7.43				91.40	95.57	4.56	87.19	88.53	1.54
Check2	93.88	89.55	-4.61	84.13	88.51	5.21				92.79	91.25	-1.66	90.27	89.77	-0.55
Check3	92.77	82.74	-10.81	87.66	84.58	-3.51				92.48	93.36	0.95	90.97	86.89	-4.48
GM	86.46	83.70	-3.19	83.29	84.04	0.90				87.96	88.33	0.42	85.90	85.36	-0.64
CV	2.74	3.08		0.88	0.60					4.01	4.99				

Varietal Improvement Programme- AICRP (Sugarcane)
Principal Investigator's Report (2017-18)
Evaluation and identification of climate resilient ISH and IGH genetic stocks

Table 7.2.18: Tiller mortality

Entry	Karnal			Faridkot			Anakapalle			Padegaon			Mean		
	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change
AS04-1687				41.40	46.98	13.48	48.49	37.75	-22.15	49.83	22.44	-54.97	46.57	35.72	-23.30
AS04-1689				38.61	34.38	-10.96	50.27	42.89	-14.68	37.52	59.14	57.62	42.13	45.47	7.92
AS04-2097				51.66	49.07	-5.01	54.69	55.67	1.79	23.00	26.44	14.96	43.12	43.73	1.41
AS04-245				40.36	51.56	27.75	67.40	50.42	-25.19	41.11	39.76	-3.28	49.62	47.25	-4.79
AS04-635				37.24	31.60	-15.15	47.63	48.59	2.02	45.60	45.04	-1.23	43.49	41.74	-4.02
BM1003-143				48.15	50.02	3.88	58.80	40.44	-31.22	23.85	41.83	75.39	43.60	44.10	1.14
BM1005-149				48.18	49.55	2.84	38.83	29.80	-23.26	48.40	39.19	-19.03	45.14	39.51	-12.46
BM1009-163				56.94	48.00	-15.70	37.08	53.14	43.31	75.25	74.53	-0.96	56.42	58.56	3.78
BM1010-168				44.88	62.68	39.66	59.27	56.63	-4.45	38.56	27.98	-27.44	47.57	49.10	3.21
BM1022-173				35.14	48.42	37.79	51.92	41.81	-19.47	55.67	62.49	12.25	47.58	50.91	7.00
CYM07-986				36.37	34.61	-4.84	55.34	46.99	-15.09	29.41	44.03	49.71	40.37	41.88	3.72
GU07-2276				37.59	42.94	14.23	44.61	46.37	3.95	62.39	66.27	6.22	48.20	51.86	7.60
GU07-3774				19.18	34.51	79.93	39.62	50.09	26.43	43.47	69.12	59.01	34.09	51.24	50.31
GU07-3849				40.14	49.19	22.55	48.09	42.40	-11.83	52.24	59.17	13.27	46.82	50.25	7.33
MA05-99				44.45	51.90	16.76	53.44	50.57	-5.37	54.10	61.90	14.42	50.66	54.79	8.15
MA05/22				44.31	49.70	12.16	46.88	42.92	-8.45	60.11	41.40	-31.13	50.43	44.67	-11.42
MA05/51				43.91	32.40	-26.21	50.68	32.41	-36.05	34.84	44.91	28.90	43.14	36.57	-15.23
MA5/37				26.65	45.06	69.08	42.69	41.09	-3.75	45.86	59.67	30.11	38.40	48.61	26.58
MA5/5				57.94	79.65	37.47	45.23	52.43	15.92	58.12	64.49	10.96	53.76	65.52	21.87
PG9869-137				43.61	58.92	35.11	43.40	63.24	45.71	46.68	49.46	5.96	44.56	57.21	28.37
SA04-390				52.82	63.21	19.67	53.66	28.12	-47.60	67.61	75.25	11.30	58.03	55.53	-4.31
SA04-409				44.98	51.40	14.27	59.67	33.40	-44.03	38.29	32.78	-14.39	47.65	39.19	-17.74
SA04-454				31.80	63.83	100.72	53.77	48.86	-9.13	42.68	58.11	36.15	42.75	56.93	33.18
SA04-458				60.28	54.39	-9.77	52.92	70.96	34.09	67.21	36.62	-45.51	60.14	53.99	-10.22
SA04-472				46.06	43.84	-4.82	50.69	46.05	-9.15	41.91	69.22	65.16	46.22	53.04	14.75
SA04-496				33.89	45.63	34.64	34.17	17.37	-49.17	50.12	66.75	33.18	39.39	43.25	9.79
SA98-13				17.86	45.28	153.53	54.38	44.24	-18.65	64.93	73.00	12.43	45.72	54.17	18.48
Standards															
Check1				52.07	51.72	-0.67	52.38	48.22	-7.94	48.63	31.50	-35.23	51.03	43.81	-14.14
Check2				66.06	67.05	1.50	43.68	50.43	15.45	59.51	48.23	-18.95	56.42	55.24	-2.09
Check3				41.08	49.94	21.57	51.97	44.62	-14.14	43.55	42.74	-1.86	45.53	45.77	0.51
GM				42.79	49.58	15.87	49.72	45.26	-8.97	48.35	51.12	5.73	46.95	48.65	3.62
CV				12.12	10.13		25.47	25.83		13.54	17.43				

Varietal Improvement Programme- AICRP (Sugarcane)
 Principal Investigator's Report (2017-18)
 Evaluation and identification of climate resilient ISH and IGH genetic stocks
 Table 7.2.19: Relative Water Content before imposition of drought

Entry	Karnal			Faridkot			Anakapalle			Padegaon			Mean		
	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change
AS04-1687	84.04	84.56	0.62	58.08	63.75	9.76				74.05	79.81	7.78	72.06	76.04	5.53
AS04-1689	85.51	86.36	0.99	57.85	43.38	-25.01				76.87	79.52	3.45	73.41	69.75	-4.98
AS04-2097	85.87	88.29	2.82	60.92	67.95	11.54				72.48	74.15	2.30	73.09	76.80	5.07
AS04-245	93.15	93.58	0.46	75.25	65.74	-12.64				79.87	79.75	-0.15	82.76	79.69	-3.71
AS04-635	85.44	82.30	-3.68	45.25	69.75	54.14				80.83	80.73	-0.12	70.51	77.59	10.05
BM1003-143	90.10	90.61	0.57	75.24	70.11	-6.82				81.83	79.25	-3.15	82.39	79.99	-2.91
BM1005-149	87.96	88.11	0.17	82.94	68.35	-17.59				84.44	83.48	-1.14	85.11	79.98	-6.03
BM1009-163	87.55	87.13	-0.48	85.11	64.81	-23.85				88.47	85.76	-3.06	87.04	79.23	-8.97
BM1010-168	91.07	90.94	-0.14	64.61	70.04	8.40				81.89	79.64	-2.75	79.19	80.21	1.28
BM1022-173	92.04	90.90	-1.24	85.44	70.43	-17.57				88.63	84.73	-4.40	88.70	82.02	-7.53
CYM07-986	92.67	91.10	-1.69	83.18	68.60	-17.53				90.79	87.16	-4.00	88.88	82.29	-7.42
GU07-2276	88.56	90.06	1.69	77.33	64.60	-16.46				83.58	83.19	-0.47	83.16	79.28	-4.66
GU07-3774	89.92	86.00	-4.36	75.76	74.71	-1.39				76.44	81.06	6.04	80.71	80.59	-0.14
GU07-3849	87.07	95.83	10.06	84.34	80.01	-5.13				88.84	88.65	-0.21	86.75	88.16	1.63
MA05-99	89.92	87.93	-2.21	74.53	69.64	-6.56				89.35	87.81	-1.72	84.60	81.79	-3.32
MA05/22	88.56	89.66	1.24	78.03	70.19	-10.05				87.79	84.63	-3.60	84.79	81.49	-3.89
MA05/51	89.92	86.65	-3.64	83.47	69.51	-16.72				93.15	88.36	-5.14	88.85	81.51	-8.26
MA5/37	90.17	91.26	1.21	75.57	68.93	-8.79				78.60	83.57	6.32	81.45	81.25	-0.24
MA5/5	90.56	88.08	-2.74	73.70	69.06	-6.30				84.78	84.65	-0.15	83.01	80.60	-2.91
PG9869-137	91.29	89.36	-2.11	82.65	74.40	-9.98				91.99	89.09	-3.15	88.64	84.28	-4.92
SA04-390	85.34	89.10	4.41	79.92	73.46	-8.08				88.50	84.27	-4.78	84.59	82.28	-2.73
SA04-409	91.30	89.73	-1.72	72.18	74.81	3.64				82.84	81.11	-2.09	82.11	81.88	-0.27
SA04-454	87.24	90.11	3.29	72.42	66.58	-8.06				89.42	83.38	-6.75	83.03	80.02	-3.62
SA04-458	88.17	84.90	-3.71	62.58	80.14	28.06				85.37	85.81	0.52	78.71	83.62	6.24
SA04-472	89.39	93.61	4.72	83.59	71.51	-14.45				81.90	85.17	3.99	84.96	83.43	-1.80
SA04-496	91.09	86.00	-5.59	85.35	76.79	-10.03				90.64	87.82	-3.11	89.03	83.54	-6.17
SA98-13	89.72	88.74	-1.09	71.13	79.86	12.27				86.11	85.81	-0.35	82.32	84.80	3.02
Standards															
Check1	89.92	87.36	-2.85	88.05	73.07	-17.01				82.39	84.05	2.01	86.79	81.49	-6.10
Check2	88.07	92.16	4.64	80.57	67.61	-16.09				85.75	84.84	-1.06	84.80	81.54	-3.84
Check3	95.81	87.94	-8.21	75.65	70.72	-6.52				78.09	82.17	5.22	83.18	80.28	-3.49
GM	89.25	88.95	-0.34	75.02	69.95	-6.76				84.19	83.65	-0.64	82.82	80.85	-2.38
CV	0.94	0.80		12.59	0.85					6.84	5.25				

Varietal Improvement Programme- AICRP (Sugarcane)
Principal Investigator's Report (2017-18)
Evaluation and identification of climate resilient ISH and IGH genetic stocks

Table 7.2.20: Relative Water Content during of drought

Entry	Karnal			Faridkot			Anakapalle			Padegaon			Mean		
	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change
AS04-1687	72.52	71.23	-1.78	71.00	81.39	14.63							71.76	76.31	6.34
AS04-1689	82.25	83.97	2.09	65.89	35.37	-46.32							74.07	59.67	-19.44
AS04-2097	78.06	73.36	-6.02	71.15	83.07	16.75							74.61	78.22	4.84
AS04-245	88.73	87.03	-1.92	61.17	71.70	17.21							74.95	79.37	5.89
AS04-635	76.88	76.21	-0.87	65.40	61.78	-5.54							71.14	69.00	-3.02
BM1003-143	87.28	79.95	-8.40	68.64	68.74	0.15							77.96	74.35	-4.64
BM1005-149	85.05	81.87	-3.74	77.47	71.81	-7.31							81.26	76.84	-5.44
BM1009-163	85.43	83.78	-1.93	73.26	70.58	-3.66							79.35	77.18	-2.73
BM1010-168	85.46	83.61	-2.16	72.10	76.54	6.16							78.78	80.08	1.64
BM1022-173	85.78	83.01	-3.23	71.77	76.57	6.69							78.78	79.79	1.29
CYM07-986	90.69	91.92	1.36	74.66	73.76	-1.21							82.68	82.84	0.20
GU07-2276	76.61	84.66	10.51	77.77	73.35	-5.68							77.19	79.01	2.35
GU07-3774	82.80	80.32	-3.00	80.43	78.20	-2.77							81.62	79.26	-2.89
GU07-3849	82.09	79.62	-3.01	75.98	77.11	1.49							79.04	78.37	-0.85
MA05-99	75.10	76.22	1.49	73.11	68.58	-6.20							74.11	72.40	-2.30
MA05/22	80.11	81.36	1.56	70.68	65.54	-7.27							75.40	73.45	-2.58
MA05/51	83.40	79.82	-4.29	71.07	70.34	-1.03							77.24	75.08	-2.79
MA5/37	77.09	75.86	-1.60	78.02	72.74	-6.77							77.56	74.30	-4.20
MA5/5	73.41	80.12	9.14	80.71	72.91	-9.66							77.06	76.52	-0.71
PG9869-137	84.37	80.66	-4.40	81.27	83.20	2.37							82.82	81.93	-1.07
SA04-390	82.88	78.82	-4.90	74.79	80.58	7.74							78.84	79.70	1.10
SA04-409	80.23	75.72	-5.62	77.78	77.82	0.05							79.01	76.77	-2.83
SA04-454	82.68	82.83	0.18	75.90	74.93	-1.28							79.29	78.88	-0.52
SA04-458	79.86	81.11	1.57	79.07	75.90	-4.01							79.47	78.51	-1.21
SA04-472	83.92	82.95	-1.16	76.89	72.72	-5.42							80.41	77.84	-3.20
SA04-496	89.37	82.66	-7.51	80.69	86.68	7.42							85.03	84.67	-0.42
SA98-13	80.86	83.06	2.72	87.32	75.40	-13.65							84.09	79.23	-5.78
Standards															
Check1	87.50	83.88	-4.14	74.97	80.57	7.47							81.24	82.23	1.22
Check2	83.59	83.53	-0.07	78.88	76.59	-2.90							81.24	80.06	-1.45
Check3	79.61	82.66	3.83	77.73	64.98	-16.40							78.67	73.82	-6.16
GM	82.12	81.06	-1.29	74.85	73.32	-2.04							78.49	77.19	-1.65
CV	0.90	0.98		1.52	0.96										

Varietal Improvement Programme- AICRP (Sugarcane)
Principal Investigator's Report (2017-18)
Evaluation and identification of climate resilient ISH and IGH genetic stocks
Table 7.2.21: Relative Water Content after withdrawing of drought

Entry	Karnal			Faridkot			Anakapalle			Padegaon			Mean		
	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change
AS04-1687	83.95	83.93	-0.02	77.51	67.77	-12.57				73.57	76.38	3.82	78.34	76.03	-2.96
AS04-1689	83.61	82.73	-1.05	78.00	47.47	-39.14				76.09	77.75	2.18	79.23	69.32	-12.52
AS04-2097	88.41	89.03	0.70	76.33	46.07	-39.64				71.14	71.56	0.59	78.63	68.89	-12.39
AS04-245	93.27	92.90	-0.40	76.38	54.37	-28.82				78.89	67.73	-14.15	82.85	71.67	-13.49
AS04-635	83.49	83.24	-0.30	77.71	63.85	-17.84				79.39	73.75	-7.10	80.20	73.61	-8.21
BM1003-143	90.82	89.57	-1.38	76.61	70.48	-8.00				80.21	62.04	-22.65	82.55	74.03	-10.32
BM1005-149	87.76	87.33	-0.49	89.02	63.76	-28.38				84.22	80.42	-4.51	87.00	77.17	-11.30
BM1009-163	86.82	86.15	-0.77	78.96	63.07	-20.12				88.31	79.24	-10.27	84.70	76.15	-10.09
BM1010-168	87.26	88.13	1.00	68.66	64.04	-6.73				80.39	76.59	-4.73	78.77	76.25	-3.19
BM1022-173	88.89	89.29	0.45	85.67	71.09	-17.02				87.97	80.78	-8.17	87.51	80.39	-8.14
CYM07-986	89.33	90.13	0.90	79.85	73.36	-8.13				91.90	83.64	-8.99	87.03	82.38	-5.34
GU07-2276	87.03	88.17	1.31	87.35	67.58	-22.63				82.55	84.55	2.42	85.64	80.10	-6.47
GU07-3774	87.74	86.18	-1.78	80.13	63.70	-20.50				75.19	77.87	3.56	81.02	75.92	-6.30
GU07-3849	86.63	92.35	6.60	80.29	70.51	-12.18				87.54	76.67	-12.42	84.82	79.84	-5.87
MA05-99	87.54	87.25	-0.33	90.07	65.93	-26.80				88.76	89.91	1.30	88.79	81.03	-8.74
MA05/22	84.13	86.37	2.66	72.87	69.23	-5.00				86.82	81.76	-5.83	81.27	79.12	-2.65
MA05/51	88.44	86.73	-1.93	88.34	67.80	-23.25				93.89	81.28	-13.43	90.22	78.60	-12.88
MA5/37	87.53	89.07	1.76	86.28	65.49	-24.10				77.54	73.41	-5.33	83.78	75.99	-9.30
MA5/5	87.53	84.55	-3.40	87.01	63.70	-26.79				84.42	75.25	-10.86	86.32	74.50	-13.69
PG9869-137	88.15	88.97	0.93	65.62	68.14	3.84				92.14	79.80	-13.39	81.97	78.97	-3.66
SA04-390	81.34	83.93	3.18	82.23	70.17	-14.67				89.97	80.72	-10.28	84.51	78.27	-7.38
SA04-409	90.02	87.30	-3.02	82.05	72.68	-11.42				81.42	71.55	-12.12	84.50	77.18	-8.66
SA04-454	87.89	88.23	0.39	73.34	60.53	-17.47				88.45	79.39	-10.24	83.23	76.05	-8.62
SA04-458	89.16	81.64	-8.43	87.36	76.37	-12.58				84.20	83.57	-0.75	86.91	80.53	-7.34
SA04-472	86.35	90.27	4.54	90.45	76.27	-15.68				81.25	81.02	-0.28	86.02	82.52	-4.07
SA04-496	91.15	83.44	-8.46	86.56	75.31	-13.00				90.78	82.70	-8.90	89.50	80.48	-10.07
SA98-13	82.86	90.63	9.38	76.00	70.48	-7.26				85.20	82.66	-2.98	81.35	81.26	-0.12
Standards															
Check1	86.54	85.08	-1.69	85.61	67.47	-21.19				81.25	77.85	-4.18	84.47	76.80	-9.08
Check2	84.63	89.58	5.85	71.43	63.41	-11.23				84.93	84.57	-0.42	80.33	79.19	-1.42
Check3	92.23	86.08	-6.67	82.59	78.41	-5.06				76.78	78.37	2.07	83.87	80.95	-3.47
GM	87.35	87.28	-0.08	80.68	66.62	-17.43				83.51	78.43	-6.08	83.85	77.44	-7.64
CV	0.94	0.62		0.76	1.11					7.29	5.98				

Varietal Improvement Programme- AICRP (Sugarcane)
 Principal Investigator's Report (2017-18)
 Evaluation and identification of climate resilient ISH and IGH genetic stocks
 Table 7.2.22: Leaf area (m²) before and after stress (Karnal center)

Entry	Leaf area before stress			Leaf area after stress			Leaf water potential		
	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change
AS04-1687	0.97	1.00	3.09	3.86	3.87	0.26	0.86	0.89	3.49
AS04-1689	1.10	1.03	-6.36	4.33	3.97	-8.31	1.14	1.10	-3.51
AS04-2097	0.92	0.82	-10.87	3.93	3.68	-6.36	1.09	1.05	-3.67
AS04-245	1.05	1.06	0.95	3.99	3.01	-24.56	1.03	1.04	0.97
AS04-635	1.15	1.03	-10.43	3.89	3.59	-7.71	0.99	1.01	2.02
BM1003-143	0.86	0.69	-19.77	3.53	3.28	-7.08	1.03	1.07	3.88
BM1005-149	0.86	0.77	-10.47	4.00	3.80	-5.00	1.07	0.99	-7.48
BM1009-163	0.79	0.46	-41.77	3.74	3.66	-2.14	0.95	1.04	9.47
BM1010-168	1.00	0.89	-11.00	3.54	3.43	-3.11	1.01	1.01	0.00
BM1022-173	1.03	0.92	-10.68	4.00	3.90	-2.50	0.98	1.00	2.04
CYM07-986	1.07	0.93	-13.08	3.43	3.41	-0.58	0.75	0.76	1.33
GU07-2276	1.06	1.05	-0.94	3.49	3.41	-2.29	1.18	1.23	4.24
GU07-3774	1.21	0.91	-24.79	4.00	3.99	-0.25	0.75	1.02	36.00
GU07-3849	1.12	0.50	-55.36	4.08	2.33	-42.89	1.21	0.64	-47.11
MA05-99	0.89	0.97	8.99	3.29	3.34	1.52	1.87	1.08	-42.25
MA05/22	0.96	1.11	15.63	3.61	3.93	8.86	0.84	0.78	-7.14
MA05/51	0.87	1.10	26.44	3.21	3.99	24.30	1.00	1.20	20.00
MA5/37	1.12	0.68	-39.29	4.01	3.22	-19.70	1.19	1.59	33.61
MA5/5	1.09	0.85	-22.02	3.88	3.44	-11.34	1.17	0.93	-20.51
PG9869-137	0.50	0.72	44.00	1.23	3.22	161.79	1.04	0.95	-8.65
SA04-390	0.58	1.10	89.66	3.00	4.16	38.67	0.56	1.08	92.86
SA04-409	1.12	1.07	-4.46	3.04	3.92	28.95	1.05	1.08	2.86
SA04-454	0.55	0.45	-18.18	3.00	1.20	-60.00	0.90	1.04	15.56
SA04-458	0.59	0.54	-8.47	2.98	2.88	-3.36	0.55	0.65	18.18
SA04-472	1.08	1.05	-2.78	3.42	2.95	-13.74	1.06	1.06	0.00
SA04-496	1.17	0.52	-55.56	2.93	3.01	2.73	1.71	0.87	-49.12
SA98-13	1.10	0.60	-45.45	3.88	2.93	-24.48	1.04	0.62	-40.38
Standards									
Check1	1.17	1.10	-5.98	3.45	3.38	-2.03	1.20	1.09	-9.17
Check2	0.97	1.12	15.46	4.11	2.67	-35.04	1.05	1.78	69.52
Check3	0.56	1.10	96.43	2.46	3.82	55.28	0.70	1.04	48.57
GM	0.95	0.87	-8.42	3.51	3.38	-3.70	1.03	1.02	-0.97
CV	5.76	5.10		1.64	2.49				

Table 7.2.23: List of clones in each traits showing less than 5% reduction under drought condition

Trait	Number of entries	Clones with less than 5% reduction due to drought
Tillers at 90 days (000 ⁷ /ha)	8	AS04-1687,AS04-1689,BM1005-149,BM1022-173,MA05/22,MA05-99,SA04-390,SA04-409
Tillers at 120 days (000 ⁷ /ha)	4	AS04-1689,MA05-99,MA05/22,SA98-13
Shoots at 150 days (000 ⁷ /ha)	6	MA05-99,MA05/22,SA04-390,SA04-409,SA98-13,BM1022-173
Shoots at 180 days (000 ⁷ /ha)	3	MA05-99, MA05/22, SA04-409
Number of Millable Canes at 240 days (000 ⁷ /ha)	5	AS 04-635, MA05-99, MA05/22, MA05-51, SA04-409
Number of Millable Canes at harvest (000 ⁷ /ha)	3	AS04-635,SA04-409,SA98-13
Single Cane Weight (Kg) at harvest	6	GU07-2276, GU07-3774, GU07-3849, MA05-99, MA5/37, SA04-390, SA04-472
Cane Length (cm) at harvest	13	AS04-1687,AS04-2097,AS04-245,AS04-635,BM1022-173,GU07-3774,GU07-3849,MA05-99,MA5/37,SA04-390,SA04-409,SA04-454,CYM07-986
Cane Diameter (cm) at harvest	18	AS04-1687,AS04-1689,AS04-2097,BM1005-149,BM1009-163,BM1010-168,BM1022-173,CYM07-986,GU07-2276,GU07-3774,GU07-3849,MA05-99,MA05/51,MA5/5,PG9869-137,SA04-409,SA04-454,SA04-472,SA04-496
Number of Internodes at harvest	6	AS04-2097, AS04-245, BM1010-168, MA5/5, SA04-409, SA04-454
Juice Brix % at harvest	22	AS04-1687, AS04-1689, AS04-245, AS04-635, BM1003-143, BM1005-149, BM1009-163, BM1010-168, BM1022-173, GU07-2276, GU07-3774, GU07-3849, MA05-99, MA5/37, MA5/5, PG9869-137, SA04-390, SA04-409, SA04-454, SA04-458, SA04-472, SA98-13
Juice Sucrose %, at harvest	19	AS04-1687, AS04-1689, AS04-635, BM1003-143, BM1005-149, BM1009-163, BM1010-168, BM1022-173, GU07-2276, GU07-3774, GU07-3849, MA05-99, MA5/37, MA5/5, PG9869-137, SA04-409, SA04-458, SA04-472, SA98-13
Juice Extraction %, at harvest	8	AS04-2097, BM1010-168, GU07-3774, MA05-99, MA05/51, MA5/37, SA04-472, SA04-496
Cane Fibre %, at harvest	17	AS04-1687, AS04-1689, AS04-245, BM1003-143, BM1005-149, BM1009-163, BM1010-168, BM1022-173, CYM07-986, GU07-3774, MA05-99, MA05/22, MA05/51, PG9869-137, SA04-409, SA04-458, SA04-496
Cane Yield at harvest*	3	MA05-99, SA04-390, SA04-409
Purity % at harvest	24	AS04-1687, AS04-1689, AS04-2097, AS04-635, BM1003-143, BM1005-149, BM1009-163, BM1010-168, BM1022-173, GU07-2276, GU07-3774, GU07-3849, MA05-99, MA05/22, MA05/51, MA5/37, MA5/5, PG9869-137, SA04-390, SA04-409, SA04-458, SA04-472, SA04-

Varietal Improvement Programme- AICRP (Sugarcane)
Principal Investigator's Report (2017-18)
Evaluation and identification of climate resilient ISH and IGH genetic stocks

		496, SA98-13
Tiller mortality	21	AS04-1689, AS04-2097, AS04-245, AS04-635, BM1003-143, BM1009-163, BM1010-168, BM1022-173, CYM07-986, GU07-2276, GU07-3774, GU07-3849, MA05-99, MA5/37, MA5/5, PG9869-137, SA04-390, SA04-454, SA04-472, SA04-496, SA98-13
Relative Water Content before imposition of drought	21	AS04-1687,, AS04-1689, AS04-2097,, AS04-245,, AS04-635,, BM1003-143,, BM1010-168,, GU07-2276,, GU07-3774,, GU07-3849,, MA05-99,, MA05/22,, MA5/37,, MA5/5, PG9869-137,, SA04-390,, SA04-409,, SA04-454,, SA04-458,, SA04-472,, SA98-13
Relative Water Content during drought period	24	AS04-1687, AS04-2097, AS04-245, AS04-635, BM1003-143, BM1009-163, BM1010-168, BM1022-173, CYM07-986, GU07-2276, GU07-3774, GU07-3849, MA05-99, MA05/22, MA05/51, MA5/37, MA5/5, PG9869-137, SA04-390, SA04-409, SA04-454, SA04-458, SA04-472, SA04-496
Relative Water Content after withdrawing the drought	6	AS04-1687, BM1010-168, MA05/22, PG9869-137, SA04-472, SA98-13

* < 10% yield reduction

B. III 7 Evaluation and identification of climate resilient ISH and IGH genetic stocks.

7.3 Mean performance of two plant one ratoon crops (2016-2018)

Data obtained from the centers *viz.*, Karnal, Faridkot, Anakapalle and Padegaon under both normal and drought conditions in two plant crops and one ratoon crop for the traits cane yield at harvest, CCS yield at harvest, single cane weight at harvest and number of millable canes at harvest were considered for pooled analysis. Weighted mean was calculated under both normal and drought conditions and overall change was estimated and presented in the tables (7.3.1-7.3.4). For these traits no clone was found with less than five percent change.

Cane yield at harvest (t/ha): The clones AS04-1687, BM1010-168, MA05-99 and SA04-409 were found with less than twenty five percent reduction under drought condition

CCS yield (t/ha) at harvest: The clones BM1010-168, GU07-2276, GU07-3849, MA05-99, SA04-409 and SA04-458 were found with less than twenty five per cent reduction under drought condition.

Single cane weight (Kg) at harvest: The clones BM1010-168, BM1022-173, GU07-2276, GU07-3849, MA05-99, MA5/37, SA04-390, SA04-409 and SA04-472 found with less than fifteen percent changes.

Number of millable canes ('000/ha) at harvest: clones *viz.*, AS04-1687, AS04-1689, AS04-2097, AS04-245, AS04-635, MA05/22, SA04-409 and SA04-458 was found with less than fifteen percent change.

Considering these the clone AS04 -1687, SA-04-409, BM1010-168 and MA05-99 were considered as better source for drought tolerance.

Varietal Improvement Programme- AICRP (Sugarcane)
Principal Investigator's Report (2017-18)
Evaluation and identification of climate resilient ISH and IGH genetic stocks

Table 7.3.1: Cane yield (tones/ha) at harvest

Entry	Karnal (Avg IP+IIP+R)			Faridkot (Avg IP+IIP+R)			Anakapalle (Avg IP+IIP+R)			Padegaon (Avg IP+IIP+R)			Pooled mean		
	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change
AS04-1687	119.72	113.34	-5.33	158.89	115.96	-27.02	63.14	63.06	-0.12	122.87	86.28	-29.78	116.15	94.66	-18.51
AS04-1689	165.71	108.08	-34.78	209.66	157.59	-24.84	83.99	55.48	-33.94	167.61	131.03	-21.82	156.74	113.04	-27.88
AS04-2097	151.84	114.09	-24.86	106.79	78.44	-26.55	78.25	54.26	-30.66	152.40	109.45	-28.18	122.32	89.06	-27.19
AS04-245	105.23	65.73	-37.54	109.53	75.37	-31.19	64.19	41.27	-35.71	131.19	100.36	-23.50	102.54	70.68	-31.07
AS04-635	118.55	86.89	-26.71	192.49	130.52	-32.19	82.06	38.26	-53.38	161.53	135.41	-16.17	138.66	97.77	-29.49
BM1003-143	91.23	66.81	-26.77	112.11	43.31	-61.37	50.98	45.42	-10.92	138.33	87.83	-36.51	98.16	60.84	-38.02
BM1005-149	79.45	67.39	-15.18	122.72	60.33	-50.84	75.22	52.32	-30.45	134.08	111.84	-16.59	102.87	72.97	-29.06
BM1009-163	85.84	57.31	-33.24	82.87	49.94	-39.74	63.86	39.39	-38.32	106.41	86.69	-18.54	84.75	58.33	-31.17
BM1010-168	103.58	88.70	-14.37	72.26	36.47	-49.54	60.56	55.02	-9.15	135.54	112.95	-16.66	92.99	73.28	-21.19
BM1022-173	113.53	73.52	-35.24	103.13	42.64	-58.65	67.54	51.85	-23.23	119.89	92.47	-22.87	101.02	65.12	-35.54
CYM07-986	89.92	77.89	-13.39	93.85	47.40	-49.50	73.47	45.01	-38.74	100.98	65.86	-34.78	89.56	59.04	-34.08
GU07-2276	132.73	89.56	-32.52	86.72	61.48	-29.11	92.51	57.19	-38.17	153.39	123.31	-19.61	116.34	82.89	-28.75
GU07-3774	90.47	73.86	-18.36	100.36	67.92	-32.32	56.45	33.00	-41.54	101.33	65.36	-35.49	87.15	60.04	-31.11
GU07-3849	81.60	58.99	-27.72	74.36	45.67	-38.59	62.87	54.31	-13.62	104.65	73.06	-30.18	80.87	58.01	-28.27
MA05-99	71.02	68.37	-3.74	64.54	43.00	-33.37	76.54	43.38	-43.32	125.60	103.57	-17.54	84.42	64.58	-23.51
MA05/22	111.68	57.97	-48.10	84.58	38.18	-54.86	50.00	42.76	-14.48	98.01	81.68	-16.66	86.07	55.15	-35.93
MA05/51	84.78	52.53	-38.04	55.38	31.10	-43.84	85.17	55.41	-34.95	101.75	74.66	-26.62	81.77	53.43	-34.66
MA5/37	79.65	42.72	-46.36	45.20	21.29	-52.89	58.92	41.91	-28.88	89.07	73.43	-17.56	68.21	44.84	-34.27
MA5/5	91.15	59.56	-34.66	51.25	13.65	-73.37	67.92	48.38	-28.76	119.04	100.79	-15.33	82.34	55.60	-32.48
PG9869-137	60.81	28.19	-53.65	49.79	22.38	-55.06	44.52	23.84	-46.46	113.04	93.54	-17.25	67.04	41.99	-37.38
SA04-390	31.83	26.34	-17.25	121.88	42.64	-65.02	60.79	59.75	-1.71	80.21	65.46	-18.39	73.68	48.55	-34.11
SA04-409	69.17	45.24	-34.59	54.09	30.22	-44.13	58.63	56.63	-3.41	112.50	97.76	-13.10	73.60	57.46	-21.92
SA04-454	60.04	42.13	-29.83	99.65	33.50	-66.38	43.01	34.48	-19.83	95.95	79.20	-17.46	74.67	47.33	-36.61
SA04-458	43.77	30.32	-30.73	71.52	59.92	-16.22	55.80	34.26	-38.61	119.21	93.07	-21.93	72.57	54.39	-25.05
SA04-472	87.36	57.47	-34.22	81.13	39.66	-51.11	59.15	58.58	-0.97	105.62	62.77	-40.57	83.32	54.62	-34.44
SA04-496	65.96	36.46	-44.72	77.66	29.29	-62.28	80.47	58.54	-27.26	104.14	89.74	-13.82	82.06	53.51	-34.79
SA98-13	111.31	65.78	-40.90	48.56	11.53	-76.26	56.76	43.02	-24.21	86.38	71.26	-17.50	75.75	47.90	-36.77
Standards															
Check1	113.86	57.66	-49.35	89.49	48.90	-45.36	61.91	48.01	-22.44	129.79	112.45	-13.36			
Check2	78.60	44.74	-43.08	75.87	43.70	-42.41	56.22	41.26	-26.61	164.53	139.79	-15.03			
Check3	71.27	51.48	-27.76	95.35	48.88	-48.73	57.26	53.16	-7.17	133.87	102.10	-23.73			

Varietal Improvement Programme- AICRP (Sugarcane)
Principal Investigator's Report (2017-18)
Evaluation and identification of climate resilient ISH and IGH genetic stocks

Table 7.3.2: CCS t/ha at harvest

Entry	Karnal (Avg IP+IIP+R)			Faridkot (Avg IP+IIP+R)			Anakapalle (Avg IP+IIP+R)			Padegaon (Avg IP+IIP+R)			Pooled mean		
	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change
AS04-1687	8.96	9.44	5.32	10.42	8.16	-21.68	5.86	5.88	0.45	9.90	8.11	-18.05	8.79	7.90	-10.08
AS04-1689	11.40	7.86	-31.10	13.68	12.00	-12.26	7.74	3.95	-49.02	13.63	10.44	-23.42	11.61	8.56	-26.29
AS04-2097	12.70	9.75	-23.21	9.05	6.33	-30.05	6.84	5.27	-23.02	11.92	9.05	-24.08	10.13	7.60	-24.96
AS04-245	8.96	5.63	-37.16	9.25	5.29	-42.82	6.78	3.68	-45.69	9.66	8.02	-16.96	8.66	5.66	-34.71
AS04-635	10.80	7.50	-30.60	14.98	10.53	-29.69	8.11	3.86	-52.41	13.14	12.01	-8.55	11.76	8.48	-27.91
BM1003-143	10.55	7.52	-28.75	9.94	4.17	-58.07	5.94	5.09	-14.41	18.71	11.90	-36.40	11.29	7.17	-36.49
BM1005-149	10.38	8.74	-15.78	12.90	6.67	-48.29	8.52	5.86	-31.19	18.79	16.33	-13.13	12.65	9.40	-25.68
BM1009-163	11.24	7.41	-34.05	8.73	5.60	-35.80	5.06	3.23	-36.17	14.57	12.06	-17.23	9.90	7.08	-28.52
BM1010-168	9.50	8.32	-12.46	5.60	2.89	-48.39	7.19	5.90	-17.95	15.66	13.45	-14.08	9.49	7.64	-19.47
BM1022-173	12.56	7.72	-38.51	9.33	3.60	-61.42	6.18	5.58	-9.70	14.57	12.05	-17.27	10.66	7.24	-32.09
CYM07-986	7.42	5.97	-19.60	7.46	3.40	-54.48	7.96	4.75	-40.34	9.08	6.09	-32.90	7.98	5.05	-36.71
GU07-2276	11.29	8.33	-26.23	6.88	4.94	-28.19	9.22	5.55	-39.79	13.63	12.41	-8.93	10.25	7.81	-23.86
GU07-3774	8.47	7.41	-12.44	8.68	5.88	-32.30	5.01	2.34	-53.22	9.44	6.65	-29.58	7.90	5.57	-29.48
GU07-3849	7.72	5.38	-30.24	6.55	4.04	-38.37	6.59	6.08	-7.68	11.40	8.99	-21.10	8.07	6.13	-24.05
MA05-99	9.28	8.17	-12.03	7.35	4.23	-42.48	6.66	3.29	-50.64	14.32	13.42	-6.24	9.40	7.28	-22.62
MA05/22	12.48	6.94	-44.43	7.47	4.19	-43.84	5.50	4.46	-18.95	11.04	8.90	-19.37	9.12	6.12	-32.89
MA05/51	11.44	6.55	-42.74	5.88	3.56	-39.49	8.18	5.51	-32.58	11.62	8.12	-30.07	9.28	5.94	-36.02
MA5/37	9.09	4.57	-49.73	4.66	1.32	-71.69	7.46	5.32	-28.68	9.80	9.81	0.03	7.75	5.25	-32.24
MA5/5	9.78	5.87	-39.99	4.88	0.90	-81.45	6.50	4.50	-30.75	15.90	13.73	-13.61	9.26	6.25	-32.51
PG9869-137	7.22	3.26	-54.82	5.34	2.35	-56.07	4.72	2.69	-43.11	14.34	12.89	-10.10	7.91	5.30	-33.00
SA04-390	3.85	3.05	-20.76	13.75	4.46	-67.56	7.09	4.98	-29.72	9.71	8.84	-8.96	8.60	5.33	-37.98
SA04-409	9.13	5.57	-39.05	5.59	3.12	-44.11	5.54	6.54	18.04	14.69	14.47	-1.51	8.74	7.42	-15.03
SA04-454	6.55	4.63	-29.27	7.41	2.68	-63.82	3.95	3.16	-19.93	10.07	9.74	-3.26	7.00	5.06	-27.73
SA04-458	5.12	3.49	-31.94	8.19	6.52	-20.43	4.72	2.37	-49.74	15.17	12.71	-16.19	8.30	6.27	-24.44
SA04-472	11.14	6.87	-38.36	8.79	4.31	-50.96	6.01	6.45	7.36	13.76	8.77	-36.28	9.92	6.60	-33.51
SA04-496	8.54	4.50	-47.26	8.10	2.59	-67.99	9.14	6.63	-27.43	13.88	12.52	-9.81	9.92	6.56	-33.82
SA98-13	9.44	7.17	-24.03	5.02	1.21	-75.92	6.14	4.71	-23.23	11.32	10.09	-10.85	7.98	5.80	-27.36
Standards															
Check1	15.61	6.98	-55.30	11.23	5.74	-48.86	7.64	5.90	-22.75	17.20	16.15	-6.09			
Check2	10.66	5.64	-47.10	8.94	5.08	-43.21	6.62	5.20	-21.46	21.73	19.57	-9.96			
Check3	9.39	6.09	-35.17	11.23	5.42	-51.69	7.45	6.41	-13.95	18.10	14.18	-21.67			

Varietal Improvement Programme- AICRP (Sugarcane)
Principal Investigator's Report (2017-18)
Evaluation and identification of climate resilient ISH and IGH genetic stocks

Table 7.3.3: Single Cane Weight (Kg) at harvest

Entry	Karnal (Avg IP+IIP+R)			Faridkot (Avg IP+IIP+R)			Anakapalle (Avg IP+IIP+R)			Padegaon (Avg IP+IIP+R)			Pooled mean		
	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change
AS04-1687	0.65	0.71	9.28	0.80	0.61	-24.38	1.00	0.81	-19.60	0.58	0.48	-18.29	0.75	0.65	-13.49
AS04-1689	0.82	0.70	-14.23	0.95	0.77	-19.05	1.13	0.59	-48.24	0.82	0.74	-10.16	0.93	0.69	-25.47
AS04-2097	1.06	0.96	-9.40	0.96	0.83	-13.54	1.00	0.75	-24.75	0.96	0.80	-16.03	1.00	0.84	-16.04
AS04-245	0.46	0.43	-7.25	0.73	0.49	-32.41	0.96	0.64	-33.33	0.64	0.54	-16.06	0.69	0.53	-24.08
AS04-635	0.56	0.50	-11.83	0.85	0.63	-26.04	0.99	0.64	-34.80	0.73	0.69	-5.94	0.78	0.61	-21.10
BM1003-143	1.00	0.88	-11.37	0.91	0.64	-29.67	0.95	0.78	-17.83	1.10	0.99	-10.00	1.00	0.84	-15.68
BM1005-149	0.94	0.88	-6.03	1.14	0.79	-31.14	1.03	0.80	-21.75	0.99	0.90	-9.40	1.01	0.85	-16.40
BM1009-163	0.98	0.86	-11.90	0.93	0.69	-26.34	0.88	0.68	-23.11	0.95	0.82	-13.64	0.94	0.77	-17.86
BM1010-168	0.73	0.77	5.50	0.84	0.64	-24.40	0.89	0.80	-9.74	0.85	0.72	-15.69	0.83	0.74	-10.46
BM1022-173	1.23	1.05	-14.59	1.08	0.89	-17.21	1.17	1.02	-12.82	1.14	1.03	-9.91	1.16	1.01	-13.29
CYM07-986	0.65	0.67	4.12	1.15	0.50	-56.33	1.11	0.63	-43.24	0.69	0.57	-16.99	0.87	0.60	-31.19
GU07-2276	1.13	1.15	1.47	0.93	0.82	-12.37	1.10	0.92	-16.11	1.01	0.99	-2.31	1.05	0.98	-6.74
GU07-3774	0.51	0.69	36.18	0.48	0.45	-6.25	0.88	0.49	-44.32	0.57	0.43	-23.53	0.62	0.52	-15.84
GU07-3849	0.51	0.62	21.57	0.53	0.41	-21.90	0.94	0.68	-27.40	0.61	0.53	-12.09	0.66	0.57	-12.34
MA05-99	0.89	0.92	2.99	1.13	0.90	-20.80	0.82	0.57	-30.89	1.08	0.98	-9.29	0.97	0.83	-13.64
MA05/22	1.27	0.72	-43.16	1.40	1.08	-22.58	1.04	0.84	-19.17	1.08	0.99	-8.64	1.18	0.89	-24.31
MA05/51	0.97	0.69	-29.21	0.97	0.75	-23.20	1.26	0.80	-36.07	0.99	0.84	-15.49	1.05	0.77	-26.92
MA5/37	0.99	0.91	-8.72	0.67	0.56	-15.79	0.90	0.87	-2.96	1.05	0.88	-16.51	0.92	0.83	-10.53
MA5/5	1.00	0.94	-6.31	0.84	0.76	-9.52	1.24	0.94	-24.19	1.18	0.95	-19.49	1.09	0.91	-16.23
PG9869-137	1.25	0.90	-28.46	1.26	0.95	-25.00	1.02	0.93	-8.79	1.51	1.39	-7.95	1.26	1.05	-16.79
SA04-390	0.91	0.96	5.13	1.08	0.80	-25.93	1.14	0.88	-23.10	0.88	0.91	3.03	1.00	0.89	-10.32
SA04-409	0.96	0.84	-13.15	1.01	0.74	-26.87	0.96	1.06	10.42	1.07	0.95	-10.90	1.00	0.91	-8.83
SA04-454	0.94	0.86	-8.19	0.75	0.66	-12.08	0.93	0.63	-32.50	1.03	0.92	-10.97	0.93	0.78	-16.27
SA04-458	0.99	0.80	-18.92	0.89	0.70	-21.91	0.81	0.45	-44.21	1.10	0.90	-18.43	0.95	0.71	-25.12
SA04-472	1.01	0.84	-17.16	0.74	0.62	-16.22	0.96	1.02	5.54	0.93	0.75	-20.00	0.93	0.82	-11.37
SA04-496	0.87	0.72	-16.86	0.85	0.56	-33.73	1.09	0.69	-36.50	0.90	0.85	-5.54	0.93	0.72	-22.88
SA98-13	1.35	0.90	-33.74	0.94	0.66	-29.95	1.22	0.88	-28.34	1.14	0.97	-14.37	1.18	0.87	-26.59
Standards															
Check1	1.37	0.95	-30.41	0.89	0.68	-23.16	1.22	1.07	-12.26	1.20	1.19	-0.83			
Check2	0.91	0.82	-9.89	1.10	0.84	-24.09	0.91	1.01	11.76	1.59	1.42	-10.48			
Check3	0.97	0.83	-14.38	1.13	0.94	-16.89	1.12	0.99	-11.87	1.23	1.11	-9.49			

Varietal Improvement Programme- AICRP (Sugarcane)
Principal Investigator's Report (2017-18)
Evaluation and identification of climate resilient ISH and IGH genetic stocks

Table 7.3.4: Number of Millable Canes at harvest (000'/ha

Entry	Karnal (Avg IP+IIP+R)			Faridkot (Avg IP+IIP+R)			Anakapalle (Avg IP+IIP+R)			Padegaon (Avg IP+IIP+R)			Pooled mean		
	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change
AS04-1687	165.18	149.4	-9.55	225.36	191.49	-15.03	80.94	82.14	1.49	215.71	178.59	-17.21	173.12	150.61	-13.01
AS04-1689	179.6	138.4	-22.94	231.53	220.54	-4.75	86.63	90.84	4.86	211.47	176.4	-16.59	176.85	160.17	-9.43
AS04-2097	132.69	110.3	-16.87	114.96	99.16	-13.75	79.64	84.96	6.68	162.42	134.66	-17.09	120.37	106.66	-11.39
AS04-245	131.94	122.8	-6.93	172.88	158.31	-8.42	79.82	71.94	-9.88	206.52	175.67	-14.94	150.96	134.06	-11.2
AS04-635	135.93	113.8	-16.28	260.05	238.69	-8.22	89.66	78.71	-12.21	232.55	204.09	-12.24	188.27	167.83	-10.86
BM1003-143	100.03	84	-16.03	125.14	72.2	-42.3	55.67	60.67	8.98	125.41	87.82	-29.97	101.87	74.61	-26.76
BM1005-149	85.15	83.82	-1.56	123.36	82.01	-33.52	71.73	61.81	-13.83	134.47	120.51	-10.38	107.38	87.68	-18.35
BM1009-163	107.4	87.27	-18.74	102.01	73.91	-27.55	77.85	65.95	-15.28	113.94	101.32	-11.08	98.88	81.08	-18
BM1010-168	119.72	102.4	-14.47	113.27	65.08	-42.54	64.58	68.36	5.86	167.51	152.87	-8.74	115.58	96.13	-16.83
BM1022-173	91.95	64.75	-29.58	111.17	75.76	-31.85	65.41	62.96	-3.74	105.87	80.04	-24.4	93.93	72.1	-23.24
CYM07-986	93.73	88.74	-5.32	115.36	92.63	-19.7	68.02	65.82	-3.23	146.1	114	-21.97	108.22	90.61	-16.27
GU07-2276	113.03	82.26	-27.22	112.4	82.95	-26.2	93	79.07	-14.98	151.49	120.25	-20.62	118.37	92.91	-21.51
GU07-3774	171.48	149.3	-12.93	207.73	140.67	-32.28	81.73	80.49	-1.53	189.84	142.38	-25	160.94	123.99	-22.96
GU07-3849	178.46	121.6	-31.86	146.97	96.82	-34.12	78.57	74.32	-5.41	169.22	157.06	-7.19	136.28	110.62	-18.83
MA05-99	102.5	56.77	-44.61	73.5	56.84	-22.67	109.9	91.23	-16.99	118.96	102.84	-13.55	100.96	80.95	-19.82
MA05/22	75.07	61.89	-17.56	68.76	45.91	-33.24	46.85	52.14	11.29	88.55	76.53	-13.57	68.75	58.56	-14.83
MA05/51	86.76	64.64	-25.5	76.6	57.03	-25.54	75.44	65.48	-13.2	102.77	88.83	-13.57	85.12	69.87	-17.92
MA5/37	79.84	56.34	-29.43	71.32	39.21	-45.02	66.45	60.93	-8.3	84.57	75.96	-10.18	74.69	58.47	-21.72
MA5/5	93.12	72.08	-22.59	76.65	23.17	-69.78	60.64	56.84	-6.28	97.22	87.24	-10.27	79.67	57.38	-27.97
PG9869-137	59.97	24.02	-59.95	45.89	18.42	-59.86	49.49	30.66	-38.05	75.63	61.81	-18.27	57.3	35.67	-37.75
SA04-390	34.54	28.64	-17.08	115.87	66.13	-42.93	57.96	55.78	-3.75	87.83	67.23	-23.45	81.95	59.61	-27.26
SA04-409	80.59	62.24	-22.77	73.31	54.18	-26.1	64.35	81.62	26.83	108.61	101.55	-6.5	81.94	77.43	-5.51
SA04-454	66.49	55.95	-15.85	143.26	67.37	-52.97	55.41	47.19	-14.84	91.37	79.27	-13.24	93.66	63.74	-31.94
SA04-458	54.91	50.58	-7.89	94.02	86.31	-8.2	78.72	76.38	-2.98	102.74	90.54	-11.87	88.14	81.03	-8.06
SA04-472	109.62	88.37	-19.39	112.27	66.08	-41.14	75.44	72.42	-3.99	116.04	84.01	-27.6	102.09	75.59	-25.95
SA04-496	89.25	80.5	-9.8	99.47	54.47	-45.23	84.67	80.95	-4.4	113.89	97.9	-14.03	98.33	78.05	-20.63
SA98-13	94.72	79.29	-16.29	56.75	18.66	-67.12	56.04	68.82	22.81	77.57	77.44	-0.17	66.58	57.41	-13.78
Standards															
Check1	77.04	57.1	-25.88	107.75	77	-28.54	57.41	48.7	-15.17	108.1	93.97	-13.07			
Check2	92.83	78.57	-15.36	78.58	67.65	-13.91	52.59	38.68	-26.45	100.88	92.63	-8.17			
Check3	70.88	51.73	-27.02	98.82	75.36	-23.74	48.64	54.14	11.3	112.07	93.32	-16.73			

B. III 7 Evaluation and identification of climate resilient ISH and IGH genetic stocks (2017-18)

7.4 Evaluation for water logging tolerance (II Plant)

Locations (4)	Tropical: Kolhapur, Vuyyuru Subtropical: Pusa, Motipur*
Entries (27)	BM 1003143, BM 1005149, BM 1009163, BM 1010168, BM 1022173, PG 9869137, SA 98-13, SA 04-454, SA 04-4792, SA 04-458, SA 04-390, SA 04-496, SA 04-409, AS 04-1689, AS 04-245, AS 04-2097, AS 04-635, AS 04-1687, MA 5/51, MA 5/5, MA 5/37, MA 5/99, MA 5/22, GU 07-3849, GU 07-3774, GU 07-2276 and CYM 07-986
Standards (3 for each region)	Kolhapur : Co 86032(Check 1), CoM 0265 (Check 2) and Co 92005 (Check 3) Vuyyuru : CoV 94101 (Check 1), CoV 92102 (Check 2) and CoV 09356 (Check 3) Pusa : BO91 (Check 1), BO154 (Check 2) and BO145 (Check 3)
Design	Alpha
Replications	Two
Plot size	6m x 2R x 0.90m
Seed rate	12 buds per meter
Year of start	2016-17
Crop duration	12 months

*Data not received

Results of the previous year: Considering cane yield, juice quality parameters and other physiological parameters, three entries viz., AS 04-245, AS 04-635, AS-04-1689, AS-04-1687, MA 5/22 were found to be tolerant to water logging.

Results of the current year:

Twenty seven ISH/IGH clones were evaluated under water logging condition under natural water logging or by ensuring water stagnation (minimum 15cm) during the grand growth phase (150 – 210 days after planting) at four centers. Data on cane yield, juice quality, physiological and agronomical traits contributing to water logging were recorded. Percentage change due to imposition of water logging for the characters was worked out (Table 7.4.1 to Table 7.4.25).

Response of entries to water logging:

Twenty seven entries were analyzed individually for different cane yield, juice quality parameters for their response to water logging (Table 7.4.26). The entries which showed less than 5% reduction under water logged condition were identified as tolerant clones.

Analysis of yield contributing traits indicated AS 04-635, CYM 07-986, GU 07-2276, GU07-3849, MA5/37, MA5/5, SA04-390, SA04-454, SA04-472 for number of Shoots at 30 days after water logging, AS04-635, BM1005-149, BM1009-163, CYM07-986, GU07-2276, GU07-3849, MA5/37, MA5/5, SA04-390, SA04-454 number of shoots at 60 days after logging, AS04-1687, AS04-635, BM1005-149, BM1009-163, CYM07-986, GU07-2276, GU07-3849, MA5/37, MA5/5, SA04-390, SA04-454 for number of shoots ('000/ha) at 300 days, AS04-1687, AS04-2097, AS04-245, AS04-635, BM1009-163, BM1010-168, CYM07-986, GU07-2276, GU07-3849, MA05/22, SA04-409, SA04-454, SA04-472, SA04-496 for single cane weight (Kg) at 300 days, AS04-1687, AS04-1689, AS04-2097, AS04-245, AS04-635, BM1003-143, BM1009-163, BM1010-168, GU07-3774, GU07-3849, MA05/22, PG9869-137, SA04-409, SA04-454, SA04-458 for cane diameter (cm) at 300 days, AS04-1689, AS04-245, AS04-635, BM1003-143, BM1009-163, BM1010-168, BM1022-173, GU07-2276, GU07-3849, MA05/22, MA05/51, MA5/5, SA04-390 for juice brix % at 300 days, AS04-1689, AS04-245, AS04-635, BM1009-163, BM1010-168, BM1022-173, GU07-2276, GU07-3849, MA05/22, SA04-390 for juice sucrose % at 300 days, GU07-3774, MA05-99, SA04-472 single cane weight (Kg) at 360 days, AS04-2097, AS04-635, BM1005-149, BM1022-173, GU07-2276, MA5/5, SA04-454 cane length (cm) at 360 days, AS04-1689, AS04-635, BM1003-143, BM1022-173, GU07-2276, MA05-99, MA05/22, MA05/51, MA5/37, MA5/5, PG 9869-137, SA 04-390, SA 04-409, SA 04-454 for number of millable canes at 360 days (000'/ha), AS04-1689, AS04-635, GU07-2276, MA5/5, PG9869-137, SA04-390, SA04-409, SA04-472 for cane yield t/ha at 360 days and AS04-1687, AS04-1689, AS04-2097, AS04-635, BM1003-143, CYM07-986, GU07-3774, GU07-3849, MA05/51, PG9869-137, SA04-390, SA04-409, SA04-458, SA04-472, SA98-13 for CCS yield t/ha at 360 days showed less than five percent yield reduction.

Considering yield and other quality parameters, AS 04-1687, AS 04-1689, AS 04-635. MA 05-99 and SA 04-390 are found to be tolerant to water logging.

Varietal Improvement Programme- AICRP (Sugarcane)
Principal Investigator's Report (2017-18)
Evaluation and identification of climate resilient ISH and IGH genetic stocks

Table 7.4.1: Germination %

Entry	Kolhapur			Vuyyuru			Pusa			Mean		
	Normal	Water logging	% change	Normal	Water logging	% change	Normal	Water logging	% change	Normal	Water logging	% change
AS04-1687	94.82	55.32	-41.66	94.51	77.96	-17.51	31.73	32.29	1.76	73.69	55.19	-25.10
AS04-1689	68.44	32.73	-52.18	78.75	68.65	-12.83	34.02	39.19	15.20	60.40	46.86	-22.43
AS04-2097	69.92	38.78	-44.54	60.16	58.57	-2.64	37.93	22.62	-40.36	56.00	39.99	-28.59
AS04-245	72.08	18.58	-74.22	68.65	61.60	-10.27	33.35	20.55	-38.38	58.03	33.58	-42.14
AS04-635	53.59	33.68	-37.15	46.59	58.06	24.62	30.39	33.85	11.39	43.52	41.86	-3.81
BM1003-143	61.98	36.89	-40.48	55.94	37.67	-32.66	36.29	30.87	-14.94	51.40	35.14	-31.63
BM1005-149	49.27	18.14	-63.18	57.50	38.23	-33.51	21.82	27.75	27.18	42.86	28.04	-34.58
BM1009-163	82.08	26.22	-68.06	59.06	57.85	-2.05	21.10	19.95	-5.45	54.08	34.67	-35.89
BM1010-168	56.59	37.39	-33.93	60.99	49.82	-18.31	34.98	22.92	-34.48	50.85	36.71	-27.81
BM1022-173	44.84	30.21	-32.63	34.92	39.72	13.75	39.56	26.65	-32.63	39.77	32.19	-19.06
CYM07-986	68.31	21.90	-67.94	55.26	36.54	-33.88	23.69	24.64	4.01	49.09	27.69	-43.58
GU07-2276	88.62	67.51	-23.82	48.31	52.28	8.22	30.35	23.85	-21.42	55.76	47.88	-14.13
GU07-3774	55.16	26.91	-51.21	75.18	82.85	10.20	27.83	27.04	-2.84	52.72	45.60	-13.51
GU07-3849	95.39	20.86	-78.13	82.76	75.29	-9.03	23.04	24.89	8.03	67.06	40.35	-39.84
MA05-99	80.57	26.22	-67.46	61.02	47.43	-22.27	35.31	20.66	-41.49	58.97	31.44	-46.69
MA05/22	47.37	53.28	12.48	36.64	56.87	55.21	35.45	21.55	-39.21	39.82	43.90	10.25
MA05/51	57.24	26.22	-54.19	51.85	42.85	-17.36	24.66	26.76	8.52	44.58	31.94	-28.35
MA5/37	94.97	53.49	-43.68	72.76	63.62	-12.56	25.39	27.59	8.66	64.37	48.23	-25.07
MA5/5	49.04	39.39	-19.68	66.22	59.37	-10.34	30.53	22.05	-27.78	48.60	40.27	-17.13
PG9869-137	81.48	27.54	-66.20				24.03	24.44	1.71	52.76	25.99	-50.73
SA04-390	41.09	36.81	-10.42				23.04	21.75	-5.60	32.07	29.28	-8.69
SA04-409	59.90	40.71	-32.04	52.19	31.01	-40.58	40.93	28.71	-29.86	51.01	33.48	-34.37
SA04-454	39.84	23.61	-40.74	46.59	34.72	-25.48	30.39	29.15	-4.08	38.94	29.16	-25.12
SA04-458	77.01	26.63	-65.42	55.99	43.15	-22.93	28.08	20.42	-27.28	53.69	30.07	-44.00
SA04-472	61.48	36.22	-41.09				23.23	23.64	1.76	42.36	29.93	-29.34
SA04-496	61.48	3.93K		78.26	56.71	-27.54	29.73	20.49	-31.08	56.49	38.60	-31.67
SA98-13	32.84	22.11	-32.67	33.49	29.40	-12.21	37.43	35.47	-5.24	34.59	28.99	-16.17
Standards												
Check1	51.95	42.51	-18.17	63.10	46.18	-26.81	28.39	23.89	-15.85	47.81	37.53	-21.51
Check2	74.56	35.09	-52.94	48.72	48.53	-0.39	35.75	31.30	-12.45	53.01	38.31	-27.74
Check3	63.91	40.10	-37.26	49.84	51.95	4.23	49.91	39.06	-21.74	54.55	43.70	-19.89
GM	64.53	33.30	-48.40	58.53	51.39	-12.20	30.88	26.41	-14.48	51.31	37.03	-27.83
CV	16.55	18.44		16.28	13.32		30.14	17.88				

Varietal Improvement Programme- AICRP (Sugarcane)
 Principal Investigator's Report (2017-18)
 Evaluation and identification of climate resilient ISH and IGH genetic stocks
 Table 7.4.2: Number of Tillers at 90 days ('000/ha)

Entry	Kolhapur			Vuyyuru			Pusa			Mean		
	Normal	Water logging	% change	Normal	Water logging	% change	Normal	Water logging	% change	Normal	Water logging	% change
AS04-1687	241.70	199.40	-17.50	157.50	194.20	23.30	123.10	88.06	-28.46	174.10	160.55	-7.78
AS04-1689	242.10	243.90	0.74	123.30	194.70	57.91	105.40	93.43	-11.36	156.93	177.34	13.01
AS04-2097	150.40	177.60	18.09	140.60	142.50	1.35	97.42	43.43	-55.42	129.47	121.18	-6.41
AS04-245	233.00	127.90	-45.11	134.90	132.20	-2.00	82.81	38.26	-53.80	150.24	99.45	-33.80
AS04-635	183.20	235.30	28.44	111.50	179.00	60.54	58.55	86.46	47.67	117.75	166.92	41.76
BM1003-143	161.00	105.80	-34.29	117.60	86.38	-26.55	72.56	28.87	-60.21	117.05	73.68	-37.05
BM1005-149	113.40	125.10	10.32	105.70	117.40	11.07	66.78	51.96	-22.19	95.29	98.15	3.00
BM1009-163	167.60	80.72	-51.84	120.10	119.30	-0.67	45.96	48.86	6.31	111.22	82.96	-25.41
BM1010-168	160.40	148.80	-7.23	133.70	119.30	-10.77	96.82	59.98	-38.05	130.31	109.36	-16.07
BM1022-173	123.20	136.70	10.96	77.25	101.70	31.65	105.50	83.26	-21.08	101.98	107.22	5.13
CYM07-986	173.10	95.70	-44.71	140.10	81.73	-41.66	63.19	94.84	50.09	125.46	90.76	-27.66
GU07-2276	205.10	106.10	-48.27	104.40	150.80	44.44	36.62	55.60	51.83	115.37	104.17	-9.71
GU07-3774	158.30	103.00	-34.93	160.00	222.90	39.31	101.30	76.91	-24.08	139.87	134.27	-4.00
GU07-3849	225.20	149.80	-33.48	164.10	175.70	7.07	38.54	70.89	83.94	142.61	132.13	-7.35
MA05-99	180.80	213.00	17.81	120.70	90.54	-24.99	66.29	35.19	-46.92	122.60	112.91	-7.90
MA05/22	134.20	155.40	15.80	84.10	94.86	12.79	60.42	46.72	-22.67	92.91	98.99	6.55
MA05/51	87.52	114.10	30.37	116.50	97.95	-15.92	71.74	48.99	-31.71	91.92	87.01	-5.34
MA5/37	231.10	91.57	-60.38	133.60	132.60	-0.75	53.79	88.79	65.07	139.50	104.32	-25.22
MA5/5	204.60	165.80	-18.96	112.80	121.20	7.45	47.62	45.02	-5.46	121.67	110.67	-9.04
PG9869-137	122.90	150.50	22.46				64.68	69.86	8.01	93.79	110.18	17.48
SA04-390	122.70	87.02	-29.08				34.35	61.17	78.08	78.53	74.10	-5.64
SA04-409	115.20	179.70	55.99	101.40	100.70	-0.69	116.20	82.31	-29.17	110.93	120.90	8.99
SA04-454	99.03	90.05	-9.07	117.50	104.40	-11.15	35.40	88.86	151.02	83.98	94.44	12.46
SA04-458	176.70	114.50	-35.20	116.60	104.50	-10.38	65.62	25.98	-60.41	119.64	81.66	-31.75
SA04-472	158.30	109.30	-30.95				68.73	78.31	13.94	113.52	93.81	-17.36
SA04-496	156.70	85.02	-45.74	135.30	134.00	-0.96	62.23	43.81	-29.60	118.08	87.61	-25.80
SA98-13	125.00	66.58	-46.74	87.91	67.50	-23.22	111.40	53.48	-51.99	108.10	62.52	-42.17
Standards												
Check1	187.60	146.90	-21.70	109.60	84.06	-23.30	66.54	85.84	29.01	121.25	105.60	-12.90
Check2	161.90	71.30	-55.96	93.82	93.01	-0.86	141.60	87.27	-38.37	132.44	83.86	-36.68
Check3	125.40	69.36	-44.69	109.50	99.79	-8.87	143.20	97.59	-31.85	126.03	88.91	-29.45
GM	164.20	131.50	-19.91	118.00	121.20	2.71	76.68	65.59	-14.46	119.63	106.10	-11.31
CV	18.66	17.84		13.20	11.32		37.15	16.29				

Varietal Improvement Programme- AICRP (Sugarcane)
 Principal Investigator's Report (2017-18)
 Evaluation and identification of climate resilient ISH and IGH genetic stocks
 Table 7.4.3: Number of Shoots at 150 days ('000/ha)

Entry	Kolhapur			Vuyyuru			Pusa			Mean		
	Normal	Water logging	% change	Normal	Water logging	% change	Normal	Water logging	% change	Normal	Water logging	% change
AS04-1687							132.50	107.50	-18.87	132.50	107.50	-18.87
AS04-1689							118.70	99.93	-15.81	118.70	99.93	-15.81
AS04-2097							102.90	50.50	-50.92	102.90	50.50	-50.92
AS04-245							100.20	43.39	-56.70	100.20	43.39	-56.70
AS04-635							68.50	88.90	29.78	68.50	88.90	29.78
BM1003-143							78.18	30.59	-60.87	78.18	30.59	-60.87
BM1005-149							79.24	58.04	-26.75	79.24	58.04	-26.75
BM1009-163							57.70	51.29	-11.11	57.70	51.29	-11.11
BM1010-168							98.07	72.50	-26.07	98.07	72.50	-26.07
BM1022-173							115.60	95.76	-17.16	115.60	95.76	-17.16
CYM07-986							72.35	103.40	42.92	72.35	103.40	42.92
GU07-2276							45.30	61.62	36.03	45.30	61.62	36.03
GU07-3774							117.10	90.86	-22.41	117.10	90.86	-22.41
GU07-3849							42.95	78.77	83.40	42.95	78.77	83.40
MA05-99							71.00	35.56	-49.92	71.00	35.56	-49.92
MA05/22							68.90	52.07	-24.43	68.90	52.07	-24.43
MA05/51							76.65	50.26	-34.43	76.65	50.26	-34.43
MA5/37							59.80	92.67	54.97	59.80	92.67	54.97
MA5/5							52.70	52.52	-0.34	52.70	52.52	-0.34
PG9869-137							74.88	72.35	-3.38	74.88	72.35	-3.38
SA04-390							41.60	65.85	58.29	41.60	65.85	58.29
SA04-409							131.60	91.08	-30.79	131.60	91.08	-30.79
SA04-454							43.90	94.60	115.49	43.90	94.60	115.49
SA04-458							68.07	27.57	-59.50	68.07	27.57	-59.50
SA04-472							77.13	75.50	-2.11	77.13	75.50	-2.11
SA04-496							67.73	48.85	-27.88	67.73	48.85	-27.88
SA98-13							115.50	63.45	-45.06	115.50	63.45	-45.06
Standards												
Check1							80.85	92.42	14.31	80.85	92.42	14.31
Check2							147.90	94.02	-36.43	147.90	94.02	-36.43
Check3							152.20	101.60	-33.25	152.20	101.60	-33.25
GM							84.81	71.52	-15.67	84.81	71.52	-15.67
CV							32.42	12.38				

Varietal Improvement Programme- AICRP (Sugarcane)
Principal Investigator's Report (2017-18)
Evaluation and identification of climate resilient ISH and IGH genetic stocks

Table 7.4.4: Number of shoots at 180 days ('000/ha)

Entry	Kolhapur			Vuyyuru			Pusa			Mean		
	Normal	Water logging	% change	Normal	Water logging	% change	Normal	Water logging	% change	Normal	Water logging	% change
AS04-1687							135.50	121.20	-10.55	135.50	121.20	-10.55
AS04-1689							127.70	112.40	-11.98	127.70	112.40	-11.98
AS04-2097							108.70	53.47	-50.81	108.70	53.47	-50.81
AS04-245							104.10	47.33	-54.53	104.10	47.33	-54.53
AS04-635							76.31	91.43	19.81	76.31	91.43	19.81
BM1003-143							82.19	31.54	-61.63	82.19	31.54	-61.63
BM1005-149							78.46	67.19	-14.36	78.46	67.19	-14.36
BM1009-163							59.32	53.33	-10.10	59.32	53.33	-10.10
BM1010-168							98.66	76.37	-22.59	98.66	76.37	-22.59
BM1022-173							122.20	98.36	-19.51	122.20	98.36	-19.51
CYM07-986							70.28	111.80	59.08	70.28	111.80	59.08
GU07-2276							43.15	65.35	51.45	43.15	65.35	51.45
GU07-3774							112.00	88.18	-21.27	112.00	88.18	-21.27
GU07-3849							47.53	81.56	71.60	47.53	81.56	71.60
MA05-99							71.37	40.04	-43.90	71.37	40.04	-43.90
MA05/22							72.70	56.50	-22.28	72.70	56.50	-22.28
MA05/51							78.22	52.74	-32.57	78.22	52.74	-32.57
MA5/37							61.68	102.50	66.18	61.68	102.50	66.18
MA5/5							58.45	56.40	-3.51	58.45	56.40	-3.51
PG9869-137							78.53	72.75	-7.36	78.53	72.75	-7.36
SA04-390							43.46	68.83	58.38	43.46	68.83	58.38
SA04-409							137.40	95.10	-30.79	137.40	95.10	-30.79
SA04-454							51.16	97.88	91.32	51.16	97.88	91.32
SA04-458							69.01	29.58	-57.14	69.01	29.58	-57.14
SA04-472							78.63	75.00	-4.62	78.63	75.00	-4.62
SA04-496							70.83	51.75	-26.94	70.83	51.75	-26.94
SA98-13							118.80	65.72	-44.68	118.80	65.72	-44.68
Standards												
Check1							85.23	90.81	6.55	85.23	90.81	6.55
Check2							150.50	100.80	-33.02	150.50	100.80	-33.02
Check3							150.00	107.50	-28.33	150.00	107.50	-28.33
GM							87.75	75.58	-13.87	87.75	75.58	-13.87
CV							30.93	11.83				

Varietal Improvement Programme- AICRP (Sugarcane)
 Principal Investigator's Report (2017-18)
 Evaluation and identification of climate resilient ISH and IGH genetic stocks
 Table 7.4.5: Number of shoots at 210 days ('000/ha)

Entry	Kolhapur			Vuyyuru			Pusa			Mean		
	Normal	Water logging	% change	Normal	Water logging	% change	Normal	Water logging	% change	Normal	Water logging	% change
AS04-1687							133.70	121.50	-9.12	133.70	121.50	-9.12
AS04-1689							130.30	118.70	-8.90	130.30	118.70	-8.90
AS04-2097							116.10	62.17	-46.45	116.10	62.17	-46.45
AS04-245							113.30	46.13	-59.29	113.30	46.13	-59.29
AS04-635							76.93	95.10	23.62	76.93	95.10	23.62
BM1003-143							80.56	34.70	-56.93	80.56	34.70	-56.93
BM1005-149							75.75	83.28	9.94	75.75	83.28	9.94
BM1009-163							59.66	61.42	2.95	59.66	61.42	2.95
BM1010-168							105.20	79.67	-24.27	105.20	79.67	-24.27
BM1022-173							125.20	98.56	-21.28	125.20	98.56	-21.28
CYM07-986							69.93	112.30	60.59	69.93	112.30	60.59
GU07-2276							41.21	66.38	61.08	41.21	66.38	61.08
GU07-3774							108.40	72.76	-32.88	108.40	72.76	-32.88
GU07-3849							47.63	84.93	78.31	47.63	84.93	78.31
MA05-99							75.10	41.48	-44.77	75.10	41.48	-44.77
MA05/22							72.96	60.44	-17.16	72.96	60.44	-17.16
MA05/51							79.27	51.45	-35.10	79.27	51.45	-35.10
MA5/37							62.83	90.53	44.09	62.83	90.53	44.09
MA5/5							58.76	61.14	4.05	58.76	61.14	4.05
PG9869-137							77.15	63.13	-18.17	77.15	63.13	-18.17
SA04-390							41.23	71.00	72.20	41.23	71.00	72.20
SA04-409							142.10	99.65	-29.87	142.10	99.65	-29.87
SA04-454							53.28	97.25	82.53	53.28	97.25	82.53
SA04-458							73.42	31.86	-56.61	73.42	31.86	-56.61
SA04-472							78.10	68.73	-12.00	78.10	68.73	-12.00
SA04-496							67.23	43.38	-35.48	67.23	43.38	-35.48
SA98-13							122.10	64.17	-47.44	122.10	64.17	-47.44
Standards												
Check1							86.83	87.78	1.09	86.83	87.78	1.09
Check2							153.60	109.30	-28.84	153.60	109.30	-28.84
Check3							149.70	97.27	-35.02	149.70	97.27	-35.02
GM							89.06	76.02	-14.64	89.06	76.02	-14.64
CV							31.16	9.97				

Varietal Improvement Programme- AICRP (Sugarcane)
 Principal Investigator's Report (2017-18)
 Evaluation and identification of climate resilient ISH and IGH genetic stocks
 Table 7.4.6: Number of shoots ('000/ha) at 300 days

Entry	Kolhapur			Vuyyuru			Pusa			Mean		
	Normal	Water logging	% change	Normal	Water logging	% change	Normal	Water logging	% change	Normal	Water logging	% change
AS04-1687							127.70	124.30	-2.66	127.70	124.30	-2.66
AS04-1689							125.20	117.70	-5.99	125.20	117.70	-5.99
AS04-2097							108.10	61.53	-43.08	108.10	61.53	-43.08
AS04-245							109.80	40.47	-63.14	109.80	40.47	-63.14
AS04-635							72.01	92.09	27.89	72.01	92.09	27.89
BM1003-143							70.19	32.62	-53.53	70.19	32.62	-53.53
BM1005-149							74.72	80.11	7.21	74.72	80.11	7.21
BM1009-163							50.79	58.16	14.51	50.79	58.16	14.51
BM1010-168							104.80	75.48	-27.98	104.80	75.48	-27.98
BM1022-173							120.40	99.76	-17.14	120.40	99.76	-17.14
CYM07-986							64.82	106.40	64.15	64.82	106.40	64.15
GU07-2276							40.37	62.69	55.29	40.37	62.69	55.29
GU07-3774							102.90	69.50	-32.46	102.90	69.50	-32.46
GU07-3849							46.62	82.62	77.22	46.62	82.62	77.22
MA05-99							68.65	41.16	-40.04	68.65	41.16	-40.04
MA05/22							64.82	54.63	-15.72	64.82	54.63	-15.72
MA05/51							76.57	54.58	-28.72	76.57	54.58	-28.72
MA5/37							54.97	87.57	59.31	54.97	87.57	59.31
MA5/5							51.57	55.88	8.36	51.57	55.88	8.36
PG9869-137							74.14	58.53	-21.05	74.14	58.53	-21.05
SA04-390							41.31	71.79	73.78	41.31	71.79	73.78
SA04-409							127.80	101.70	-20.42	127.80	101.70	-20.42
SA04-454							51.46	98.59	91.59	51.46	98.59	91.59
SA04-458							67.46	28.30	-58.05	67.46	28.30	-58.05
SA04-472							72.26	60.63	-16.09	72.26	60.63	-16.09
SA04-496							59.84	40.78	-31.85	59.84	40.78	-31.85
SA98-13							104.70	57.78	-44.81	104.70	57.78	-44.81
Standards												
Check1							79.97	85.62	7.07	79.97	85.62	7.07
Check2							146.00	105.60	-27.67	146.00	105.60	-27.67
Check3							144.00	94.16	-34.61	144.00	94.16	-34.61
GM							83.29	73.61	-11.62	83.29	73.61	-11.62
CV							28.46	12.19				

Varietal Improvement Programme- AICRP (Sugarcane)
Principal Investigator's Report (2017-18)
Evaluation and identification of climate resilient ISH and IGH genetic stocks
Table 7.4.7: Single Came weight (Kg) at 300 days

Entry	Kolhapur			Vuyyuru			Pusa			Mean		
	Normal	Water logging	% change	Normal	Water logging	% change	Normal	Water logging	% change	Normal	Water logging	% change
AS04-1687	1.01	0.89	-11.88	0.43	0.48	11.63				0.72	0.69	-4.86
AS04-1689	0.82	0.65	-20.73	0.55	0.59	7.27				0.69	0.62	-9.49
AS04-2097	1.01	0.83	-17.82	0.70	0.83	18.57				0.86	0.83	-2.92
AS04-245	0.62	0.89	43.55	0.37	0.34	-8.11				0.50	0.62	24.24
AS04-635	0.44	0.51	15.91	0.41	0.47	14.63				0.43	0.49	15.29
BM1003-143	1.11	0.96	-13.51	0.92	0.90	-2.17				1.02	0.93	-8.37
BM1005-149	1.21	0.86	-28.93	0.97	0.69	-28.87				1.09	0.78	-28.90
BM1009-163	1.19	1.25	5.04	1.00	1.02	2.00				1.10	1.14	3.65
BM1010-168	0.74	0.80	8.11	0.52	0.61	17.31				0.63	0.71	11.90
BM1022-173	1.52	1.52	0.00	1.27	0.93	-26.77				1.40	1.23	-12.19
CYM07-986	0.76	0.83	9.21	0.43	0.45	4.65				0.60	0.64	7.56
GU07-2276	0.42	0.59	40.48	0.98	0.83	-15.31				0.70	0.71	1.43
GU07-3774	1.18	1.08	-8.47	0.43	0.35	-18.60				0.81	0.72	-11.18
GU07-3849	0.85	0.96	12.94	0.39	0.54	38.46				0.62	0.75	20.97
MA05-99	1.02	0.85	-16.67	0.68	0.70	2.94				0.85	0.78	-8.82
MA05/22	1.62	1.41	-12.96	0.81	1.20	48.15				1.22	1.31	7.41
MA05/51	0.86	0.85	-1.16	0.84	0.76	-9.52				0.85	0.81	-5.29
MA5/37	1.20	1.16	-3.33	0.91	0.72	-20.88				1.06	0.94	-10.90
MA5/5	1.40	1.36	-2.86	0.98	0.40	-59.18				1.19	0.88	-26.05
PG9869-137	1.47	1.38	-6.12							1.47	1.38	-6.12
SA04-390	1.34	1.26	-5.97							1.34	1.26	-5.97
SA04-409	1.16	1.29	11.21	0.97	1.01	4.12				1.07	1.15	7.98
SA04-454	1.23	1.13	-8.13	0.97	1.10	13.40				1.10	1.12	1.36
SA04-458	1.32	1.36	3.03	0.95	0.73	-23.16				1.14	1.05	-7.93
SA04-472	1.40	1.45	3.57							1.40	1.45	3.57
SA04-496	0.81	0.75	-7.41	0.67	0.67	0.00				0.74	0.71	-4.05
SA98-13	1.20	0.84	-30.00	1.01	0.94	-6.93				1.11	0.89	-19.46
Standards												
Check1	1.23	1.26	2.44	1.31	0.72	-45.04				1.27	0.99	-22.05
Check2	1.20	1.01	-15.83	1.20	1.28	6.67				1.20	1.15	-4.58
Check3	1.43	1.18	-17.48	1.21	1.31	8.26				1.32	1.25	-5.68
GM	1.09	1.04	-4.59	0.81	0.76	-6.17				0.95	0.90	-5.26
CV	7.61	23.70		13.20	6.97							

Varietal Improvement Programme- AICRP (Sugarcane)
Principal Investigator's Report (2017-18)
Evaluation and identification of climate resilient ISH and IGH genetic stocks

Table 7.4.8: Cane length (cm) at 300 days

Entry	Kolhapur			Vuyyuru			Pusa			Mean		
	Normal	Water logging	% change	Normal	Water logging	% change	Normal	Water logging	% change	Normal	Water logging	% change
AS04-1687	230.80	208.20	-9.79	231.50	296.90	28.25				231.15	252.55	9.26
AS04-1689	236.50	229.20	-3.09	277.00	290.30	4.80				256.75	259.75	1.17
AS04-2097	251.10	244.50	-2.63	305.00	325.00	6.56				278.05	284.75	2.41
AS04-245	270.10	240.70	-10.88	274.20	299.70	9.30				272.15	270.20	-0.72
AS04-635	221.50	204.20	-7.81	244.00	270.30	10.78				232.75	237.25	1.93
BM1003-143	215.70	181.50	-15.86	243.00	279.90	15.19				229.35	230.70	0.59
BM1005-149	226.00	191.20	-15.40	244.50	261.50	6.95				235.25	226.35	-3.78
BM1009-163	233.60	221.20	-5.31	272.30	291.60	7.09				252.95	256.40	1.36
BM1010-168	236.60	228.50	-3.42	224.10	282.50	26.06				230.35	255.50	10.92
BM1022-173	239.00	208.20	-12.89	284.00	265.90	-6.37				261.50	237.05	-9.35
CYM07-986	176.80	166.70	-5.71	229.70	227.10	-1.13				203.25	196.90	-3.12
GU07-2276	150.80	145.70	-3.38	270.90	307.80	13.62				210.85	226.75	7.54
GU07-3774	234.20	197.00	-15.88	204.60	238.00	16.32				219.40	217.50	-0.87
GU07-3849	149.30	134.70	-9.78	284.10	278.50	-1.97				216.70	206.60	-4.66
MA05-99	263.70	252.00	-4.44	240.40	299.90	24.75				252.05	275.95	9.48
MA05/22	215.30	211.20	-1.90	245.30	325.30	32.61				230.30	268.25	16.48
MA05/51	197.20	208.50	5.73	256.40	321.80	25.51				226.80	265.15	16.91
MA5/37	244.30	206.20	-15.60	302.90	221.50	-26.87				273.60	213.85	-21.84
MA5/5	198.80	224.20	12.78	288.60	232.80	-19.33				243.70	228.50	-6.24
PG9869-137	263.30	251.20	-4.60							263.30	251.20	-4.60
SA04-390	228.00	222.20	-2.54							228.00	222.20	-2.54
SA04-409	242.20	224.00	-7.51	306.80	305.50	-0.42				274.50	264.75	-3.55
SA04-454	246.00	217.70	-11.50	264.00	314.00	18.94				255.00	265.85	4.25
SA04-458	190.10	192.50	1.26	242.50	246.20	1.53				216.30	219.35	1.41
SA04-472	180.30	146.70	-18.64							180.30	146.70	-18.64
SA04-496	165.80	141.20	-14.84	220.30	252.80	14.75				193.05	197.00	2.05
SA98-13	217.60	171.50	-21.19	278.80	296.20	6.24				248.20	233.85	-5.78
Standards												
Check1	235.30	193.70	-17.68	240.40	229.90	-4.37				237.85	211.80	-10.95
Check2	197.80	167.20	-15.47	300.30	334.70	11.46				249.05	250.95	0.76
Check3	177.70	165.00	-7.15	246.00	255.90	4.02				211.85	210.45	-0.66
GM	217.90	199.90	-8.26	261.10	278.50	6.66				239.50	239.20	-0.13
CV	4.93	7.80		7.11	6.99							

Varietal Improvement Programme- AICRP (Sugarcane)
Principal Investigator's Report (2017-18)
Evaluation and identification of climate resilient ISH and IGH genetic stocks

Table 7.4.9: Cane diameter (cm) at 300 days

Entry	Kolhapur			Vuyyuru			Pusa			Mean		
	Normal	Water logging	% change	Normal	Water logging	% change	Normal	Water logging	% change	Normal	Water logging	% change
AS04-1687	1.72	1.51	-12.21	1.70	1.76	3.53				1.71	1.64	-4.39
AS04-1689	2.19	2.03	-7.31	1.73	1.83	5.78				1.96	1.93	-1.53
AS04-2097	2.40	2.26	-5.83	1.95	2.32	18.97				2.18	2.29	5.29
AS04-245	1.51	1.44	-4.64	1.46	1.50	2.74				1.49	1.47	-1.01
AS04-635	1.86	1.90	2.15	1.60	1.62	1.25				1.73	1.76	1.73
BM1003-143	2.55	2.33	-8.63	2.36	2.43	2.97				2.46	2.38	-3.05
BM1005-149	2.72	2.34	-13.97	2.15	1.76	-18.14				2.44	2.05	-15.81
BM1009-163	3.13	2.73	-12.78	1.95	2.38	22.05				2.54	2.56	0.59
BM1010-168	1.63	1.82	11.66	1.89	1.92	1.59				1.76	1.87	6.25
BM1022-173	2.88	2.11	-26.74	2.66	2.47	-7.14				2.77	2.29	-17.33
CYM07-986	1.63	1.49	-8.59	1.86	1.57	-15.59				1.75	1.53	-12.32
GU07-2276	1.84	1.85	0.54	2.23	1.77	-20.63				2.04	1.81	-11.06
GU07-3774	2.48	2.41	-2.82	1.51	1.39	-7.95				2.00	1.90	-4.76
GU07-3849	1.59	1.47	-7.55	1.64	1.93	17.68				1.62	1.70	5.26
MA05-99	2.36	2.12	-10.17	2.19	1.87	-14.61				2.28	2.00	-12.31
MA05/22	3.13	2.98	-4.79	2.38	2.75	15.55				2.76	2.87	3.99
MA05/51	2.55	2.41	-5.49	2.37	2.05	-13.50				2.46	2.23	-9.35
MA5/37	2.32	2.30	-0.86	2.28	2.06	-9.65				2.30	2.18	-5.22
MA5/5	2.86	2.82	-1.40	2.41	1.98	-17.84				2.64	2.40	-8.92
PG9869-137	3.15	3.02	-4.13							3.15	3.02	-4.13
SA04-390	2.70	2.52	-6.67							2.70	2.52	-6.67
SA04-409	2.65	2.53	-4.53	2.37	2.59	9.28				2.51	2.56	1.99
SA04-454	2.40	2.32	-3.33	2.40	2.36	-1.67				2.40	2.34	-2.50
SA04-458	2.66	2.66	0.00	2.09	2.49	19.14				2.38	2.58	8.42
SA04-472	2.36	2.19	-7.20							2.36	2.19	-7.20
SA04-496	1.74	1.54	-11.49	2.22	2.13	-4.05				1.98	1.84	-7.32
SA98-13	2.50	2.44	-2.40	2.42	2.15	-11.16				2.46	2.30	-6.71
Standards												
Check1	2.56	2.26	-11.72	2.56	2.26	-11.72				2.56	2.26	-11.72
Check2	2.26	2.19	-3.10	2.54	2.53	-0.39				2.40	2.36	-1.67
Check3	3.14	2.97	-5.41	2.65	2.84	7.17				2.90	2.91	0.35
GM	2.38	2.23	-6.30	2.15	2.09	-2.79				2.27	2.16	-4.64
CV	5.00	3.60		6.74	5.91							

Varietal Improvement Programme- AICRP (Sugarcane)
Principal Investigator's Report (2017-18)
Evaluation and identification of climate resilient ISH and IGH genetic stocks

Table 7.4.10: Number of millable canes at 300 days (000'/ha)

Entry	Kolhapur			Vuyyuru			Pusa			Mean		
	Normal	Water logging	% change	Normal	Water logging	% change	Normal	Water logging	% change	Normal	Water logging	% change
AS04-1687							12.39	13.53	9.20	12.39	13.53	9.20
AS04-1689							12.38	13.04	5.33	12.38	13.04	5.33
AS04-2097							12.73	13.18	3.53	12.73	13.18	3.53
AS04-245							12.31	12.61	2.44	12.31	12.61	2.44
AS04-635							12.65	13.32	5.30	12.65	13.32	5.30
BM1003-143							13.54	13.66	0.89	13.54	13.66	0.89
BM1005-149							13.09	13.97	6.72	13.09	13.97	6.72
BM1009-163							13.00	13.80	6.15	13.00	13.80	6.15
BM1010-168							12.12	12.62	4.13	12.12	12.62	4.13
BM1022-173							13.20	14.23	7.80	13.20	14.23	7.80
CYM07-986							12.68	13.41	5.76	12.68	13.41	5.76
GU07-2276							11.98	12.58	5.01	11.98	12.58	5.01
GU07-3774							14.27	14.97	4.91	14.27	14.97	4.91
GU07-3849							13.81	14.23	3.04	13.81	14.23	3.04
MA05-99							12.55	13.67	8.92	12.55	13.67	8.92
MA05/22							11.88	12.46	4.88	11.88	12.46	4.88
MA05/51							11.82	13.01	10.07	11.82	13.01	10.07
MA5/37							11.58	12.66	9.33	11.58	12.66	9.33
MA5/5							11.67	12.58	7.80	11.67	12.58	7.80
PG9869-137							12.70	13.79	8.58	12.70	13.79	8.58
SA04-390							12.10	12.83	6.03	12.10	12.83	6.03
SA04-409							12.34	13.22	7.13	12.34	13.22	7.13
SA04-454							11.94	12.75	6.78	11.94	12.75	6.78
SA04-458							12.44	12.85	3.30	12.44	12.85	3.30
SA04-472							12.61	13.76	9.12	12.61	13.76	9.12
SA04-496							11.69	12.77	9.24	11.69	12.77	9.24
SA98-13							11.61	12.38	6.63	11.61	12.38	6.63
Standards												
Check1							12.14	13.72	13.01	12.14	13.72	13.01
Check2							12.39	12.89	4.04	12.39	12.89	4.04
Check3							12.84	13.27	3.35	12.84	13.27	3.35
GM							12.43	13.21	6.28	12.43	13.21	6.28
CV							3.72	3.50				

Varietal Improvement Programme- AICRP (Sugarcane)
Principal Investigator's Report (2017-18)
Evaluation and identification of climate resilient ISH and IGH genetic stocks

Table 7.4.11: Juice brix % at 300 days

Entry	Kolhapur			Vuyyuru			Pusa			Mean		
	Normal	Water logging	% change	Normal	Water logging	% change	Normal	Water logging	% change	Normal	Water logging	% change
AS04-1687	15.47	12.62	-18.42	14.29	12.83	10.22	15.60	16.72	7.18	15.12	14.06	-7.03
AS04-1689	14.03	12.25	-12.69	13.77	14.18	-2.98	14.68	15.05	2.52	14.16	13.83	-2.35
AS04-2097	15.40	11.81	-23.31	13.04	13.77	-5.60	16.30	14.57	-10.61	14.91	13.38	-10.26
AS04-245	15.88	14.52	-8.56	14.30	16.61	-16.15	18.51	15.64	-15.51	16.23	15.59	-3.94
AS04-635	15.64	12.57	-19.63	13.74	16.38	-19.21	15.60	14.41	-7.63	14.99	14.45	-3.60
BM1003-143	21.14	17.73	-16.13	17.50	19.50	-11.43	16.59	16.46	-0.78	18.41	17.90	-2.79
BM1005-149	21.48	15.75	-26.68	18.30	18.17	0.71	17.57	17.16	-2.33	19.12	17.03	-10.93
BM1009-163	18.73	16.52	-11.80	18.49	20.88	-12.93	17.11	18.04	5.44	18.11	18.48	2.04
BM1010-168	12.15	10.81	-11.03	9.99	15.20	-52.15	15.00	13.97	-6.87	12.38	13.33	7.65
BM1022-173	18.14	16.32	-10.03	16.20	17.66	-9.01	18.42	16.46	-10.64	17.59	16.81	-4.40
CYM07-986	15.57	14.19	-8.86	14.67	15.52	-5.79	18.47	15.88	-14.02	16.24	15.20	-6.41
GU07-2276	14.00	15.40	10.00	14.94	16.91	-13.19	15.89	16.42	3.34	14.94	16.24	8.70
GU07-3774	17.53	11.41	-34.91	13.05	11.63	10.88	17.19	17.45	1.51	15.92	13.50	-15.24
GU07-3849	16.72	15.69	-6.16	16.50	16.78	-1.70	15.02	15.93	6.06	16.08	16.13	0.33
MA05-99	14.78	13.16	-10.96	19.19	18.32	4.53	16.99	14.55	-14.36	16.99	15.34	-9.67
MA05/22	18.00	15.90	-11.67	15.31	18.07	-18.03	15.94	15.32	-3.89	16.42	16.43	0.08
MA05/51	18.28	14.66	-19.80	15.89	18.85	-18.63	15.79	14.85	-5.95	16.65	16.12	-3.20
MA5/37	19.22	15.19	-20.97	17.95	16.58	7.63	17.82	15.53	-12.85	18.33	15.77	-13.98
MA5/5	19.75	17.40	-11.90	14.90	15.28	-2.55	17.14	17.62	2.80	17.26	16.77	-2.88
PG9869-137	21.22	17.37	-18.14				18.40	18.42	0.11	19.81	17.90	-9.67
SA04-390	19.39	18.32	-5.52				18.25	17.81	-2.41	18.82	18.07	-4.01
SA04-409	21.34	20.73	-2.86	20.17	15.83	21.52	20.01	15.91	-20.49	20.51	17.49	-14.71
SA04-454	15.64	13.57	-13.24	14.69	13.59	7.49	16.80	15.71	-6.49	15.71	14.29	-9.04
SA04-458	19.65	16.31	-17.00	18.82	17.71	5.90	17.60	16.67	-5.28	18.69	16.90	-9.60
SA04-472	20.47	18.37	-10.26				21.60	19.32	-10.56	21.04	18.85	-10.41
SA04-496	19.22	16.12	-16.13	21.22	16.25	23.42	21.20	19.52	-7.92	20.55	17.30	-15.82
SA98-13	21.45	15.56	-27.46	16.52	18.99	-14.95	19.90	15.47	-22.26	19.29	16.67	-13.56
Standards												
Check1	21.65	18.15	-16.17	19.82	18.95	4.39	18.62	17.63	-5.32	20.03	18.24	-8.92
Check2	17.97	17.44	-2.95	19.49	19.08	2.10	19.49	17.72	-9.08	18.98	18.08	-4.76
Check3	20.78	17.16	-17.42	19.64	19.39	1.27	16.54	18.45	11.55	18.99	18.33	-3.44
GM	18.02	15.43	-14.37	16.62	17.02	-2.41	17.44	16.48	-5.50	17.36	16.31	-6.05
CV	4.00	3.04		3.19	3.34		10.43	5.71				

Varietal Improvement Programme- AICRP (Sugarcane)
Principal Investigator's Report (2017-18)
Evaluation and identification of climate resilient ISH and IGH genetic stocks

Table 7.4.12: Juice sucrose % at 300 days

Entry	Kolhapur			Vuyyuru			Pusa			Mean		
	Normal	Water logging	% change	Normal	Water logging	% change	Normal	Water logging	% change	Normal	Water logging	% change
AS04-1687	14.66	9.28	-36.70	11.62	9.93	14.54	12.57	14.43	14.80	12.95	11.21	-13.41
AS04-1689	9.48	7.93	-16.35	10.08	10.30	-2.18	11.40	12.67	11.14	10.32	10.30	-0.19
AS04-2097	12.03	6.53	-45.72	10.63	10.69	-0.56	14.14	11.72	-17.11	12.27	9.65	-21.36
AS04-245	12.45	9.85	-20.88	11.14	15.34	-37.70	16.16	13.58	-15.97	13.25	12.92	-2.47
AS04-635	12.34	9.75	-20.99	10.94	15.19	-38.85	12.91	12.40	-3.95	12.06	12.45	3.18
BM1003-143	20.20	16.50	-18.32	16.08	17.32	-7.71	14.58	13.89	-4.73	16.95	15.90	-6.19
BM1005-149	19.18	14.30	-25.44	16.68	16.34	2.04	15.43	15.05	-2.46	17.10	15.23	-10.92
BM1009-163	16.23	15.40	-5.11	17.28	19.91	-15.22	14.97	15.83	5.74	16.16	17.05	5.49
BM1010-168	7.60	9.08	19.47	6.52	13.96	-114.11	12.15	11.23	-7.57	8.76	11.42	30.45
BM1022-173	16.84	13.90	-17.46	13.51	16.58	-22.72	16.26	14.12	-13.16	15.54	14.87	-4.31
CYM07-986	14.38	12.40	-13.77	12.02	14.09	-17.22	16.34	13.53	-17.20	14.25	13.34	-6.36
GU07-2276	11.93	13.80	15.67	12.41	13.70	-10.39	13.59	14.02	3.16	12.64	13.84	9.46
GU07-3774	14.81	9.20	-37.88	10.90	9.85	9.63	14.33	14.84	3.56	13.35	11.30	-15.36
GU07-3849	14.34	14.00	-2.37	15.15	14.56	3.89	12.47	13.61	9.14	13.99	14.06	0.50
MA05-99	10.54	11.10	5.31	17.07	16.16	5.33	14.65	11.82	-19.32	14.09	13.03	-7.52
MA05/22	15.08	13.60	-9.81	12.99	16.85	-29.72	13.61	12.78	-6.10	13.89	14.41	3.72
MA05/51	16.26	10.10	-37.88	13.44	17.19	-27.90	14.89	12.42	-16.59	14.86	13.24	-10.94
MA5/37	17.78	13.20	-25.76	15.79	14.58	7.66	16.07	13.23	-17.67	16.55	13.67	-17.39
MA5/5	18.84	14.50	-23.04	12.65	13.13	-3.79	14.83	15.39	3.78	15.44	14.34	-7.12
PG9869-137	18.87	15.30	-18.92				15.24	16.18	6.17	17.06	15.74	-7.71
SA04-390	17.73	16.80	-5.25				16.21	15.53	-4.19	16.97	16.17	-4.74
SA04-409	19.00	19.90	4.74	18.07	13.57	24.90	17.52	13.57	-22.55	18.20	15.68	-13.83
SA04-454	13.35	11.20	-16.10	12.27	11.55	5.87	14.94	13.37	-10.51	13.52	12.04	-10.95
SA04-458	18.36	14.20	-22.66	17.79	16.51	7.20	15.02	14.20	-5.46	17.06	14.97	-12.23
SA04-472	18.09	17.00	-6.03				18.00	16.98	-5.67	18.05	16.99	-5.85
SA04-496	17.56	14.70	-16.29	20.21	14.34	29.05	17.77	17.44	-1.86	18.51	15.49	-16.31
SA98-13	19.90	14.70	-26.13	13.62	17.37	-27.53	17.52	13.70	-21.80	17.01	15.26	-10.33
Standards												
Check1	20.00	16.60	-17.00	18.49	18.40	0.49	16.36	15.31	-6.42	18.28	16.77	-8.28
Check2	16.33	16.20	-0.80	18.41	17.97	2.39	17.13	15.50	-9.52	17.29	16.56	-4.24
Check3	18.89	16.20	-14.24	18.16	18.39	-1.27	13.58	15.94	17.38	16.88	16.84	-0.20
GM	15.77	13.20	-16.30	14.58	15.24	-4.53	15.00	14.13	-5.80	15.12	14.19	-6.13
CV	2.72	3.43		3.82	3.40		12.24	7.27				

Varietal Improvement Programme- AICRP (Sugarcane)
Principal Investigator's Report (2017-18)
Evaluation and identification of climate resilient ISH and IGH genetic stocks

Table 7.4.13: Purity % at 300 days

Entry	Kolhapur			Vuyyuru			Pusa			Mean		
	Normal	Water logging	% change	Normal	Water logging	% change	Normal	Water logging	% change	Normal	Water logging	% change
AS04-1687	94.73	73.50	-22.41	81.31	79.98	-1.64				88.02	76.74	-12.82
AS04-1689	67.57	64.66	-4.31	73.56	77.39	5.21				70.57	71.03	0.65
AS04-2097	78.11	54.96	-29.64	81.38	77.83	-4.36				79.75	66.40	-16.74
AS04-245	78.61	67.54	-14.08	77.63	88.03	13.40				78.12	77.79	-0.43
AS04-635	79.02	77.45	-1.99	79.75	85.34	7.01				79.39	81.40	2.53
BM1003-143	95.36	93.70	-1.74	92.01	87.40	-5.01				93.69	90.55	-3.35
BM1005-149	89.27	91.02	1.96	91.22	90.55	-0.73				90.25	90.79	0.60
BM1009-163	86.92	93.05	7.05	93.32	93.17	-0.16				90.12	93.11	3.32
BM1010-168	62.05	83.77	35.00	65.00	83.91	29.09				63.53	83.84	31.98
BM1022-173	92.85	85.57	-7.84	83.48	86.43	3.53				88.17	86.00	-2.46
CYM07-986	92.22	87.87	-4.72	81.80	91.54	11.91				87.01	89.71	3.10
GU07-2276	85.60	89.91	5.04	83.08	80.53	-3.07				84.34	85.22	1.04
GU07-3774	84.16	80.53	-4.31	83.68	83.74	0.07				83.92	82.14	-2.13
GU07-3849	85.78	89.72	4.59	91.76	84.56	-7.85				88.77	87.14	-1.84
MA05-99	71.09	84.51	18.88	89.05	91.48	2.73				80.07	88.00	9.90
MA05/22	84.11	85.58	1.75	84.87	90.72	6.89				84.49	88.15	4.33
MA05/51	88.64	69.25	-21.88	84.72	90.88	7.27				86.68	80.07	-7.63
MA5/37	92.55	87.41	-5.55	87.98	87.63	-0.40				90.27	87.52	-3.04
MA5/5	95.81	83.44	-12.91	84.90	85.42	0.61				90.36	84.43	-6.56
PG9869-137	88.96	88.29	-0.75							88.96	88.29	-0.75
SA04-390	91.54	91.73	0.21							91.54	91.73	0.21
SA04-409	88.76	96.65	8.89	89.67	86.31	-3.75				89.22	91.48	2.54
SA04-454	85.40	82.91	-2.92	83.60	82.92	-0.81				84.50	82.92	-1.88
SA04-458	93.47	87.40	-6.49	94.51	91.83	-2.84				93.99	89.62	-4.65
SA04-472	88.43	92.91	5.07							88.43	92.91	5.07
SA04-496	91.41	91.38	-0.03	93.66	92.45	-1.29				92.54	91.92	-0.67
SA98-13	92.75	95.21	2.65	82.35	90.08	9.39				87.55	92.65	5.82
Standards												
Check1	92.68	91.48	-1.29	93.38	87.81	-5.96				93.03	89.65	-3.64
Check2	90.83	92.95	2.33	94.36	92.61	-1.85				92.60	92.78	0.20
Check3	90.68	95.08	4.85	92.49	94.04	1.68				91.59	94.56	3.25
GM	86.65	84.98	-1.93	86.66	87.70	1.20				86.66	86.34	-0.36
CV	2.36	1.97		1.62	3.55							

Varietal Improvement Programme- AICRP (Sugarcane)
Principal Investigator's Report (2017-18)
Evaluation and identification of climate resilient ISH and IGH genetic stocks

Table 7.4.14: Single cane weight (Kg) at 360 days

Entry	Kolhapur			Vuyyuru			Pusa			Mean		
	Normal	Water logging	% change	Normal	Water logging	% change	Normal	Water logging	% change	Normal	Water logging	% change
AS04-1687	1.08	1.04	-3.70	0.58	0.50	-13.79	0.85	0.63	-25.88	0.84	0.72	-13.55
AS04-1689	0.90	0.68	-24.44	0.56	0.44	-21.43	0.61	0.59	-3.28	0.69	0.57	-17.39
AS04-2097	1.09	0.87	-20.18	0.87	0.65	-25.29	0.97	1.09	12.37	0.98	0.87	-10.92
AS04-245	0.90	1.00	11.11	0.47	0.42	-10.64	0.67	0.50	-25.37	0.68	0.64	-5.88
AS04-635	0.67	0.61	-8.96	0.34	0.32	-5.88	0.69	0.47	-31.88	0.57	0.47	-17.65
BM1003-143	1.38	1.01	-26.81	1.30	0.78	-40.00	0.98	1.04	6.12	1.22	0.94	-22.68
BM1005-149	1.23	0.93	-24.39	1.14	1.08	-5.26	0.57	0.58	1.75	0.98	0.86	-11.90
BM1009-163	1.35	1.35	0.00	0.90	0.74	-17.78	1.15	0.45	-60.87	1.13	0.85	-25.29
BM1010-168	0.80	0.82	2.50	1.01	0.52	-48.51	0.61	0.49	-19.67	0.81	0.61	-24.38
BM1022-173	1.74	1.69	-2.87	1.21	1.12	-7.44	1.28	0.46	-64.06	1.41	1.09	-22.70
CYM07-986	0.94	0.90	-4.26	0.57	0.40	-29.82	0.74	0.33	-55.41	0.75	0.54	-27.56
GU07-2276	0.59	0.59	0.00	0.95	0.73	-23.16	1.07	0.76	-28.97	0.87	0.69	-20.31
GU07-3774	1.36	1.21	-11.03	0.52	0.66	26.92	0.51	0.42	-17.65	0.80	0.76	-4.18
GU07-3849	1.08	1.05	-2.78	0.72	0.40	-44.44	0.71	0.44	-38.03	0.84	0.63	-24.70
MA05-99	1.07	0.91	-14.95	0.85	0.75	-11.76	0.63	0.86	36.51	0.85	0.84	-1.18
MA05/22	1.78	1.69	-5.06	1.10	1.21	10.00	1.16	0.50	-56.90	1.35	1.13	-15.84
MA05/51	0.99	0.89	-10.10	1.29	0.57	-55.81	0.89	0.67	-24.72	1.06	0.71	-32.81
MA5/37	1.45	1.35	-6.90	1.19	0.97	-18.49	1.39	0.41	-70.50	1.34	0.91	-32.26
MA5/5	1.41	1.39	-1.42	1.15	0.63	-45.22	1.09	0.62	-43.12	1.22	0.88	-27.67
PG9869-137	1.71	1.59	-7.02				0.75	0.74	-1.33	1.23	1.17	-5.28
SA04-390	1.43	1.34	-6.29				1.28	0.46	-64.06	1.36	0.90	-33.58
SA04-409	1.47	1.41	-4.08	1.24	0.91	-26.61	1.16	0.50	-56.90	1.29	0.94	-27.13
SA04-454	1.30	1.34	3.08	1.09	0.90	-17.43	1.30	0.72	-44.62	1.23	0.99	-19.78
SA04-458	1.53	1.37	-10.46	1.20	0.82	-31.67	0.89	1.21	35.96	1.21	1.13	-6.08
SA04-472	1.64	1.54	-6.10				0.64	0.86	34.38	1.14	1.20	5.26
SA04-496	0.92	0.79	-14.13	0.71	0.65	-8.45	1.06	0.85	-19.81	0.90	0.76	-14.87
SA98-13	1.11	0.92	-17.12	1.39	0.92	-33.81	0.64	0.76	18.75	1.05	0.87	-17.20
Standards												
Check1	1.35	1.24	-8.15	1.88	0.70	-62.77	0.62	0.69	11.29	1.28	0.88	-31.69
Check2	1.39	1.20	-13.67	1.33	1.14	-14.29	0.80	0.75	-6.25	1.17	1.03	-12.22
Check3	1.60	1.26	-21.25	1.06	1.22	15.09	0.76	0.66	-13.16	1.14	1.05	-8.19
GM	1.24	1.13	-8.87	0.99	0.74	-25.25	0.88	0.65	-26.14	1.04	0.84	-18.97
CV	9.66	22.50		8.07	7.50	-7.06	13.20	7.92				

Varietal Improvement Programme- AICRP (Sugarcane)
Principal Investigator's Report (2017-18)
Evaluation and identification of climate resilient ISH and IGH genetic stocks

Table 7.4.15: Cane length (cm) at 360 days

Entry	Kolhapur			Vuyyuru			Pusa			Mean		
	Normal	Water logging	% change	Normal	Water logging	% change	Normal	Water logging	% change	Normal	Water logging	% change
AS04-1687	248.60	224.00	-9.90	239.00	242.60	1.51	268.00	232.40	-13.28	251.87	233.00	-7.49
AS04-1689	258.90	246.90	-4.63	270.60	250.80	-7.32	212.30	182.30	-14.13	247.27	226.67	-8.33
AS04-2097	262.30	268.70	2.44	288.30	288.70	0.14	310.50	274.90	-11.47	287.03	277.43	-3.34
AS04-245	276.50	274.70	-0.65	241.60	281.10	16.35	251.60	167.30	-33.51	256.57	241.03	-6.05
AS04-635	239.50	220.70	-7.85	195.10	243.60	24.86	299.30	252.10	-15.77	244.63	238.80	-2.38
BM1003-143	222.00	193.70	-12.75	285.20	267.90	-6.07	259.00	221.20	-14.59	255.40	227.60	-10.88
BM1005-149	232.90	216.90	-6.87	255.00	283.30	11.10	264.10	220.90	-16.36	250.67	240.37	-4.11
BM1009-163	249.00	238.70	-4.14	259.10	295.50	14.05	259.50	193.80	-25.32	255.87	242.67	-5.16
BM1010-168	237.30	244.20	2.91	308.90	276.80	-10.39	299.80	246.90	-17.65	282.00	255.97	-9.23
BM1022-173	245.00	214.20	-12.57	238.80	291.30	21.98	262.20	231.20	-11.82	248.67	245.57	-1.25
CYM07-986	200.20	168.30	-15.93	200.30	241.60	20.62	224.90	175.60	-21.92	208.47	195.17	-6.38
GU07-2276	171.80	163.20	-5.01	219.50	319.60	45.60	222.40	178.30	-19.83	204.57	220.37	7.72
GU07-3774	240.40	214.40	-10.82	240.70	218.30	-9.31	265.00	248.70	-6.15	248.70	227.13	-8.67
GU07-3849	161.70	142.30	-12.00	266.00	228.50	-14.10	270.40	208.60	-22.86	232.70	193.13	-17.00
MA05-99	286.40	269.40	-5.94	286.30	237.50	-17.05	290.00	258.50	-10.86	287.57	255.13	-11.28
MA05/22	234.30	222.20	-5.16	247.60	227.50	-8.12	374.40	302.30	-19.26	285.43	250.67	-12.18
MA05/51	228.40	219.40	-3.94	290.10	262.30	-9.58	210.70	188.00	-10.77	243.07	223.23	-8.16
MA5/37	254.70	209.80	-17.63	265.30	257.90	-2.79	256.30	206.10	-19.59	258.77	224.60	-13.20
MA5/5	227.30	239.70	5.46	249.50	278.10	11.46	266.70	212.80	-20.21	247.83	243.53	-1.74
PG9869-137	286.10	261.00	-8.77				245.40	208.40	-15.08	265.75	234.70	-11.68
SA04-390	244.50	222.70	-8.92				263.80	216.60	-17.89	254.15	219.65	-13.57
SA04-409	243.00	226.70	-6.71	307.00	247.00	-19.54	282.70	241.70	-14.50	277.57	238.47	-14.09
SA04-454	258.50	230.20	-10.95	260.10	316.70	21.76	277.40	226.10	-18.49	265.33	257.67	-2.89
SA04-458	203.80	203.20	-0.29	310.20	269.30	-13.19	327.20	231.90	-29.13	280.40	234.80	-16.26
SA04-472	193.60	157.00	-18.90				269.80	220.90	-18.12	231.70	188.95	-18.45
SA04-496	181.10	156.50	-13.58	232.10	237.00	2.11	257.70	200.90	-22.04	223.63	198.13	-11.40
SA98-13	224.30	189.20	-15.65	297.10	273.20	-8.04	279.30	229.40	-17.87	266.90	230.60	-13.60
Standards												
Check1	231.30	212.20	-8.26	264.40	224.50	-15.09	321.90	279.10	-13.30	272.53	238.60	-12.45
Check2	229.70	168.80	-26.51	282.60	339.30	20.06	227.60	178.80	-21.44	246.63	228.97	-7.16
Check3	200.90	173.90	-13.44	206.00	280.50	36.17	330.00	305.50	-7.42	245.63	253.30	3.12
GM	232.50	213.10	-8.34	257.60	264.10	2.52	272.00	224.10	-17.61	254.03	233.77	-7.98
CV	6.49	7.20		10.57	5.33		7.01	11.92				

Varietal Improvement Programme- AICRP (Sugarcane)
Principal Investigator's Report (2017-18)
Evaluation and identification of climate resilient ISH and IGH genetic stocks

Table 7.4.16: Cane diameter (cm) at 360 days

Entry	Kolhapur			Vuyyuru			Pusa			Mean		
	Normal	Water logging	% change	Normal	Water logging	% change	Normal	Water logging	% change	Normal	Water logging	% change
AS04-1687	1.71	1.60	-6.43	1.62	1.53	-5.56	2.50	2.01	-19.60	1.94	1.71	-11.84
AS04-1689	2.24	2.14	-4.46	1.56	1.78	14.10	1.99	1.87	-6.03	1.93	1.93	0.00
AS04-2097	2.46	2.35	-4.47	2.06	2.06	0.00	2.25	2.16	-4.00	2.26	2.19	-2.95
AS04-245	1.53	1.52	-0.65	1.41	1.47	4.26	2.46	1.52	-38.21	1.80	1.50	-16.48
AS04-635	1.90	1.87	-1.58	1.54	1.68	9.09	2.18	1.88	-13.76	1.87	1.81	-3.38
BM1003-143	2.60	2.35	-9.62	2.16	1.98	-8.33	2.20	2.12	-3.64	2.32	2.15	-7.33
BM1005-149	2.71	2.37	-12.55	2.05	1.94	-5.37	2.22	2.06	-7.21	2.33	2.12	-8.74
BM1009-163	3.14	2.87	-8.60	2.02	2.36	16.83	2.30	2.17	-5.65	2.49	2.47	-0.80
BM1010-168	1.92	1.89	-1.56	1.96	1.87	-4.59	2.25	1.96	-12.89	2.04	1.91	-6.69
BM1022-173	2.35	2.07	-11.91	2.17	2.43	11.98	2.04	1.91	-6.37	2.19	2.14	-2.29
CYM07-986	1.57	1.54	-1.91	1.51	1.66	9.93	2.36	2.02	-14.41	1.81	1.74	-4.04
GU07-2276	1.91	1.84	-3.66	1.97	1.83	-7.11	1.97	2.78	41.12	1.95	2.15	10.26
GU07-3774	2.53	2.45	-3.16	1.62	1.43	-11.73	2.12	1.68	-20.75	2.09	1.85	-11.32
GU07-3849	1.62	1.51	-6.79	1.65	1.58	-4.24	2.71	1.42	-47.60	1.99	1.50	-24.58
MA05-99	2.37	2.15	-9.28	1.90	2.10	10.53	1.71	2.15	25.73	1.99	2.13	7.02
MA05/22	3.15	3.00	-4.76	2.37	2.53	6.75	2.06	1.68	-18.45	2.53	2.40	-4.88
MA05/51	2.67	2.49	-6.74	2.25	1.71	-24.00	2.09	1.85	-11.48	2.34	2.02	-13.69
MA5/37	2.32	2.31	-0.43	2.36	2.13	-9.75	1.58	2.72	72.15	2.09	2.39	14.38
MA5/5	2.90	2.82	-2.76	2.15	1.98	-7.91	1.55	2.63	69.68	2.20	2.48	12.58
PG9869-137	3.16	3.14	-0.63				2.09	1.96	-6.22	2.63	2.55	-2.86
SA04-390	2.76	2.54	-7.97				2.58	3.08	19.38	2.67	2.81	5.24
SA04-409	2.69	2.52	-6.32	2.31	2.30	-0.43	1.68	2.51	49.40	2.23	2.44	9.73
SA04-454	2.43	2.30	-5.35	2.14	2.03	-5.14	2.08	2.88	38.46	2.22	2.40	8.42
SA04-458	2.78	2.73	-1.80	2.25	2.32	3.11	2.25	2.56	13.78	2.43	2.54	4.53
SA04-472	2.44	2.32	-4.92				2.53	2.31	-8.70	2.49	2.32	-6.84
SA04-496	1.72	1.65	-4.07	1.91	2.19	14.66	1.63	2.11	29.45	1.75	1.98	13.12
SA98-13	2.60	2.55	-1.92	2.54	2.47	-2.76	2.37	2.76	16.46	2.50	2.59	3.60
Standards												
Check1	2.56	2.32	-9.38	2.90	2.29	-21.03	1.83	2.12	15.85	2.43	2.24	-7.68
Check2	2.32	2.21	-4.74	2.19	2.52	15.07	2.18	2.28	4.59	2.23	2.34	4.78
Check3	3.18	3.07	-3.46	2.41	2.56	6.22	2.61	1.90	-27.20	2.73	2.51	-8.17
GM	2.41	2.28	-5.39	2.05	2.00	-2.44	2.16	2.18	0.93	2.21	2.15	-2.42
CV	8.30	7.01		9.31	7.15		3.59	3.28				

Varietal Improvement Programme- AICRP (Sugarcane)
Principal Investigator's Report (2017-18)
Evaluation and identification of climate resilient ISH and IGH genetic stocks
Table 7.4.17: Number of Millable canes at 360 days (000'/ha)

Entry	Kolhapur			Vuyyuru			Pusa			Mean		
	Normal	Water logging	% change	Normal	Water logging	% change	Normal	Water logging	% change	Normal	Water logging	% change
AS04-1687	214.60	154.00	-28.24	101.60	103.90	-2.26	98.49	119.60	21.43	138.23	125.83	-8.97
AS04-1689	185.30	183.30	-1.08	67.13	111.60	-66.24	118.10	115.00	-2.62	123.51	136.63	10.63
AS04-2097	131.00	106.50	-18.70	84.32	83.06	1.49	84.16	55.25	-34.35	99.83	81.60	-18.25
AS04-245	201.00	102.70	-48.91	81.94	92.25	-12.58	109.70	40.52	-63.06	130.88	78.49	-40.03
AS04-635	176.40	154.80	-12.24	57.12	104.20	-82.42	69.75	89.83	28.79	101.09	116.28	15.02
BM1003-143	96.94	107.30	10.69	51.39	59.09	-14.98	47.54	30.28	-36.31	65.29	65.56	0.41
BM1005-149	93.68	61.34	-34.52	49.54	58.16	-17.40	72.04	78.01	8.29	71.75	65.84	-8.25
BM1009-163	126.80	59.68	-52.93	67.13	58.91	12.24	40.02	57.99	44.90	77.98	58.86	-24.52
BM1010-168	121.80	93.28	-23.42	68.58	82.60	-20.44	88.16	70.59	-19.93	92.85	82.16	-11.51
BM1022-173	95.15	82.11	-13.70	38.14	69.04	-81.02	48.76	100.30	105.70	60.68	83.82	38.12
CYM07-986	124.40	85.98	-30.88	86.05	55.54	35.46	66.28	102.60	54.80	92.24	81.37	-11.78
GU07-2276	176.30	150.20	-14.80	51.16	90.93	-77.74	38.18	55.89	46.39	88.55	99.01	11.81
GU07-3774	133.80	110.30	-17.56	97.05	102.80	-5.92	93.78	63.42	-32.37	108.21	92.17	-14.82
GU07-3849	181.90	88.07	-51.58	97.63	87.49	10.39	52.72	82.86	57.17	110.75	86.14	-22.22
MA05-99	150.40	135.50	-9.91	61.40	60.71	1.12	54.55	36.98	-32.21	88.78	77.73	-12.45
MA05/22	79.23	65.26	-17.63	30.79	57.36	-86.29	38.60	53.26	37.98	49.54	58.63	18.34
MA05/51	82.13	85.17	3.70	57.23	59.32	-3.65	63.03	50.91	-19.23	67.46	65.13	-3.45
MA5/37	114.40	102.70	-10.23	79.57	58.55	26.42	33.69	85.51	153.81	75.89	82.25	8.39
MA5/5	108.40	121.50	12.08	59.49	76.35	-28.34	48.37	53.10	9.78	72.09	83.65	16.04
PG9869-137	63.40	90.74	43.12				69.88	46.94	-32.83	66.64	68.84	3.30
SA04-390	50.15	98.19	95.79				44.34	70.17	58.25	47.25	84.18	78.18
SA04-409	76.11	103.10	35.46	43.98	56.54	-28.56	70.38	100.90	43.36	63.49	86.85	36.79
SA04-454	72.65	67.42	-7.20	68.69	46.12	32.86	51.19	96.33	88.18	64.18	69.96	9.01
SA04-458	94.35	60.05	-36.35	60.24	61.99	-2.91	45.08	24.29	-46.12	66.56	48.78	-26.71
SA04-472	109.20	120.40	10.26				67.13	30.27	-54.91	88.17	75.34	-14.55
SA04-496	110.90	66.61	-39.94	79.40	55.54	30.05	53.43	39.40	-26.26	81.24	53.85	-33.72
SA98-13	59.77	29.63	-50.43	44.97	46.48	-3.36	68.05	50.48	-25.82	57.60	42.20	-26.74
Standards												
Check1	124.20	63.16	-49.15	50.29	47.51	5.53	65.90	77.64	17.81	80.13	62.77	-21.66
Check2	64.88	80.38	23.89	55.32	59.91	-8.30	101.30	104.60	3.26	73.83	81.63	10.56
Check3	71.72	104.70	45.98	66.15	62.02	6.24	99.31	88.77	-10.61	79.06	85.16	7.72
GM	116.30	97.82	-15.89	63.97	69.17	-8.13	68.03	69.32	1.90	82.77	78.77	-4.83
CV	12.68	11.47		21.17	7.60		16.01	11.91				

Varietal Improvement Programme- AICRP (Sugarcane)
Principal Investigator's Report (2017-18)
Evaluation and identification of climate resilient ISH and IGH genetic stocks

Table 7.4.18: Juice brix % at 360 days

Entry	Kolhapur			Vuyyuru			Pusa			Mean		
	Normal	Water logging	% change	Normal	Water logging	% change	Normal	Water logging	% change	Normal	Water logging	% change
AS04-1687	16.70	15.16	-9.22	11.35	19.88	75.15	16.18	17.55	8.47	14.74	17.53	18.90
AS04-1689	15.26	14.56	-4.59	14.61	15.97	9.31	15.95	19.75	23.82	15.27	16.76	9.73
AS04-2097	16.23	15.50	-4.50	14.96	11.13	-25.60	15.92	15.05	-5.46	15.70	13.89	-11.53
AS04-245	17.39	17.04	-2.01	16.09	15.16	-5.78	17.02	15.11	-11.22	16.83	15.77	-6.32
AS04-635	16.37	15.78	-3.60	16.54	15.89	-3.93	16.20	17.75	9.57	16.37	16.47	0.63
BM1003-143	22.20	21.58	-2.79	20.31	20.49	0.89	16.03	19.09	19.09	19.51	20.39	4.48
BM1005-149	21.71	19.06	-12.21	19.49	21.86	12.16	16.46	14.19	-13.79	19.22	18.37	-4.42
BM1009-163	21.04	20.54	-2.38	19.40	20.79	7.16	18.82	15.36	-18.38	19.75	18.90	-4.34
BM1010-168	15.48	14.75	-4.72	14.10	15.14	7.38	14.07	13.15	-6.54	14.55	14.35	-1.40
BM1022-173	18.77	17.53	-6.61	17.30	19.05	10.12	16.84	13.90	-17.46	17.64	16.83	-4.59
CYM07-986	18.50	17.88	-3.35	17.22	14.94	-13.24	15.23	15.95	4.73	16.98	16.26	-4.28
GU07-2276	14.56	17.44	19.78	14.47	15.97	10.37	16.59	13.80	-16.82	15.21	15.74	3.49
GU07-3774	17.04	14.62	-14.20	15.00	15.23	1.53	17.64	20.40	15.65	16.56	16.75	1.15
GU07-3849	17.15	16.88	-1.57	16.10	14.57	-9.50	16.28	16.70	2.58	16.51	16.05	-2.79
MA05-99	16.59	15.62	-5.85	18.77	19.31	2.88	18.13	16.85	-7.06	17.83	17.26	-3.20
MA05/22	20.36	19.69	-3.29	18.24	18.73	2.69	17.19	15.20	-11.58	18.60	17.87	-3.89
MA05/51	18.79	18.87	0.43	18.74	20.32	8.43	16.03	16.35	2.00	17.85	18.51	3.70
MA5/37	20.80	20.38	-2.02	19.84	18.68	-5.85	15.68	15.35	-2.10	18.77	18.14	-3.39
MA5/5	20.41	20.69	1.37	17.41	17.50	0.52	19.39	16.75	-13.62	19.07	18.31	-3.97
PG9869-137	21.15	20.66	-2.32				15.58	20.35	30.62	18.37	20.51	11.65
SA04-390	20.87	20.78	-0.43				17.05	16.95	-0.59	18.96	18.87	-0.50
SA04-409	21.35	21.33	-0.09	21.82	18.92	-13.29	18.44	16.40	-11.06	20.54	18.88	-8.05
SA04-454	18.27	17.53	-4.05	17.63	14.55	-17.47	17.70	16.75	-5.37	17.87	16.28	-8.90
SA04-458	19.58	19.50	-0.41	19.89	15.42	-22.47	17.97	16.65	-7.35	19.15	17.19	-10.22
SA04-472	21.50	21.41	-0.42				18.03	18.80	4.27	19.77	20.11	1.72
SA04-496	20.65	19.16	-7.22	21.29	18.62	-12.54	20.58	18.80	-8.65	20.84	18.86	-9.50
SA98-13	21.68	19.75	-8.90	20.80	21.50	3.37	19.22	17.85	-7.13	20.57	19.70	-4.21
Standards												
Check1	21.66	20.94	-3.32	20.31	19.51	-3.94	18.68	17.15	-8.19	20.22	19.20	-5.03
Check2	21.55	21.38	-0.79	21.58	20.29	-5.98	17.89	16.60	-7.21	20.34	19.42	-4.51
Check3	21.74	21.62	-0.55	21.02	21.66	3.04	19.03	19.45	2.21	20.60	20.91	1.52
GM	19.18	18.59	-3.08	18.17	17.96	-1.16	17.17	16.80	-2.15	18.17	17.78	-2.15
CV	4.49	3.19		3.75	3.04		4.34	6.15				

Varietal Improvement Programme- AICRP (Sugarcane)
Principal Investigator's Report (2017-18)
Evaluation and identification of climate resilient ISH and IGH genetic stocks

Table 7.4.19: Juice sucrose % at 360 days

Entry	Kolhapur			Vuyyuru			Pusa			Mean		
	Normal	Water logging	% change	Normal	Water logging	% change	Normal	Water logging	% change	Normal	Water logging	% change
AS04-1687	13.95	12.99	-6.88	8.69	17.48	101.15	11.46	12.46	8.73	11.37	14.31	25.89
AS04-1689	12.64	11.77	-6.88	11.01	14.22	29.16	11.35	14.29	25.90	11.67	13.43	15.09
AS04-2097	14.10	10.93	-22.48	12.39	9.27	-25.18	11.50	10.86	-5.57	12.66	10.35	-18.24
AS04-245	13.71	13.54	-1.24	13.18	13.22	0.30	11.99	10.73	-10.51	12.96	12.50	-3.58
AS04-635	12.81	13.89	8.43	14.99	13.25	-11.61	11.36	12.42	9.33	13.05	13.19	1.02
BM1003-143	19.19	19.73	2.81	17.98	17.13	-4.73	11.51	14.23	23.63	16.23	17.03	4.95
BM1005-149	20.24	17.37	-14.18	17.58	20.73	17.92	11.75	9.15	-22.13	16.52	15.75	-4.68
BM1009-163	19.51	19.26	-1.28	17.70	19.26	8.81	13.67	10.97	-19.75	16.96	16.50	-2.73
BM1010-168	13.90	12.31	-11.44	12.00	12.34	2.83	9.69	9.13	-5.78	11.86	11.26	-5.09
BM1022-173	16.50	15.45	-6.36	15.23	17.87	17.33	11.79	9.58	-18.74	14.51	14.30	-1.42
CYM07-986	15.39	16.37	6.37	15.49	11.97	-22.72	10.80	11.25	4.17	13.89	13.20	-5.01
GU07-2276	12.30	16.33	32.76	11.80	14.11	19.58	12.21	9.43	-22.77	12.10	13.29	9.80
GU07-3774	14.04	11.91	-15.17	13.66	14.11	3.29	12.28	14.81	20.60	13.33	13.61	2.13
GU07-3849	15.73	15.18	-3.50	13.98	12.38	-11.44	11.21	11.67	4.10	13.64	13.08	-4.13
MA05-99	15.33	14.54	-5.15	16.30	17.00	4.29	13.20	12.00	-9.09	14.94	14.51	-2.88
MA05/22	19.32	17.34	-10.25	16.64	17.57	5.59	12.50	10.40	-16.80	16.15	15.10	-6.50
MA05/51	17.99	14.25	-20.79	16.17	17.66	9.21	11.54	11.35	-1.65	15.23	14.42	-5.34
MA5/37	17.13	17.92	4.61	18.26	17.26	-5.48	11.57	10.97	-5.19	15.65	15.38	-1.72
MA5/5	19.21	19.55	1.77	15.75	16.51	4.83	14.32	11.90	-16.90	16.43	15.99	-2.68
PG9869-137	19.32	18.45	-4.50				10.99	14.83	34.94	15.16	16.64	9.80
SA04-390	19.06	18.16	-4.72				12.09	11.89	-1.65	15.58	15.03	-3.53
SA04-409	20.93	20.20	-3.49	19.72	16.66	-15.52	13.34	11.60	-13.04	18.00	16.15	-10.24
SA04-454	17.46	14.78	-15.35	15.65	12.74	-18.59	12.41	11.81	-4.83	15.17	13.11	-13.60
SA04-458	18.33	17.99	-1.85	18.50	12.38	-33.08	13.12	11.60	-11.59	16.65	13.99	-15.98
SA04-472	20.37	19.62	-3.68				12.98	13.42	3.39	16.68	16.52	-0.93
SA04-496	19.99	17.12	-14.36	19.69	17.64	-10.41	15.21	13.66	-10.19	18.30	16.14	-11.79
SA98-13	20.07	19.17	-4.48	18.52	20.46	10.48	14.20	12.67	-10.77	17.60	17.43	-0.93
Standards												
Check1	20.75	19.91	-4.05	19.23	17.67	-8.11	13.47	12.07	-10.39	17.82	16.55	-7.11
Check2	20.42	20.25	-0.83	20.81	19.47	-6.44	12.87	11.17	-13.21	18.03	16.96	-5.93
Check3	20.25	20.22	-0.15	20.13	20.98	4.22	13.90	14.23	2.37	18.09	18.48	2.12
GM	17.33	16.55	-4.50	16.26	16.13	-0.80	12.33	11.90	-3.49	15.31	14.86	-2.92
CV	3.43	3.51		3.25	2.91		4.79	7.02				

Varietal Improvement Programme- AICRP (Sugarcane)
Principal Investigator's Report (2017-18)
Evaluation and identification of climate resilient ISH and IGH genetic stocks

Table 7.4.20: Purity % at 360 days

Entry	Kolhapur			Vuyyuru			Pusa			Mean		
	Normal	Water logging	% change	Normal	Water logging	% change	Normal	Water logging	% change	Normal	Water logging	% change
AS04-1687	83.28	85.73	2.94	76.81	87.93	14.48	86.68	88.59	2.20	82.26	87.42	6.27
AS04-1689	82.77	80.85	-2.32	75.36	89.06	18.18	85.47	88.34	3.36	81.20	86.08	6.01
AS04-2097	86.85	70.48	-18.85	83.06	83.70	0.77	88.55	86.57	-2.24	86.15	80.25	-6.85
AS04-245	78.91	79.27	0.46	81.91	87.07	6.30	87.47	86.79	-0.78	82.76	84.38	1.95
AS04-635	78.27	88.04	12.48	90.59	83.56	-7.76	85.21	85.39	0.21	84.69	85.66	1.15
BM1003-143	86.63	91.51	5.63	88.63	83.34	-5.97	84.47	88.82	5.15	86.58	87.89	1.52
BM1005-149	93.10	91.04	-2.21	90.17	94.93	5.28	86.56	80.06	-7.51	89.94	88.68	-1.41
BM1009-163	92.88	93.75	0.94	91.21	92.76	1.70	86.32	87.99	1.93	90.14	91.50	1.51
BM1010-168	89.78	83.41	-7.10	85.33	81.53	-4.45	87.00	81.92	-5.84	87.37	82.29	-5.82
BM1022-173	88.43	88.14	-0.33	87.98	93.82	6.64	85.96	85.32	-0.74	87.46	89.09	1.87
CYM07-986	83.32	91.58	9.91	89.86	80.14	-10.82	86.33	87.74	1.63	86.50	86.49	-0.02
GU07-2276	84.76	93.54	10.36	81.51	88.55	8.64	85.60	82.69	-3.40	83.96	88.26	5.13
GU07-3774	82.31	81.58	-0.89	91.24	92.79	1.70	86.67	90.51	4.43	86.74	88.29	1.79
GU07-3849	91.72	89.95	-1.93	87.17	84.82	-2.70	85.23	86.24	1.19	88.04	87.00	-1.18
MA05-99	92.23	93.25	1.11	86.92	87.93	1.16	90.12	86.22	-4.33	89.76	89.13	-0.69
MA05/22	95.03	87.96	-7.44	91.23	93.95	2.98	87.15	83.09	-4.66	91.14	88.33	-3.08
MA05/51	95.51	75.44	-21.01	86.31	86.77	0.53	88.62	87.32	-1.47	90.15	83.18	-7.73
MA5/37	82.56	88.02	6.61	91.98	92.35	0.40	82.98	87.24	5.13	85.84	89.20	3.92
MA5/5	94.23	94.36	0.14	90.46	94.46	4.42	88.40	86.54	-2.10	91.03	91.79	0.83
PG9869-137	91.46	89.33	-2.33				85.58	89.94	5.09	88.52	89.64	1.26
SA04-390	91.51	87.44	-4.45				84.66	85.44	0.92	88.09	86.44	-1.87
SA04-409	98.02	94.77	-3.32	90.46	87.94	-2.79	85.21	85.22	0.01	91.23	89.31	-2.10
SA04-454	95.73	84.35	-11.89	88.70	87.69	-1.14	86.96	85.74	-1.40	90.46	85.93	-5.01
SA04-458	93.58	92.23	-1.44	93.05	80.34	-13.66	89.45	86.17	-3.67	92.03	86.25	-6.28
SA04-472	94.76	91.66	-3.27				84.79	88.54	4.42	89.78	90.10	0.36
SA04-496	96.86	89.43	-7.67	92.34	94.66	2.51	86.43	88.54	2.44	91.88	90.88	-1.09
SA98-13	92.51	97.05	4.91	89.11	95.15	6.78	87.50	87.97	0.54	89.71	93.39	4.11
Standards												
Check1	95.90	95.04	-0.90	94.61	90.49	-4.35	86.38	86.34	-0.05	92.30	90.62	-1.81
Check2	94.92	94.81	-0.12	96.47	96.04	-0.45	87.25	85.19	-2.36	92.88	92.01	-0.93
Check3	92.96	93.55	0.63	95.82	96.81	1.03	88.87	88.52	-0.39	92.55	92.96	0.44
GM	90.03	88.58	-1.61	88.93	89.39	0.52	86.70	86.59	-0.13	88.55	88.19	-0.41
CV	2.91	1.48		1.67	1.74		1.99	1.98				

Varietal Improvement Programme- AICRP (Sugarcane)
Principal Investigator's Report (2017-18)
Evaluation and identification of climate resilient ISH and IGH genetic stocks

Table 7.4.21: Cane fibre % at 360 days

Entry	Kolhapur			Vuyyuru			Pusa			Mean		
	Normal	Water logging	% change	Normal	Water logging	% change	Normal	Water logging	% change	Normal	Water logging	% change
AS04-1687				19.60	16.35	-16.58	12.21	13.13	7.53	15.91	14.74	-7.32
AS04-1689				17.79	10.94	-38.50	12.01	12.69	5.66	14.90	11.82	-20.70
AS04-2097				16.81	18.64	10.89	11.90	12.81	7.65	14.36	15.73	9.54
AS04-245				20.30	22.43	10.49	11.97	12.20	1.92	16.14	17.32	7.31
AS04-635				18.09	17.72	-2.05	12.46	12.85	3.13	15.28	15.29	0.07
BM1003-143				17.61	14.73	-16.35	13.13	13.46	2.51	15.37	14.10	-8.30
BM1005-149				15.49	16.84	8.72	12.89	13.50	4.73	14.19	15.17	6.91
BM1009-163				15.60	16.82	7.82	12.73	13.22	3.85	14.17	15.02	6.04
BM1010-168				15.81	18.24	15.37	11.88	12.32	3.70	13.85	15.28	10.36
BM1022-173				15.79	21.02	33.12	13.04	13.78	5.67	14.42	17.40	20.71
CYM07-986				19.50	14.92	-23.49	12.59	13.12	4.21	16.05	14.02	-12.62
GU07-2276				19.09	14.92	-21.84	11.62	12.38	6.54	15.36	13.65	-11.10
GU07-3774				15.61	21.26	36.19	13.68	14.53	6.21	14.65	17.90	22.19
GU07-3849				22.40	18.42	-17.77	13.39	13.71	2.39	17.90	16.07	-10.23
MA05-99				15.71	18.56	18.14	12.22	13.28	8.67	13.97	15.92	14.00
MA05/22				16.09	13.12	-18.46	11.44	12.15	6.21	13.77	12.64	-8.21
MA05/51				18.81	18.56	-1.33	11.57	12.74	10.11	15.19	15.65	3.03
MA5/37				15.90	14.32	-9.94	11.32	12.42	9.72	13.61	13.37	-1.76
MA5/5				17.79	20.62	15.91	11.34	12.46	9.88	14.57	16.54	13.56
PG9869-137							12.57	13.49	7.32	12.57	13.49	7.32
SA04-390							11.89	12.54	5.47	11.89	12.54	5.47
SA04-409				17.41	16.63	-4.48	12.22	12.97	6.14	14.82	14.80	-0.10
SA04-454				17.29	16.72	-3.30	11.54	12.40	7.45	14.42	14.56	1.01
SA04-458				15.71	18.74	19.29	12.06	12.50	3.65	13.89	15.62	12.50
SA04-472							12.31	13.37	8.61	12.31	13.37	8.61
SA04-496				20.30	16.45	-18.97	11.62	12.48	7.40	15.96	14.47	-9.37
SA98-13				12.91	13.04	1.01	11.33	12.00	5.91	12.12	12.52	3.30
Standards												
Check1				16.61	17.06	2.71	11.87	13.17	10.95	14.24	15.12	6.14
Check2				13.69	14.72	7.52	12.06	12.58	4.31	12.88	13.65	6.02
Check3				19.90	17.02	-14.47	12.53	12.91	3.03	16.22	14.97	-7.71
GM				17.33	17.09	-1.38	12.16	12.87	5.84	14.75	14.98	1.59
CV				7.37	2.48		4.06	3.54				

Varietal Improvement Programme- AICRP (Sugarcane)
Principal Investigator's Report (2017-18)
Evaluation and identification of climate resilient ISH and IGH genetic stocks

Table 7.4.22: Cane yield t/ha at 360 days

Entry	Kolhapur			Vuyyuru			Pusa			Mean		
	Normal	Water logging	% change	Normal	Water logging	% change	Normal	Water logging	% change	Normal	Water logging	% change
AS04-1687	217.30	152.80	-29.68	110.90	92.42	-16.66	79.89	74.28	-7.02	136.03	106.50	-21.71
AS04-1689	158.50	125.60	-20.76	72.15	136.50	89.19	70.14	67.75	-3.41	100.26	109.95	9.66
AS04-2097	131.20	84.93	-35.27	94.08	85.81	-8.79	77.00	62.91	-18.30	100.76	77.88	-22.70
AS04-245	174.90	92.59	-47.06	73.73	95.69	29.78	73.67	20.40	-72.31	107.43	69.56	-35.25
AS04-635	116.80	94.84	-18.80	73.64	125.20	70.02	50.61	42.41	-16.20	80.35	87.48	8.88
BM1003-143	127.70	102.90	-19.42	86.54	54.81	-36.67	44.45	35.17	-20.88	86.23	64.29	-25.44
BM1005-149	109.30	53.09	-51.43	80.94	70.33	-13.11	43.48	46.94	7.96	77.91	56.79	-27.11
BM1009-163	162.00	82.17	-49.28	71.41	65.83	-7.81	45.46	26.11	-42.56	92.96	58.04	-37.57
BM1010-168	97.49	70.00	-28.20	88.06	70.53	-19.91	55.74	35.02	-37.17	80.43	58.52	-27.25
BM1022-173	158.90	135.10	-14.98	89.38	94.91	6.19	78.47	44.60	-43.16	108.92	91.54	-15.96
CYM07-986	112.30	77.94	-30.60	69.43	55.43	-20.16	48.56	33.50	-31.01	76.76	55.62	-27.54
GU07-2276	104.00	84.84	-18.42	65.44	100.90	54.19	42.42	43.29	2.05	70.62	76.34	8.10
GU07-3774	175.20	129.20	-26.26	109.50	107.70	-1.64	45.79	24.62	-46.23	110.16	87.17	-20.87
GU07-3849	187.30	91.83	-50.97	89.80	59.46	-33.79	37.68	34.44	-8.60	104.93	61.91	-41.00
MA05-99	151.50	119.10	-21.39	79.02	42.27	-46.51	31.60	35.54	12.47	87.37	65.64	-24.88
MA05/22	128.20	105.60	-17.63	62.20	83.78	34.69	45.90	27.71	-39.63	78.77	72.36	-8.13
MA05/51	80.25	74.71	-6.90	95.69	71.20	-25.59	52.14	35.87	-31.20	76.03	60.59	-20.30
MA5/37	158.10	139.00	-12.08	96.28	85.29	-11.41	51.37	34.43	-32.98	101.92	86.24	-15.38
MA5/5	144.90	167.80	15.80	78.87	76.84	-2.57	54.59	33.99	-37.74	92.79	92.88	0.10
PG9869-137	103.50	132.30	27.83				54.04	36.26	-32.90	78.77	84.28	7.00
SA04-390	67.70	124.30	83.60				61.95	42.04	-32.14	64.83	83.17	28.30
SA04-409	109.80	142.50	29.78	66.63	62.68	-5.93	81.72	49.60	-39.30	86.05	84.93	-1.31
SA04-454	86.45	84.77	-1.94	108.30	80.10	-26.04	71.41	66.67	-6.64	88.72	77.18	-13.01
SA04-458	139.50	84.93	-39.12	67.23	64.98	-3.35	39.02	32.68	-16.25	81.92	60.86	-25.70
SA04-472	168.10	180.90	7.61				37.24	27.49	-26.18	102.67	104.20	1.49
SA04-496	98.56	49.38	-49.90	77.65	72.98	-6.01	53.82	36.03	-33.05	76.68	52.80	-31.14
SA98-13	62.49	25.21	-59.66	73.71	40.21	-45.45	44.41	40.19	-9.50	60.20	35.20	-41.53
Standards												
Check1	160.70	75.12	-53.25	104.90	59.17	-43.59	39.57	48.94	23.68	101.72	61.08	-39.96
Check2	89.41	97.38	8.91	106.10	118.50	11.69	82.81	79.47	-4.03	92.77	98.45	6.12
Check3	114.40	125.70	9.88	109.20	128.80	17.95	72.91	59.82	-17.95	98.84	104.77	6.01
GM	129.90	103.50	-20.32	84.04	81.37	-3.18	55.47	42.66	-23.09	89.80	75.84	-15.55
CV	13.77	27.36		20.17	15.20		8.45	12.00				

Varietal Improvement Programme- AICRP (Sugarcane)
Principal Investigator's Report (2017-18)
Evaluation and identification of climate resilient ISH and IGH genetic stocks

Table 7.4.23: CCS yield t/ha at 360 days

Entry	Kolhapur			Vuyyuru			Pusa			Mean		
	Normal	Water logging	% change	Normal	Water logging	% change	Normal	Water logging	% change	Normal	Water logging	% change
AS04-1687	20.20	13.70	-32.18	6.79	11.50	69.37	7.56	9.31	23.15	11.52	11.50	-0.12
AS04-1689	13.40	10.00	-25.37	5.27	13.70	159.96	6.60	7.05	6.82	8.42	10.25	21.69
AS04-2097	12.40	4.85	-60.89	8.08	5.18	-35.89	7.17	5.77	-19.53	9.22	5.27	-42.86
AS04-245	15.60	7.96	-48.97	6.60	8.97	35.91	7.08	1.86	-73.73	9.76	6.26	-35.83
AS04-635	9.72	9.40	-3.29	7.90	11.60	46.84	4.70	3.80	-19.15	7.44	8.27	11.11
BM1003-143	16.90	13.90	-17.75	11.10	6.46	-41.80	4.39	4.40	0.23	10.80	8.25	-23.56
BM1005-149	15.40	6.79	-55.91	10.00	10.60	6.00	4.84	3.61	-25.41	10.08	7.00	-30.56
BM1009-163	21.80	11.20	-48.62	9.12	9.32	2.19	5.15	2.47	-52.04	12.02	7.66	-36.26
BM1010-168	9.48	5.12	-45.99	7.47	5.71	-23.56	4.34	2.66	-38.71	7.10	4.50	-36.64
BM1022-173	18.00	14.70	-18.33	9.62	12.30	27.86	7.80	3.68	-52.82	11.81	10.23	-13.38
CYM07-986	11.70	9.14	-21.88	7.67	4.82	-37.16	4.26	3.14	-26.29	7.88	5.70	-27.63
GU07-2276	8.64	9.78	13.19	5.04	10.00	98.41	4.24	3.81	-10.14	5.97	7.86	31.64
GU07-3774	16.40	9.99	-39.09	10.90	10.90	0.00	4.92	3.08	-37.40	10.74	7.99	-25.61
GU07-3849	20.70	10.20	-50.72	8.79	5.40	-38.57	3.40	3.36	-1.18	10.96	6.32	-42.35
MA05-99	16.40	12.00	-26.83	8.96	5.09	-43.19	3.65	3.46	-5.21	9.67	6.85	-29.16
MA05/22	17.50	12.50	-28.57	7.51	10.60	41.15	4.97	2.42	-51.31	9.99	8.51	-14.88
MA05/51	10.30	6.61	-35.83	10.70	8.84	-17.38	5.05	3.44	-31.88	8.68	6.30	-27.49
MA5/37	18.20	17.20	-5.49	12.80	10.80	-15.63	4.85	3.15	-35.05	11.95	10.38	-13.11
MA5/5	19.30	23.40	21.24	8.97	9.14	1.90	6.36	3.44	-45.91	11.54	11.99	3.90
PG9869-137	14.00	17.50	25.00				4.56	4.53	-0.66	9.28	11.02	18.70
SA04-390	9.08	15.80	74.01				6.14	3.12	-49.19	7.61	9.46	24.31
SA04-409	16.90	20.10	18.93	9.58	7.39	-22.86	9.12	5.51	-39.58	11.87	11.00	-7.30
SA04-454	10.80	8.79	-18.61	12.00	7.37	-38.58	7.58	6.54	-13.72	10.13	7.57	-25.28
SA04-458	18.20	10.30	-43.41	9.05	5.18	-42.76	4.28	3.43	-19.86	10.51	6.30	-40.03
SA04-472	24.30	25.00	2.88				3.58	3.02	-15.64	13.94	14.01	0.50
SA04-496	14.10	6.12	-56.60	10.60	9.61	-9.34	6.89	4.01	-41.80	10.53	6.58	-37.51
SA98-13	8.88	3.26	-63.29	9.67	6.05	-37.44	5.23	4.55	-13.00	7.93	4.62	-41.72
Standards												
Check1	23.70	10.80	-54.43	14.40	7.54	-47.64	4.31	4.71	9.28	14.14	7.68	-45.65
Check2	13.20	14.00	6.06	16.60	16.90	1.81	8.72	7.53	-13.65	12.84	12.81	-0.23
Check3	16.40	17.90	9.15	16.30	20.00	22.70	8.57	7.02	-18.09	13.76	14.97	8.84
GM	15.40	11.90	-22.73	9.73	9.40	-3.39	5.65	4.28	-24.25	10.26	8.53	-16.89
CV	14.30	27.40		21.50	15.20		12.10	16.40				

Varietal Improvement Programme- AICRP (Sugarcane)
Principal Investigator's Report (2017-18)
Evaluation and identification of climate resilient ISH and IGH genetic stocks

Table 7.4.24: Leaf area before, during and after water logging (Pusa center)

Entry	Leaf area at 150 days			Leaf area at 180 days			Leaf area at 210 days		
	Normal	Water logging	% change	Normal	Water logging	% change	Normal	Water logging	% change
AS04-1687	1910.30	1908.10	-0.12	2001.50	2066.60	3.25	2431.50	2428.90	-0.11
AS04-1689	1725.90	1725.20	-0.04	1782.90	1797.50	0.82	1944.30	1954.80	0.54
AS04-2097	2399.40	2219.50	-7.50	2584.50	2589.10	0.18	2797.90	2803.40	0.20
AS04-245	1989.10	1983.20	-0.30	2313.90	2258.50	-2.39	2706.90	2672.50	-1.27
AS04-635	1941.70	1909.70	-1.65	2083.40	2061.20	-1.07	2312.00	2322.10	0.44
BM1003-143	2718.00	2558.20	-5.88	2952.30	2708.90	-8.24	3053.20	2858.80	-6.37
BM1005-149	1187.50	1281.80	7.94	1670.90	1674.60	0.22	2026.80	2021.70	-0.25
BM1009-163	2410.10	2406.70	-0.14	2679.90	2667.00	-0.48	2947.90	2893.50	-1.85
BM1010-168	1983.90	1973.50	-0.52	2163.50	2217.10	2.48	2269.40	2274.90	0.24
BM1022-173	2305.90	2327.50	0.94	2508.80	2518.80	0.40	2770.20	2759.40	-0.39
CYM07-986	1929.60	1895.60	-1.76	2185.00	2129.80	-2.53	2410.20	2345.70	-2.68
GU07-2276	3321.60	3354.80	1.00	3499.80	3476.40	-0.67	3746.70	3715.30	-0.84
GU07-3774	1758.20	1756.60	-0.09	1691.90	1717.40	1.51	1808.70	1893.80	4.71
GU07-3849	2338.10	2300.10	-1.63	2620.00	2580.30	-1.52	2852.70	2812.20	-1.42
MA05-99	2530.10	2499.90	-1.19	2752.60	2750.10	-0.09	3135.40	3053.80	-2.60
MA05/22	2196.60	2178.30	-0.83	2375.80	2395.90	0.85	2562.70	2552.80	-0.39
MA05/51	1613.10	1545.90	-4.17	1690.10	1660.10	-1.78	1860.90	1857.80	-0.17
MA5/37	2232.60	2238.60	0.27	2468.50	2465.80	-0.11	2697.20	2652.20	-1.67
MA5/5	3477.10	3482.30	0.15	3653.80	3661.40	0.21	3760.20	3764.80	0.12
PG9869-137	2644.80	2642.60	-0.08	2810.00	2798.60	-0.41	2991.00	2988.40	-0.09
SA04-390	3330.70	3289.70	-1.23	3479.90	3466.20	-0.39	3585.50	3609.60	0.67
SA04-409	2145.40	2087.40	-2.70	2443.10	2425.90	-0.70	2639.70	2621.10	-0.70
SA04-454	3372.20	3352.20	-0.59	3608.90	3606.70	-0.06	3795.00	3788.10	-0.18
SA04-458	3944.40	3822.50	-3.09	4186.00	4065.60	-2.88	4351.40	4356.90	0.13
SA04-472	4260.30	4222.60	-0.88	4459.50	4448.10	-0.26	4655.00	4652.40	-0.06
SA04-496	2761.30	2798.60	1.35	3147.00	3044.10	-3.27	3420.00	3252.40	-4.90
SA98-13	2489.40	2363.00	-5.08	2636.00	2552.10	-3.18	2639.40	2637.90	-0.06
Standards									
Check1	2518.60	2571.10	2.08	2844.00	2824.80	-0.68	2991.20	2975.20	-0.53
Check2	2673.10	2597.30	-2.84	2855.80	2860.40	0.16	3098.20	3056.30	-1.35
Check3	2175.10	2090.90	-3.87	2363.60	2314.10	-2.09	2438.40	2387.80	-2.08
GM	2480.60	2446.50	-1.37	2684.90	2663.00	-0.82	2892.20	2868.10	-0.83
CV	10.42	10.97		9.38		4.80	9.26	9.67	

Varietal Improvement Programme- AICRP (Sugarcane)
Principal Investigator's Report (2017-18)
Evaluation and identification of climate resilient ISH and IGH genetic stocks

Table 7.4.25: CCS % at 300 and 360 days and fibre% at 300 days (Pusa center)

Entry	CCS% at 300 days			CCS % at 360 days			Cane fibre % at 300 days		
	Normal	Water logging	% change	Normal	Water logging	% change	Normal	Water logging	% change
AS04-1687	8.36	9.86	17.94	9.45	10.32	9.21	12.39	13.53	9.20
AS04-1689	7.41	8.56	15.52	9.34	10.41	11.46	12.38	13.04	5.33
AS04-2097	9.63	7.72	-19.83	9.34	9.40	0.64	12.73	13.18	3.53
AS04-245	11.10	9.33	-15.95	9.73	9.08	-6.68	12.31	12.61	2.44
AS04-635	8.64	8.52	-1.39	9.43	10.22	8.38	12.65	13.32	5.30
BM1003-143	9.96	9.36	-6.02	9.61	12.34	28.41	13.54	13.66	0.89
BM1005-149	10.60	10.30	-2.83	11.30	7.54	-33.27	13.09	13.97	6.72
BM1009-163	10.30	10.90	5.83	11.40	9.40	-17.54	13.00	13.80	6.15
BM1010-168	7.97	7.25	-9.03	7.67	7.72	0.65	12.12	12.62	4.13
BM1022-173	11.20	9.62	-14.11	9.95	7.68	-22.81	13.20	14.23	7.80
CYM07-986	11.30	9.19	-18.67	9.03	9.14	1.22	12.68	13.41	5.76
GU07-2276	9.23	9.56	3.58	10.00	9.13	-8.70	11.98	12.58	5.01
GU07-3774	9.72	10.00	2.88	10.20	12.50	22.55	14.27	14.97	4.91
GU07-3849	8.38	9.26	10.50	9.38	9.52	1.49	13.81	14.23	3.04
MA05-99	10.00	7.81	-21.90	10.90	9.97	-8.53	12.55	13.67	8.92
MA05/22	9.24	8.61	-6.82	10.90	8.70	-20.18	11.88	12.46	4.88
MA05/51	10.10	8.34	-17.43	9.42	9.84	4.46	11.82	13.01	10.07
MA5/37	11.20	8.98	-19.82	9.64	8.87	-7.99	11.58	12.66	9.33
MA5/5	10.10	10.60	4.95	11.70	10.21	-12.74	11.67	12.58	7.80
PG9869-137	10.20	11.10	8.82	9.10	12.40	36.26	12.70	13.79	8.58
SA04-390	11.20	10.60	-5.36	9.99	9.73	-2.60	12.10	12.83	6.03
SA04-409	12.00	9.20	-23.33	11.10	11.27	1.53	12.34	13.22	7.13
SA04-454	10.30	9.08	-11.84	10.60	9.67	-8.77	11.94	12.75	6.78
SA04-458	10.10	9.64	-4.55	10.80	10.42	-3.52	12.44	12.85	3.30
SA04-472	12.10	11.70	-3.31	10.80	11.17	3.43	12.61	13.76	9.12
SA04-496	12.00	12.10	0.83	12.60	11.18	-11.27	11.69	12.77	9.24
SA98-13	12.00	9.48	-21.00	11.70	11.30	-3.42	11.61	12.38	6.63
Standards									
Check1	11.30	10.40	-7.96	11.10	9.36	-15.68	12.14	13.72	13.01
Check2	11.70	10.60	-9.40	10.50	9.51	-9.43	12.39	12.89	4.04
Check3	9.04	10.80	19.47	11.50	11.92	3.65	12.84	13.27	3.35
GM	10.20	9.63	-5.59	10.20	10.01	-1.86	12.43	13.21	6.28
CV	13.30	8.23		5.63	10.75		3.72	3.50	

Table 7.4.26: List of clones in each traits showing less than five percent reduction under water logged condition

Traits	Number of entries	Clones showing <5% reduction
Germination %	2	AS04-635, MA05/22
Number of Tillers at 90 days ('000/ha)	9	AS04-1689, AS04-635, BM1005-149, BM1022-173, GU07-3774, MA05/22, PG9869-137, SA04-409, SA04-454
Number of Shoots at 150 days ('000/ha)	10	AS04-635, CYM07-986, GU07-2276, GU07-3849, MA5/37, MA5/5, PG9869-137, SA04-390, SA04-454, SA04-472
Number of shoots at 180 days ('000/ha)	9	AS04-635, CYM07-986, GU07-2276, GU07-3849, MA5/37, MA5/5, SA04-390, SA04-454, SA04-472
Number of shoots at 210 days ('000/ha)	10	AS04-635, BM1005-149, BM1009-163, CYM07-986, GU07-2276, GU07-3849, MA5/37, MA5/5, SA04-390, SA04-454
Number of shoots ('000/ha) at 300 days	11	AS04-1687, AS04-635, BM1005-149, BM1009-163, CYM07-986, GU07-2276, GU07-3849, MA5/37, MA5/5, SA04-390, SA04-454
Single Cane weight (Kg) at 300 days	14	AS04-1687, AS04-2097, AS04-245, AS04-635, BM1009-163, BM1010-168, CYM07-986, GU07-2276, GU07-3849, MA05/22, SA04-409, SA04-454, SA04-472, SA04-496
Cane length (cm) at 300 days	22	AS04-1687, AS04-1689, AS04-2097, AS04-245, AS04-635, BM1003-143, BM1005-149, BM1009-163, BM1010-168, CYM07-986, GU07-2276, GU07-3774, GU07-3849, MA05-99, MA05/22, MA05/51, PG9869-137, SA04-390, SA04-409, SA04-454, SA04-458, SA04-496
Cane diameter (cm) at 300 days	15	AS04-1687, AS04-1689, AS04-2097, AS04-245, AS04-635, BM1003-143, BM1009-163, BM1010-168, GU07-3774, GU07-3849, MA05/22, PG9869-137, SA04-409, SA04-454, SA04-458
Number of millable canes at 300 days (000'/ha)	27	AS04-1687, AS04-1689, AS04-2097, AS04-245, AS04-635, BM1003-143, BM1005-149, BM1009-163, BM1010-168, BM1022-173, CYM07-986, GU07-2276, GU07-3774, GU07-3849, MA05-99, MA05/22, MA05/51, MA5/37, MA5/5, PG9869-137, SA04-390, SA04-409, SA04-454, SA04-458, SA04-472, SA04-496, SA98-13
Juice brix % at 300 days	13	AS04-1689, AS04-245, AS04-635, BM1003-143, BM1009-163, BM1010-168, BM1022-173, GU07-2276, GU07-3849, MA05/22, MA05/51, MA5/5, SA04-390
Juice sucrose % at 300 days	10	AS04-1689, AS04-245, AS04-635, BM1009-163, BM1010-168, BM1022-173, GU07-2276, GU07-3849, MA05/22, SA04-390
Purity % at 300 days	23	AS04-1689, AS04-245, AS04-635, BM1003-143, BM1005-149, BM1009-163, BM1010-168, BM1022-

Varietal Improvement Programme- AICRP (Sugarcane)
Principal Investigator's Report (2017-18)
Evaluation and identification of climate resilient ISH and IGH genetic stocks

		173, CYM07-986, GU07-2276, GU07-3774, GU07-3849, MA05-99, MA05/22, MA5/37, PG9869-137, SA04-390, SA04-409, SA04-454, SA04-458, SA04-472, SA04-496, SA98-13
Single cane weight (Kg) at 360 days	3	GU07-3774, MA05-99, SA04-472
Cane length (cm) at 360 days	7	AS04-2097, AS04-635, BM1005-149, BM1022-173, GU07-2276, MA5/5, SA04-454
Cane diameter (cm) at 360 days	19	AS04-1689, AS04-2097, AS04-635, BM1009-163, BM1022-173, CYM07-986, GU07-2276, MA05-99, MA05/22, MA5/37, MA5/5, PG9869-137, SA04-390, SA04-409, SA04-454, SA04-458, SA04-472, SA04-496, SA98-13
Number of Millable canes at 360 days (000 ³ /ha)	14	AS04-1689, AS04-635, BM1003-143, BM1022-173, GU07-2276, MA05-99, MA05/22, MA05/51, MA5/37, MA5/5, PG9869-137, SA04-390, SA04-409, SA04-454
Juice brix % at 360 days	21	AS04-1687, AS04-1689, AS04-635, BM1003-143, BM1005-149, BM1009-163, BM1010-168, BM1022-173, CYM07-986, GU07-2276, GU07-3774, GU07-3849, MA05-99, MA05/22, MA05/51, MA5/37, MA5/5, PG9869-137, SA04-390, SA04-472, SA98-13
Juice sucrose % at 360 days	18	AS04-1687, AS04-1689, AS04-245, AS04-635, BM1003-143, BM1005-149, BM1009-163, BM1022-173, GU07-2276, GU07-3774, GU07-3849, MA05-99, MA5/37, MA5/5, PG9869-137, SA04-390, SA04-472, SA98-13
Purity % at 360 days	22	AS04-1687, AS04-1689, AS04-245, AS04-635, BM1003-143, BM1005-149, BM1009-163, BM1022-173, CYM07-986, GU07-2276, GU07-3774, GU07-3849, MA05-99, MA05/22, MA5/37, MA5/5, PG9869-137, SA04-390, SA04-409, SA04-472, SA04-496, SA98-13
Cane fibre % at 360 days	19	AS04-2097, AS04-245, AS04-635, BM1005-149, BM1009-163, BM1010-168, BM1022-173, GU07-3774, MA05-99, MA05/51, MA5/37, MA5/5, PG9869-137, SA04-390, SA04-409, SA04-454, SA04-458, SA04-472, SA98-13
Cane yield t/ha at 360 days	8	AS04-1689, AS04-635, GU07-2276, MA5/5, PG9869-137, SA04-390, SA04-409, SA04-472
CCS yield t/ha at 360 days	15	AS04-1687, AS04-1689, AS04-2097, AS04-635, BM1003-143, CYM07-986, GU07-3774, GU07-3849, MA05/51, PG9869-137, SA04-390, SA04-409, SA04-458, SA04-472, SA98-13

B. III 7 Evaluation and identification of climate resilient ISH and IGH genetic stocks (2017-18)

7.5 Evaluation for water logging tolerance (Ratoon)

Locations (4)	Tropical: Kolhapur, Vuyyuru Subtropical: Pusa, Motipur*
Entries (27)	BM 1003143, BM 1005149, BM 1009163, BM 1010168, BM 1022173, PG 9869137, SA 98-13, SA 04-454, SA 04-4792, SA 04-458, SA 04-390, SA 04-496, SA 04-409, AS 04-1689, AS 04-245, AS 04-2097, AS 04-635, AS 04-1687, MA 5/51, MA 5/5, MA 5/37, MA 5/99, MA 5/22, GU 07-3849, GU 07-3774, GU 07-2276 and CYM 07-986
Standards (3 for each region)	Kolhapur : Co 86032(Check 1), CoM 0265 (Check 2) and Co 92005 (Check 3) Vuyyuru : CoV 94101 (Check 1), CoV 92102 (Check 2) and CoV 09356 (Check 3) Pusa : BO91 (Check 1), BO154 (Check 2) and BO145 (Check 3)
Design	Alpha
Replications	Two
Plot size	6m x 2R x 0.90m
Seed rate	
Year of start	2016-17
Crop duration	11 months

*Data not received

Results of the previous year: Considering cane yield, juice quality parameters and other physiological parameters, three entries viz., AS 04-245, AS 04-635, AS-04-1689, AS-04-1687, MA 5/22 were found to be tolerant to water logging

Results of the current year:

, Twenty seven ISH/IGH clones were evaluated under water logging condition under natural water logging or by ensuring water stagnation (minimum 15cm) during the grand growth phase (150 – 210 days after planting) at four centers. Data on cane yield, juice quality, physiological and agronomical traits contributing to water logging were recorded. Percentage change due to imposition of water logging for the characters was worked out (Table 7.5.1 to Table 7.5.17).

Response of entries to water logging:

Twenty seven entries were analyzed individually for different cane yield, juice quality parameters for their response to water logging (Table 7.5.18). The entries which showed less than 5% reduction under water logged condition were identified as tolerant clones.

Analysis of yield contributing traits indicated SA 04-458 for number of shoots at 270 days ('000/ha), BM 1005149, GU 07-2276, GU 07-3849, SA 98-13 for single Cane weight (Kg) at 270 days, AS 04-1687, AS 04-245, AS 04-635, BM 1003143, BM 1005149, BM 1009163, BM 1022173, GU 07-2276, GU 07-3849, MA 5/37, MA 5/5, MA 5/51, SA 04-409, SA 04-454, SA 04-458, SA 04-496, SA 98-13 for cane length at 270 days, GU 07-2276, GU 07-3849, MA 5/37, PG 9869137, SA 04-472, SA 04-496, SA 98-13 for cane diameter (cm) at 270 days, GU 07-2276, GU 07-3849, MA 5/37, PG 9869137, SA 04-472, SA 04-496, SA 98-13 for cane diameter (cm) at 270 days, AS 04-2097, BM 1009163, GU 07-2276, GU 07-3774, GU 07-3849, MA 5/22, MA 5/5, MA 5/51, PG 9869137, SA 04-454, SA 04-458, SA 98-13 juice brix % at 270 days, AS 04-2097, BM 1003143, BM 1009163, GU 07-2276, GU 07-3774, GU 07-3849, MA 5/22, MA 5/5, MA 5/51, PG 9869137, SA 04-454, SA 04-458, SA 98-13 for juice sucrose % at 270 days, AS 04-1687, BM 1022173, MA 5/22, SA 04-409 for single cane weight (Kg) at harvest, AS 04-2097, AS 04-635, BM 1003143, BM 1005149, BM 1009163, BM 1022173, CYM 07-986, GU 07-2276, GU 07-3774, MA 5/37, MA 5/51, MA 5/99, PG 9869137, SA 04-390, SA 04-409, SA 04-454, SA 04-496 for cane diameter (cm) at harvest, AS 04-1687, AS 04-2097, AS 04-635, BM 1009163, CYM 07-986, GU 07-3774, MA 5/51, PG 9869137, SA 04-390, SA 04-454, SA 04-458, SA 04-496 number of millable canes at harvest (000'/ha), AS 04-1689, CYM 07-986, GU 07-3849, MA 5/22, MA 5/5, MA 5/51, MA 5/99, SA 04-454, SA 04-472, SA 04-496 for juice brix % at harvest days, AS 04-2097, BM 1005149, BM 1022173, GU 07-3774, GU 07-3849, MA 5/51, MA 5/99, PG 9869137, SA 04-454, SA 04-472, SA 04-496 juice sucrose % at harvest, AS 04-1687, AS 04-1689, SA 04-454, SA 04-458 for cane yield t/ha at harvest, SA 04-454 for CCS yield t/ha at 360 days showed less than five percent yield reduction in comparison to normal condition.

Considering yield and other quality parameters the clones AS 04-1687, AS 04-1689, SA 04-454, SA 04-458 and SA 04-496 were considered to have comparatively better waterlogging tolerance.

Varietal Improvement Programme- AICRP (Sugarcane)
Principal Investigator's Report (2017-18)
Evaluation and identification of climate resilient ISH and IGH genetic stocks

Table 7.5.1: Number of Tillers at 90 days ('000/ha)

Entry	Kolhapur			Vuyyuru			Pusa			Mean		
	Normal	Water logging	% change	Normal	Water logging	% change	Normal	Water logging	% change	Normal	Water logging	% change
AS04-1687				123.24	235.48	91.07	61.53	57.34	-6.81	92.39	146.41	58.48
AS04-1689				216.05	168.83	-21.86	59.21	50.19	-15.23	137.63	109.51	-20.43
AS04-2097				125.77	154.59	22.91	51.41	78.66	53.01	88.59	116.63	31.65
AS04-245				247.22	191.09	-22.70	89.53	51.69	-42.27	168.38	121.39	-27.90
AS04-635				182.93	195.11	6.66	73.07	86.65	18.58	128.00	140.88	10.06
BM1003-143				97.84	103.97	6.27	58.16	67.54	16.13	78.00	85.76	9.94
BM1005-149				107.72	104.48	-3.01	100.40	39.99	-60.17	104.06	72.24	-30.58
BM1009-163				93.06	106.83	14.80	42.11	78.07	85.40	67.59	92.45	36.79
BM1010-168				147.53	105.98	-28.16	62.58	42.47	-32.13	105.06	74.23	-29.35
BM1022-173				100.06	73.81	-26.23	66.18	55.13	-16.70	83.12	64.47	-22.44
CYM07-986				139.20	121.03	-13.05	36.95	61.80	67.25	88.08	91.42	3.79
GU07-2276				134.01	116.10	-13.36	85.85	57.55	-32.96	109.93	86.83	-21.02
GU07-3774				243.92	259.64	6.44	86.69	76.96	-11.22	165.31	168.30	1.81
GU07-3849				146.60	218.25	48.87	96.96	91.18	-5.96	121.78	154.72	27.04
MA05-99				61.79	56.84	-8.01	61.14	83.10	35.92	61.47	69.97	13.84
MA05/22				99.38	69.17	-30.40	91.53	71.73	-21.63	95.46	70.45	-26.20
MA05/51				74.75	82.30	10.10	55.02	93.91	70.68	64.89	88.11	35.79
MA5/37				82.81	97.14	17.30	102.90	97.25	-5.49	92.86	97.20	4.67
MA5/5				172.16	75.38	-56.22	62.67	43.08	-31.26	117.42	59.23	-49.55
PG9869-137							68.58	65.75	-4.13	68.58	65.75	-4.13
SA04-390							65.58	55.89	-14.78	65.58	55.89	-14.78
SA04-409				90.90	79.44	-12.61	100.40	18.96	-81.12	95.65	49.20	-48.56
SA04-454				90.34	56.68	-37.26	90.01	54.54	-39.41	90.18	55.61	-38.33
SA04-458				81.79	114.31	39.76	37.43	86.02	129.82	59.61	100.17	68.03
SA04-472							115.00	103.70	-9.83	115.00	103.70	-9.83
SA04-496				90.37	109.10	20.73	58.61	39.64	-32.37	74.49	74.37	-0.16
SA98-13				71.60	61.07	-14.71	85.96	84.46	-1.74	78.78	72.77	-7.64
Standards												
Check1				86.98	67.97	-21.86	144.60	69.19	-52.15	115.79	68.58	-40.77
Check2				105.30	98.04	-6.89	140.00	85.93	-38.62	122.65	91.99	-25.00
Check3				117.90	120.10	1.87	65.06	62.89	-3.34	91.48	91.50	0.02
GM				118.63	115.68	-2.49	77.18	67.04	-13.14	97.91	91.36	-6.69
CV				15.59	15.91		40.57	13.55	-			

Varietal Improvement Programme- AICRP (Sugarcane)
Principal Investigator's Report (2017-18)
Evaluation and identification of climate resilient ISH and IGH genetic stocks

Table 7.5.2: Number of shoots at 270 days ('000/ha)

Entry	Kolhapur			Vuyyuru			Pusa			Mean		
	Normal	Water logging	% change	Normal	Water logging	% change	Normal	Water logging	% change	Normal	Water logging	% change
AS04-1687	126.80	103.60	-18.30	90.53	97.49	7.69				108.67	100.55	-7.47
AS04-1689	58.59	39.87	-31.95	116.59	105.36	-9.63				87.59	72.62	-17.10
AS04-2097	135.60	86.74	-36.03	90.32	86.87	-3.82				112.96	86.81	-23.15
AS04-245	130.20	99.88	-23.29	122.22	105.36	-13.79				126.21	102.62	-18.69
AS04-635	83.72	67.63	-19.22	109.90	106.84	-2.78				96.81	87.24	-9.89
BM1003-143	64.63	39.75	-38.50	81.56	61.96	-24.03				73.10	50.86	-30.43
BM1005-149	79.77	30.84	-61.34	61.96	70.64	14.01				70.87	50.74	-28.40
BM1009-163	66.00	49.88	-24.42	67.59	59.53	-11.92				66.80	54.71	-18.10
BM1010-168	85.30	51.67	-39.43	99.11	67.43	-31.96				92.21	59.55	-35.42
BM1022-173	67.40	36.38	-46.02	82.12	61.93	-24.59				74.76	49.16	-34.25
CYM07-986	64.78	44.21	-31.75	99.58	88.78	-10.85				82.18	66.50	-19.09
GU07-2276	70.02	59.41	-15.15	104.30	74.81	-28.27				87.16	67.11	-23.00
GU07-3774	86.03	68.24	-20.68	141.96	104.47	-26.41				114.00	86.36	-24.25
GU07-3849	67.21	54.97	-18.21	109.30	92.95	-14.96				88.26	73.96	-16.20
MA05-99	85.64	63.58	-25.76	41.80	43.79	4.76				63.72	53.69	-15.75
MA05/22	73.46	34.14	-53.53	84.76	43.88	-48.23				79.11	39.01	-50.69
MA05/51	104.30	66.36	-36.38	48.28	41.47	-14.11				76.29	53.92	-29.33
MA5/37	77.35	67.89	-12.23	73.44	52.15	-28.99				75.40	60.02	-20.39
MA5/5	95.40	88.38	-7.36	108.62	33.63	-69.04				102.01	61.01	-40.20
PG9869-137	57.01	41.45	-27.29							57.01	41.45	-27.29
SA04-390	59.41	56.17	-5.45							59.41	56.17	-5.45
SA04-409	118.40	101.90	-13.94	50.08	46.22	-7.71				84.24	74.06	-12.08
SA04-454	86.84	80.48	-7.32	72.40	55.91	-22.78				79.62	68.20	-14.35
SA04-458	62.38	59.31	-4.92	42.17	59.56	41.24				52.28	59.44	13.70
SA04-472	64.65	52.90	-18.17							64.65	52.90	-18.17
SA04-496	86.17	67.14	-22.08	61.36	59.53	-2.98				73.77	63.34	-14.14
SA98-13	102.60	49.24	-52.01	49.58	29.00	-41.51				76.09	39.12	-48.59
Standards												
Check1	44.61	34.91	-21.74	67.42	28.54	-57.67				56.02	31.73	-43.36
Check2	48.98	23.73	-51.55	81.15	68.33	-15.80				65.07	46.03	-29.26
Check3	40.47	33.37	-17.54	106.98	74.43	-30.43				73.73	53.90	-26.89
GM	80.20	58.47	-27.09	81.42	65.37	-19.71				80.81	61.92	-23.38
CV	16.94	16.26		13.87	20.83							

Varietal Improvement Programme- AICRP (Sugarcane)
Principal Investigator's Report (2017-18)
Evaluation and identification of climate resilient ISH and IGH genetic stocks

Table 7.5.3: Single Cane weight (Kg) at 270 days

Table 7.5.4: Cane length at 270 days

Table 7.5.5: Cane diameter (cm) at 270 days

Entry	Kolhapur			Entry	Kolhapur			Entry	Kolhapur		
	Normal	Water logging	% change		Normal	Water logging	% change		Normal	Water logging	% change
AS04-1687	1.88	1.69	-10.11	AS04-1687	188.9	159.4	-15.62	AS04-1687	0.5	0.45	-10
AS04-1689	2.18	2.02	-7.34	AS04-1689	259.9	222.6	-14.35	AS04-1689	0.81	0.78	-3.7
AS04-2097	2.7	2.47	-8.52	AS04-2097	268.2	241.3	-10.03	AS04-2097	1.18	0.96	-18.64
AS04-245	1.94	1.75	-9.79	AS04-245	245.8	221.4	-9.93	AS04-245	0.54	0.54	0
AS04-635	1.82	1.65	-9.34	AS04-635	202.2	221.6	9.59	AS04-635	0.55	0.55	0
BM1003-143	2.87	2.52	-12.2	BM1003-143	181.7	181.9	0.11	BM1003-143	1.22	1.06	-13.11
BM1005-149	2.26	1.78	-21.24	BM1005-149	235.9	192.6	-18.36	BM1005-149	1.02	0.92	-9.8
BM1009-163	2.71	2.26	-16.61	BM1009-163	238.3	205.9	-13.6	BM1009-163	1.28	1.26	-1.56
BM1010-168	2.21	1.82	-17.65	BM1010-168	211.2	167.3	-20.79	BM1010-168	0.66	0.64	-3.03
BM1022-173	3.38	2.67	-21.01	BM1022-173	232.2	177.6	-23.51	BM1022-173	1.73	1.36	-21.39
CYM07-986	1.83	1.52	-16.94	CYM07-986	221.7	178	-19.71	CYM07-986	0.42	0.42	0
GU07-2276	1.7	1.54	-9.41	GU07-2276	158.2	144.6	-8.6	GU07-2276	0.33	0.34	3.03
GU07-3774	2.54	2.35	-7.48	GU07-3774	215.9	158.3	-26.68	GU07-3774	1.02	0.96	-5.88
GU07-3849	1.96	1.82	-7.14	GU07-3849	178.7	157.5	-11.86	GU07-3849	0.33	0.32	-3.03
MA05-99	3.14	2.84	-9.55	MA05-99	240.2	184.6	-23.15	MA05-99	1.63	1.55	-4.91
MA05/22	2.57	2.33	-9.34	MA05/22	199.2	172	-13.65	MA05/22	1.11	1.05	-5.41
MA05/51	2.92	2.71	-7.19	MA05/51	222.2	205.6	-7.47	MA05/51	1.41	1.23	-12.77
MA5/37	2.6	2.43	-6.54	MA5/37	210.9	202.3	-4.08	MA5/37	0.99	0.91	-8.08
MA5/5	2.1	1.6	-23.81	MA5/5	247.9	212.3	-14.36	MA5/5	0.79	0.63	-20.25
PG9869-137	3.08	3.13	1.62	PG9869-137	200.9	175.9	-12.44	PG9869-137	1.6	1.4	-12.5
SA04-390	2.85	2.54	-10.88	SA04-390	190.2	161.6	-15.04	SA04-390	1.17	1.03	-11.97
SA04-409	2.56	2.28	-10.94	SA04-409	222.2	191.4	-13.86	SA04-409	1.27	1.19	-6.3
SA04-454	3	2.86	-4.67	SA04-454	179.2	163.6	-8.71	SA04-454	1.14	1.04	-8.77
SA04-458	2.62	2.38	-9.16	SA04-458	159.7	155.3	-2.76	SA04-458	0.78	0.65	-16.67
SA04-472	2.54	2.44	-3.94	SA04-472	187.9	127.4	-32.2	SA04-472	0.84	0.73	-13.1
SA04-496	2.43	2.52	3.7	SA04-496	190.4	165.9	-12.87	SA04-496	0.84	0.7	-16.67
SA98-13	2.35	2.17	-7.66	SA98-13	173.7	148.8	-14.34	SA98-13	0.78	0.66	-15.38
Standards				Standards				Standards			
Check1	2.61	2.27	-13.03	Check1	150.6	142.3	-5.51	Check1	0.9	0.61	-32.22
Check2	2.39	2.57	7.53	Check2	147.2	149	1.22	Check2	0.72	0.82	13.89
Check3	2.72	2.35	-13.6	Check3	158.7	194.1	22.31	Check3	0.97	1.09	12.37
GM	2.49	2.24	-10.04	GM	206	179.4	-12.91	GM	0.97	0.86	-11.34
CV	4.5	5.56	23.56	CV	4.58	4.09	-10.7	CV	7.38	8.24	11.65

Varietal Improvement Programme- AICRP (Sugarcane)
Principal Investigator's Report (2017-18)
Evaluation and identification of climate resilient ISH and IGH genetic stocks

Table 7.5.6: Juice brix % at 270 days

Entry	Kolhapur			Vuyyuru			Pusa			Mean		
	Normal	Water logging	% change	Normal	Water logging	% change	Normal	Water logging	% change	Normal	Water logging	% change
AS04-1687	16.59	14.91	-10.13				18.75	16.34	-12.85	17.67	15.63	-11.57
AS04-1689	16.66	14.02	-15.85				18.13	17.53	-3.31	17.40	15.78	-9.31
AS04-2097	12.52	13.82	10.38				16.42	16.53	0.67	14.47	15.18	4.87
AS04-245	14.78	12.46	-15.70				16.96	13.80	-18.63	15.87	13.13	-17.27
AS04-635	16.30	15.27	-6.32				19.24	17.76	-7.69	17.77	16.52	-7.06
BM1003-143	19.66	18.27	-7.07				19.09	16.89	-11.52	19.38	17.58	-9.26
BM1005-149	21.51	19.52	-9.25				21.96	18.40	-16.21	21.74	18.96	-12.77
BM1009-163	20.33	19.71	-3.05				17.34	18.26	5.31	18.84	18.99	0.80
BM1010-168	16.72	14.82	-11.36				20.44	17.74	-13.21	18.58	16.28	-12.38
BM1022-173	16.65	16.27	-2.28				19.76	16.15	-18.27	18.21	16.21	-10.96
CYM07-986	17.93	17.16	-4.29				20.64	18.71	-9.35	19.29	17.94	-7.00
GU07-2276	13.80	12.57	-8.91				20.04	17.64	-11.98	16.92	15.11	-10.73
GU07-3774	15.82	15.27	-3.48				19.90	15.84	-20.40	17.86	15.56	-12.91
GU07-3849	17.93	16.41	-8.48				16.78	16.83	0.30	17.36	16.62	-4.24
MA05-99	18.50	17.82	-3.68				16.52	16.08	-2.66	17.51	16.95	-3.20
MA05/22	21.33	19.66	-7.83				15.36	13.50	-12.11	18.35	16.58	-9.62
MA05/51	17.35	16.57	-4.50				18.24	18.81	3.13	17.80	17.69	-0.59
MA5/37	18.92	18.27	-3.44				14.89	14.64	-1.68	16.91	16.46	-2.66
MA5/5	17.82	15.27	-14.31				20.79	15.11	-27.32	19.31	15.19	-21.32
PG9869-137	20.64	19.41	-5.96				19.71	19.42	-1.47	20.18	19.42	-3.77
SA04-390	18.55	17.77	-4.20				19.60	14.57	-25.66	19.08	16.17	-15.23
SA04-409	20.16	19.52	-3.17				20.69	16.01	-22.62	20.43	17.77	-13.02
SA04-454	15.30	16.52	7.97				20.71	18.57	-10.33	18.01	17.55	-2.55
SA04-458	19.07	18.07	-5.24				18.50	15.97	-13.68	18.79	17.02	-9.40
SA04-472	21.69	19.41	-10.51				18.59	14.96	-19.53	20.14	17.19	-14.67
SA04-496	19.89	19.41	-2.41				20.31	18.02	-11.28	20.10	18.72	-6.89
SA98-13	18.77	19.07	1.60				17.00	17.47	2.76	17.89	18.27	2.15
Standards												
Check1	18.75	18.02	-3.89				20.19	19.96	-1.14	19.47	18.99	-2.47
Check2	18.69	18.66	-0.16				19.01	16.37	-13.89	18.85	17.52	-7.08
Check3	17.93	18.07	0.78				18.90	15.97	-15.50	18.42	17.02	-7.58
GM	18.03	17.07	-5.32				18.82	16.80	-10.73	18.43	16.94	-8.09
CV	2.65	2.57					4.65	6.56				

Varietal Improvement Programme- AICRP (Sugarcane)
Principal Investigator's Report (2017-18)
Evaluation and identification of climate resilient ISH and IGH genetic stocks

Table 7.5.7: Juice sucrose % at 270 days

Entry	Kolhapur			Vuyyuru			Pusa			Mean		
	Normal	Water logging	% change	Normal	Water logging	% change	Normal	Water logging	% change	Normal	Water logging	% change
AS04-1687	13.08	11.43	-12.61				16.28	14.14	-13.14	14.68	12.79	-12.91
AS04-1689	13.97	10.53	-24.62				15.67	15.10	-3.64	14.82	12.82	-13.53
AS04-2097	8.59	10.56	22.93				14.35	14.18	-1.18	11.47	12.37	7.85
AS04-245	10.30	10.48	1.75				14.77	11.36	-23.09	12.54	10.92	-12.88
AS04-635	11.11	11.94	7.47				16.97	15.24	-10.19	14.04	13.59	-3.21
BM1003-143	17.86	17.35	-2.86				16.46	14.72	-10.57	17.16	16.04	-6.56
BM1005-149	19.34	18.62	-3.72				18.83	15.99	-15.08	19.09	17.31	-9.33
BM1009-163	18.79	18.83	0.21				15.07	16.04	6.44	16.93	17.44	2.98
BM1010-168	14.11	11.36	-19.49				17.84	15.31	-14.18	15.98	13.34	-16.53
BM1022-173	13.98	15.11	8.08				17.65	14.03	-20.51	15.82	14.57	-7.87
CYM07-986	15.26	15.26	0.00				18.29	16.08	-12.08	16.78	15.67	-6.59
GU07-2276	10.56	11.37	7.67				17.71	14.93	-15.70	14.14	13.15	-6.97
GU07-3774	11.90	11.64	-2.18				17.51	13.31	-23.99	14.71	12.48	-15.16
GU07-3849	14.25	14.71	3.23				14.20	14.26	0.42	14.23	14.49	1.83
MA05-99	16.16	17.25	6.75				14.15	13.71	-3.11	15.16	15.48	2.14
MA05/22	19.16	18.26	-4.70				13.63	10.62	-22.08	16.40	14.44	-11.92
MA05/51	14.86	15.01	1.01				15.93	16.20	1.69	15.40	15.61	1.36
MA5/37	16.57	16.67	0.60				12.25	11.87	-3.10	14.41	14.27	-0.97
MA5/5	13.56	13.13	-3.17				18.19	12.61	-30.68	15.88	12.87	-18.93
PG9869-137	17.55	17.91	2.05				17.49	16.90	-3.37	17.52	17.41	-0.66
SA04-390	15.09	14.56	-3.51				17.45	11.95	-31.52	16.27	13.26	-18.53
SA04-409	17.48	18.47	5.66				17.75	13.75	-22.54	17.62	16.11	-8.54
SA04-454	11.90	15.02	26.22				18.25	16.04	-12.11	15.08	15.53	3.02
SA04-458	16.86	15.59	-7.53				16.15	13.65	-15.48	16.51	14.62	-11.42
SA04-472	19.48	18.46	-5.24				16.33	11.84	-27.50	17.91	15.15	-15.39
SA04-496	17.22	18.50	7.43				18.79	15.36	-18.25	18.01	16.93	-5.97
SA98-13	16.21	17.76	9.56				14.47	14.81	2.35	15.34	16.29	6.16
Standards												
Check1	16.62	17.88	7.58				18.02	17.34	-3.77	17.32	17.61	1.67
Check2	16.49	18.10	9.76				16.84	14.03	-16.69	16.67	16.07	-3.60
Check3	15.36	17.84	16.15				16.52	13.81	-16.40	15.94	15.83	-0.72
GM	15.13	15.32	1.26				16.46	14.31	-13.06	15.80	14.82	-6.20
CV	0.94	1.29					5.46	8.05				

Varietal Improvement Programme- AICRP (Sugarcane)
Principal Investigator's Report (2017-18)
Evaluation and identification of climate resilient ISH and IGH genetic stocks

Table 7.5.8: Purity % at 270 days

Entry	Kolhapur			Vuyyuru			Pusa			Mean		
	Normal	Water logging	% change	Normal	Water logging	% change	Normal	Water logging	% change	Normal	Water logging	% change
AS04-1687	78.92	76.61	-2.93				87.07	86.29	-0.90	0.60	0.57	-5.00
AS04-1689	83.99	75.07	-10.62				86.27	86.95	0.79	0.68	0.55	-20.00
AS04-2097	68.41	76.51	11.84				87.21	85.01	-2.52	0.92	0.57	-37.82
AS04-245	69.72	84.08	20.60				86.60	81.65	-5.72	0.58	0.46	-20.23
AS04-635	68.12	78.15	14.72				88.29	87.18	-1.26	0.64	0.44	-30.73
BM1003-143	90.83	94.93	4.51				85.91	81.57	-5.05	0.92	0.84	-8.00
BM1005-149	89.90	95.47	6.20				85.90	87.10	1.40	0.90	0.75	-16.36
BM1009-163	92.43	95.57	3.40				86.94	87.08	0.16	1.10	0.79	-27.96
BM1010-168	84.28	76.74	-8.95				87.06	86.07	-1.14	0.70	0.60	-13.81
BM1022-173	84.05	92.85	10.47				89.45	87.10	-2.63	1.11	1.12	0.60
CYM07-986	85.13	88.90	4.43				88.74	85.98	-3.11	0.74	0.40	-45.95
GU07-2276	76.52	90.20	17.88				88.11	84.37	-4.24	0.73	0.60	-17.89
GU07-3774	75.23	76.27	1.38				88.17	83.49	-5.31	0.89	0.67	-25.00
GU07-3849	79.61	89.60	12.55				84.42	85.60	1.40	0.58	0.52	-11.43
MA05-99	87.36	96.87	10.89				85.61	84.61	-1.17	0.96	0.93	-3.81
MA05/22	89.88	92.82	3.27				88.75	78.95	-11.04	1.12	0.80	-28.57
MA05/51	85.65	90.61	5.79				87.39	86.23	-1.33	0.97	0.77	-20.62
MA5/37	87.51	91.24	4.26				82.06	79.77	-2.79	0.87	0.67	-22.61
MA5/5	76.44	86.04	12.56				87.40	83.36	-4.62	0.87	0.62	-28.74
PG9869-137	85.10	92.20	8.34				88.72	87.35	-1.54	1.41	1.04	-26.60
SA04-390	81.35	81.91	0.69				89.03	81.54	-8.41	1.23	0.77	-37.40
SA04-409	86.66	94.58	9.14				87.45	86.46	-1.13	0.87	0.95	9.20
SA04-454	77.86	90.88	16.72				88.07	87.20	-0.99	1.17	0.71	-39.03
SA04-458	88.36	86.38	-2.24				87.33	84.44	-3.31	0.64	0.58	-9.42
SA04-472	89.80	95.09	5.89				87.70	79.56	-9.28	0.63	0.55	-12.70
SA04-496	86.62	95.27	9.99				89.27	87.10	-2.43	0.79	0.70	-11.81
SA98-13	86.34	93.20	7.95				85.18	85.54	0.42	0.94	0.45	-51.60
Standards												
Check1	88.45	99.20	12.15				89.15	89.61	0.52	0.94	0.65	-31.10
Check2	88.38	96.94	9.69				88.52	86.20	-2.62	0.92	0.68	-25.72
Check3	85.78	98.75	15.12				87.43	85.49	-2.22	0.93	0.79	-15.36
GM	83.28	89.10	6.99				87.31	84.96	-2.69	0.87	0.69	-20.77
CV	2.12	1.55					1.99		66.83			

Varietal Improvement Programme- AICRP (Sugarcane)
Principal Investigator's Report (2017-18)
Evaluation and identification of climate resilient ISH and IGH genetic stocks

Table 7.5. 9: Single cane weight (Kg) at harvest

Entry	Kolhapur			Vuyyuru			Pusa			Mean		
	Normal	Water logging	% change	Normal	Water logging	% change	Normal	Water logging	% change	Normal	Water logging	% change
AS04-1687	0.55	0.49	-10.91	0.51	0.37	-27.45	0.74	0.85	14.86	0.60	0.57	-5.00
AS04-1689	0.86	0.79	-8.14	0.68	0.34	-50.00	0.51	0.51	0.00	0.68	0.55	-20.00
AS04-2097	1.18	0.91	-22.88	0.71	0.39	-45.07	0.86	0.41	-52.33	0.92	0.57	-37.82
AS04-245	0.59	0.53	-10.17	0.54	0.34	-37.04	0.60	0.51	-15.00	0.58	0.46	-20.23
AS04-635	0.60	0.58	-3.33	0.35	0.30	-14.29	0.97	0.45	-53.61	0.64	0.44	-30.73
BM1003-143	1.26	0.95	-24.60	0.85	0.94	10.59	0.64	0.64	0.00	0.92	0.84	-8.00
BM1005-149	1.04	0.88	-15.38	1.00	0.65	-35.00	0.65	0.72	10.77	0.90	0.75	-16.36
BM1009-163	1.35	1.23	-8.89	0.66	0.50	-24.24	1.28	0.64	-50.00	1.10	0.79	-27.96
BM1010-168	0.74	0.64	-13.51	0.75	0.40	-46.67	0.61	0.77	26.23	0.70	0.60	-13.81
BM1022-173	1.72	1.50	-12.79	0.84	0.85	1.19	0.77	1.00	29.87	1.11	1.12	0.60
CYM07-986	0.51	0.46	-9.80	0.47	0.32	-31.91	1.24	0.42	-66.13	0.74	0.40	-45.95
GU07-2276	0.48	0.42	-12.50	0.75	0.61	-18.67	0.95	0.76	-20.00	0.73	0.60	-17.89
GU07-3774	1.06	0.99	-6.60	0.47	0.53	12.77	1.15	0.49	-57.39	0.89	0.67	-25.00
GU07-3849	0.42	0.41	-2.38	0.83	0.60	-27.71	0.50	0.54	8.00	0.58	0.52	-11.43
MA05-99	1.66	1.55	-6.63	0.74	0.79	6.76	0.49	0.44	-10.20	0.96	0.93	-3.81
MA05/22	1.23	1.18	-4.07	1.23	0.32	-73.98	0.90	0.90	0.00	1.12	0.80	-28.57
MA05/51	1.43	1.22	-14.69	0.90	0.68	-24.44	0.58	0.41	-29.31	0.97	0.77	-20.62
MA5/37	1.06	0.92	-13.21	0.76	0.52	-31.58	0.79	0.58	-26.58	0.87	0.67	-22.61
MA5/5	0.84	0.72	-14.29	0.96	0.51	-46.88	0.81	0.63	-22.22	0.87	0.62	-28.74
PG9869-137	1.68	1.46	-13.10				1.14	0.61	-46.49	1.41	1.04	-26.60
SA04-390	1.22	1.13	-7.38				1.24	0.41	-66.94	1.23	0.77	-37.40
SA04-409	1.28	1.22	-4.69	0.72	0.85	18.06	0.61	0.78	27.87	0.87	0.95	9.20
SA04-454	1.13	1.01	-10.62	1.23	0.62	-49.59	1.15	0.51	-55.65	1.17	0.71	-39.03
SA04-458	0.81	0.63	-22.22	0.48	0.69	43.75	0.62	0.41	-33.87	0.64	0.58	-9.42
SA04-472	0.86	0.73	-15.12				0.40	0.37	-7.50	0.63	0.55	-12.70
SA04-496	0.91	0.79	-13.19	0.51	0.56	9.80	0.95	0.74	-22.11	0.79	0.70	-11.81
SA98-13	0.84	0.68	-19.05	1.30	0.35	-73.08	0.67	0.33	-50.75	0.94	0.45	-51.60
Standards												
Check1	1.06	0.80	-24.53	1.07	0.54	-49.53	0.70	0.61	-12.86	0.94	0.65	-31.10
Check2	0.81	0.90	11.11	1.14	0.41	-64.04	0.81	0.74	-8.64	0.92	0.68	-25.72
Check3	1.09	1.14	4.59	1.17	0.59	-49.57	0.54	0.64	18.52	0.93	0.79	-15.36
GM	1.02	0.90	-11.76	0.78	0.57	-26.92	0.80	0.59	-26.25	0.87	0.69	-20.77
CV	8.01	10.70		6.53	10.58		3.45	3.26				

Varietal Improvement Programme- AICRP (Sugarcane)
Principal Investigator's Report (2017-18)
Evaluation and identification of climate resilient ISH and IGH genetic stocks

Table 7.5.10: Cane length (cm) at harvest

Entry	Kolhapur			Vuyyuru			Pusa			Mean		
	Normal	Water logging	% change	Normal	Water logging	% change	Normal	Water logging	% change	Normal	Water logging	% change
AS04-1687	198.40	182.50	-8.01	229.84	241.46	5.06	256.50	273.00	6.43	228.25	232.32	1.78
AS04-1689	273.00	258.20	-5.42	247.70	203.48	-17.85	235.90	280.90	19.08	252.20	247.53	-1.85
AS04-2097	308.50	284.90	-7.65	273.72	292.70	6.93	253.00	316.30	25.02	278.41	297.97	7.03
AS04-245	267.50	256.60	-4.07	280.70	279.93	-0.27	289.10	259.90	-10.10	279.10	265.48	-4.88
AS04-635	263.00	250.40	-4.79	207.69	227.47	9.52	258.10	278.50	7.90	242.93	252.12	3.78
BM1003-143	221.90	191.10	-13.88	231.23	282.34	22.10	236.60	237.60	0.42	229.91	237.01	3.09
BM1005-149	246.00	206.20	-16.18	205.82	236.48	14.90	268.70	274.70	2.23	240.17	239.13	-0.44
BM1009-163	255.50	238.10	-6.81	217.32	268.30	23.46	267.20	233.80	-12.50	246.67	246.73	0.02
BM1010-168	211.00	184.90	-12.37	258.85	267.45	3.32	260.60	229.80	-11.82	243.48	227.38	-6.61
BM1022-173	235.00	202.90	-13.66	208.94	200.84	-3.88	310.60	227.70	-26.69	251.51	210.48	-16.31
CYM07-986	221.00	188.30	-14.80	221.71	209.07	-5.70	257.70	165.30	-35.86	233.47	187.56	-19.67
GU07-2276	170.50	148.70	-12.79	278.55	230.07	-17.40	249.20	280.00	12.36	232.75	219.59	-5.65
GU07-3774	223.40	175.40	-21.49	199.86	188.48	-5.69	266.00	307.20	15.49	229.75	223.69	-2.64
GU07-3849	180.50	158.30	-12.30	241.08	290.70	20.58	210.50	313.40	48.88	210.69	254.13	20.62
MA05-99	247.00	199.70	-19.15	191.05	155.70	-18.50	253.20	314.90	24.37	230.42	223.43	-3.03
MA05/22	232.00	177.80	-23.36	235.46	163.45	-30.58	301.90	380.40	26.00	256.45	240.55	-6.20
MA05/51	250.50	219.70	-12.30	229.80	266.57	16.00	286.20	379.40	32.56	255.50	288.56	12.94
MA5/37	245.40	222.90	-9.17	250.99	179.86	-28.34	257.30	374.40	45.51	251.23	259.05	3.11
MA5/5	264.40	244.90	-7.38	240.99	186.36	-22.67	202.50	256.60	26.72	235.96	229.29	-2.83
PG9869-137	234.90	194.50	-17.20				262.80	285.40	8.60	248.85	239.95	-3.58
SA04-390	204.50	177.40	-13.25				255.70	288.00	12.63	230.10	232.70	1.13
SA04-409	231.40	213.60	-7.69	250.98	290.84	15.88	276.40	243.20	-12.01	252.93	249.21	-1.47
SA04-454	186.50	166.90	-10.51	233.94	239.34	2.31	355.70	281.90	-20.75	258.71	229.38	-11.34
SA04-458	176.50	164.40	-6.86	168.75	136.82	-18.92	267.10	291.10	8.99	204.12	197.44	-3.27
SA04-472	193.40	144.50	-25.28				260.90	256.70	-1.61	227.15	200.60	-11.69
SA04-496	211.40	191.50	-9.41	178.59	176.59	-1.12	223.50	334.50	49.66	204.50	234.20	14.52
SA98-13	186.50	154.90	-16.94	240.60	211.45	-12.12	227.60	325.40	42.97	218.23	230.58	5.66
Standards												
Check1	182.80	163.40	-10.61	219.74	241.73	10.01	307.50	258.80	-15.84	236.68	221.31	-6.49
Check2	185.00	156.80	-15.24	231.93	225.95	-2.58	223.70	250.90	12.16	213.54	211.22	-1.09
Check3	197.50	205.20	3.90	239.21	228.20	-4.60	305.40	246.30	-19.35	247.37	226.57	-8.41
GM	224.80	197.50	-12.14	225.18	225.96	0.35	262.90	281.50	7.07	237.63	234.99	-1.11
CV	6.37	4.42		6.62	5.23		6.35	5.33				

Varietal Improvement Programme- AICRP (Sugarcane)
Principal Investigator's Report (2017-18)
Evaluation and identification of climate resilient ISH and IGH genetic stocks

Table 7.5.11: Cane diameter (cm) at harvest

Entry	Kolhapur			Vuyyuru			Pusa			Mean		
	Normal	Water logging	% change	Normal	Water logging	% change	Normal	Water logging	% change	Normal	Water logging	% change
AS04-1687	2.03	1.75	-13.79	2.05	1.53	-25.37	2.16	2.48	14.81	2.08	1.92	-7.69
AS04-1689	2.17	2.03	-6.45	1.76	1.58	-10.23	2.36	2.24	-5.08	2.10	1.95	-7.00
AS04-2097	2.73	2.58	-5.49	1.97	1.92	-2.54	2.25	2.34	4.00	2.32	2.28	-1.58
AS04-245	2.03	1.84	-9.36	1.77	1.55	-12.43	2.11	2.03	-3.79	1.97	1.81	-8.29
AS04-635	1.76	1.75	-0.57	1.35	1.74	28.89	2.21	2.12	-4.07	1.77	1.87	5.45
BM1003-143	2.84	2.62	-7.75	2.16	2.08	-3.70	2.12	2.28	7.55	2.37	2.33	-1.97
BM1005-149	2.29	1.83	-20.09	2.12	2.06	-2.83	2.25	2.63	16.89	2.22	2.17	-2.10
BM1009-163	2.80	2.38	-15.00	2.14	1.72	-19.63	2.08	2.67	28.37	2.34	2.26	-3.56
BM1010-168	2.26	1.92	-15.04	1.80	1.76	-2.22	2.44	2.38	-2.46	2.17	2.02	-6.77
BM1022-173	3.19	2.71	-15.05	2.41	2.37	-1.66	2.18	2.75	26.15	2.59	2.61	0.64
CYM07-986	1.87	1.59	-14.97	1.84	1.55	-15.76	2.53	3.05	20.55	2.08	2.06	-0.80
GU07-2276	1.72	1.59	-7.56	2.10	1.97	-6.19	1.60	2.24	40.00	1.81	1.93	7.01
GU07-3774	2.59	2.44	-5.79	1.61	1.70	5.59	1.72	2.41	40.12	1.97	2.18	10.64
GU07-3849	1.97	1.93	-2.03	1.92	1.62	-15.63	1.98	2.01	1.52	1.96	1.85	-5.28
MA05-99	3.20	2.90	-9.38	2.69	2.24	-16.73	2.32	1.64	-29.31	2.74	2.26	-17.42
MA05/22	2.58	2.38	-7.75	2.47	2.31	-6.48	2.11	2.53	19.91	2.39	2.41	0.84
MA05/51	2.95	2.78	-5.76	2.48	2.03	-18.15	2.20	2.35	6.82	2.54	2.39	-6.16
MA5/37	2.65	2.48	-6.42	2.12	2.66	25.47	2.45	1.95	-20.41	2.41	2.36	-1.80
MA5/5	2.14	1.67	-21.96	2.07	2.35	13.53	2.02	2.34	15.84	2.08	2.12	2.09
PG9869-137	3.15	3.18	0.95				2.05	2.08	1.46	2.60	2.63	1.15
SA04-390	2.73	2.52	-7.69				1.60	2.47	54.38	2.17	2.50	15.24
SA04-409	2.56	2.31	-9.77	2.04	2.07	1.47	1.68	2.43	44.64	2.09	2.27	8.44
SA04-454	2.93	2.90	-1.02	2.48	1.79	-27.82	2.23	2.79	25.11	2.55	2.49	-2.09
SA04-458	2.59	2.44	-5.79	2.00	1.95	-2.50	2.54	1.95	-23.23	2.38	2.11	-11.08
SA04-472	2.63	2.48	-5.70				2.17	1.50	-30.88	2.40	1.99	-17.08
SA04-496	2.51	2.56	1.99	1.78	1.85	3.93	2.04	2.69	31.86	2.11	2.37	12.16
SA98-13	2.38	2.16	-9.24	2.57	2.26	-12.06	2.31	2.28	-1.30	2.42	2.23	-7.71
Standards												
Check1	2.60	2.32	-10.77	2.36	2.14	-9.32	2.56	2.28	-10.94	2.51	2.25	-10.37
Check2	2.54	2.65	4.33	2.39	2.17	-9.21	2.17	2.19	0.92	2.37	2.34	-1.27
Check3	2.83	2.41	-14.84	2.94	2.32	-21.09	1.71	2.47	44.44	2.49	2.40	-3.74
GM	2.51	2.30	-8.37	2.14	1.99	-7.01	2.14	2.32	8.41	2.26	2.20	-2.65
CV	5.58	5.63		6.30	4.93		6.31	5.77				

Varietal Improvement Programme- AICRP (Sugarcane)
Principal Investigator's Report (2017-18)
Evaluation and identification of climate resilient ISH and IGH genetic stocks

Table 7.5.12: Number of Millable canes at harvest (000'/ha)

Entry	Kolhapur			Vuyyuru			Pusa			Mean		
	Normal	Water logging	% change	Normal	Water logging	% change	Normal	Water logging	% change	Normal	Water logging	% change
AS04-1687	119.20	100.00	-16.11	67.37	93.47	38.74	44.43	37.44	-15.73	77.00	76.97	-0.04
AS04-1689	52.61	34.86	-33.74	103.86	97.53	-6.09	80.88	80.35	-0.66	79.12	70.91	-10.37
AS04-2097	109.70	78.37	-28.56	84.65	84.63	-0.02	31.37	63.14	101.28	75.24	75.38	0.19
AS04-245	126.30	96.17	-23.86	109.53	96.64	-11.77	76.33	88.00	15.29	104.05	93.60	-10.04
AS04-635	80.02	64.58	-19.30	102.15	98.76	-3.32	43.01	86.07	100.12	75.06	83.14	10.76
BM1003-143	58.83	40.48	-31.19	60.22	59.53	-1.15	80.39	70.89	-11.82	66.48	56.97	-14.31
BM1005-149	74.49	25.49	-65.78	51.54	67.44	30.85	43.40	39.48	-9.03	56.48	44.14	-21.85
BM1009-163	60.07	45.48	-24.29	57.68	55.90	-3.09	54.26	101.70	87.43	57.34	67.69	18.06
BM1010-168	80.58	46.43	-42.38	88.81	62.87	-29.21	61.37	44.51	-27.47	76.92	51.27	-33.35
BM1022-173	56.76	33.33	-41.28	75.30	58.48	-22.34	37.47	25.60	-31.68	56.51	39.14	-30.74
CYM07-986	57.42	46.13	-19.66	80.94	86.82	7.26	36.38	95.07	161.32	58.25	76.01	30.49
GU07-2276	70.17	54.21	-22.74	77.96	72.00	-7.64	46.24	47.15	1.97	64.79	57.79	-10.81
GU07-3774	77.95	65.62	-15.82	117.02	98.58	-15.76	53.90	110.70	105.38	82.96	91.63	10.46
GU07-3849	58.46	55.15	-5.66	93.90	90.99	-3.10	140.00	121.70	-13.07	97.45	89.28	-8.39
MA05-99	75.03	55.60	-25.90	38.15	42.37	11.06	137.60	138.80	0.87	83.59	78.92	-5.59
MA05/22	70.96	36.06	-49.18	67.52	42.38	-37.23	77.01	72.43	-5.95	71.83	50.29	-29.99
MA05/51	103.50	60.12	-41.91	40.46	38.20	-5.59	74.96	102.00	36.07	72.97	66.77	-8.50
MA5/37	71.00	61.80	-12.96	58.23	49.97	-14.19	96.79	126.70	30.90	75.34	79.49	5.51
MA5/5	89.41	76.38	-14.57	58.23	31.45	-45.99	53.50	66.21	23.76	67.05	58.01	-13.47
PG9869-137	48.07	40.72	-15.29				31.46	55.53	76.51	39.77	48.13	21.02
SA04-390	57.10	52.77	-7.58				30.95	87.15	181.58	44.03	69.96	58.91
SA04-409	109.50	94.29	-13.89	42.63	43.33	1.64	49.22	36.69	-25.46	67.12	58.10	-13.43
SA04-454	53.28	64.58	21.21	41.04	52.92	28.95	26.90	52.93	96.77	40.41	56.81	40.60
SA04-458	59.40	54.42	-8.38	37.42	57.31	53.15	64.20	87.93	36.96	53.67	66.55	24.00
SA04-472	56.75	50.79	-10.50				118.70	93.35	-21.36	87.73	72.07	-17.85
SA04-496	69.25	66.06	-4.61	49.78	56.43	13.36	28.27	38.24	35.27	49.10	53.58	9.12
SA98-13	97.59	41.57	-57.40	37.42	27.22	-27.26	55.71	92.00	65.14	63.57	53.60	-15.69
Standards												
Check1	38.80	31.25	-19.46	60.54	26.36	-56.46	83.20	91.75	10.28	60.85	49.79	-18.18
Check2	42.80	21.82	-49.02	74.72	65.98	-11.70	86.23	93.10	7.97	67.92	60.30	-11.21
Check3	32.08	25.05	-21.91	93.90	72.01	-23.31	59.47	46.81	-21.29	61.82	47.96	-22.42
GM	72.40	53.99	-25.43	67.11	62.05	-7.54	63.46	76.46	20.49	67.66	64.17	-5.16
CV	23.97	16.37		16.17	21.12		2.44	8.49				

Varietal Improvement Programme- AICRP (Sugarcane)
Principal Investigator's Report (2017-18)
Evaluation and identification of climate resilient ISH and IGH genetic stocks

Table 7.5.13: Juice brix % at 360 days

Entry	Kolhapur			Vuyyuru			Pusa			Mean		
	Normal	Water logging	% change	Normal	Water logging	% change	Normal	Water logging	% change	Normal	Water logging	% change
AS04-1687	17.84	15.82	-11.32	12.36	12.54	1.46	20.23	16.12	-20.32	16.81	14.83	-11.80
AS04-1689	16.26	14.98	-7.87	14.75	13.06	-11.46	17.83	18.46	3.53	16.28	15.50	-4.79
AS04-2097	16.70	14.86	-11.02	14.40	13.65	-5.21	16.04	16.17	0.81	15.71	14.89	-5.22
AS04-245	16.44	14.90	-9.37	14.74	14.76	0.14	19.97	12.76	-36.10	17.05	14.14	-17.07
AS04-635	16.66	16.03	-3.78	16.01	16.18	1.06	19.47	16.52	-15.15	17.38	16.24	-6.54
BM1003-143	20.75	19.57	-5.69	20.94	18.90	-9.74	21.46	16.21	-24.46	21.05	18.23	-13.41
BM1005-149	22.01	20.98	-4.68	18.04	20.46	13.41	21.82	16.56	-24.11	20.62	19.33	-6.26
BM1009-163	21.44	20.40	-4.85	21.30	15.33	-28.03	19.37	16.27	-16.00	20.70	17.33	-16.28
BM1010-168	17.70	15.86	-10.40	14.23	13.28	-6.68	18.51	17.31	-6.48	16.81	15.48	-7.91
BM1022-173	17.66	17.03	-3.57	16.95	18.51	9.20	20.67	16.76	-18.92	18.43	17.43	-5.39
CYM07-986	18.74	17.86	-4.70	15.20	17.05	12.17	19.37	16.32	-15.75	17.77	17.08	-3.90
GU07-2276	14.86	14.32	-3.63	15.32	12.77	-16.64	18.96	18.81	-0.79	16.38	15.30	-6.59
GU07-3774	16.35	15.52	-5.08	16.17	14.50	-10.33	17.23	17.17	-0.35	16.58	15.73	-5.15
GU07-3849	18.24	17.11	-6.20	18.07	17.26	-4.48	15.53	15.56	0.19	17.28	16.64	-3.68
MA05-99	19.61	19.07	-2.75	18.45	18.91	2.49	18.04	16.07	-10.92	18.70	18.02	-3.65
MA05/22	21.74	20.86	-4.05	19.64	18.71	-4.74	16.27	14.06	-13.58	19.22	17.88	-6.97
MA05/51	18.36	18.07	-1.58	19.34	19.15	-0.98	18.97	16.72	-11.86	18.89	17.98	-4.82
MA5/37	19.60	18.77	-4.23	15.43	18.00	16.66	18.31	15.71	-14.20	17.78	17.49	-1.61
MA5/5	17.35	16.27	-6.22	18.15	18.36	1.16	18.34	20.01	9.11	17.95	18.21	1.49
PG9869-137	20.59	20.07	-2.53				19.06	17.21	-9.71	19.83	18.64	-5.98
SA04-390	18.66	18.28	-2.04				17.90	15.58	-12.96	18.28	16.93	-7.39
SA04-409	21.75	21.07	-3.13	20.20	21.27	5.30	21.19	15.66	-26.10	21.05	19.33	-8.14
SA04-454	17.66	17.53	-0.74	17.47	18.23	4.35	16.31	16.91	3.68	17.15	17.56	2.39
SA04-458	20.70	19.61	-5.27	19.63	20.62	5.04	18.30	14.98	-18.14	19.54	18.40	-5.83
SA04-472	21.84	20.57	-5.82				14.29	14.11	-1.26	18.07	17.34	-4.01
SA04-496	20.59	20.07	-2.53	19.08	19.75	3.51	18.21	16.31	-10.43	19.29	18.71	-3.02
SA98-13	21.45	20.36	-5.08	19.93	18.90	-5.17	18.20	15.08	-17.14	19.86	18.11	-8.79
Standards												
Check1	19.76	19.27	-2.48	20.30	19.28	-5.02	19.89	18.21	-8.45	19.98	18.92	-5.32
Check2	20.94	18.86	-9.93	21.75	21.12	-2.90	19.51	17.11	-12.30	20.73	19.03	-8.22
Check3	20.99	20.07	-4.38	22.53	21.54	-4.39	19.50	18.08	-7.28	21.01	19.90	-5.28
GM	19.13	18.13	-5.23	17.87	17.69	-1.01	18.63	16.43	-11.81	18.54	17.42	-6.08
CV	1.51	3.63		3.17	2.07		7.32	4.47				

Varietal Improvement Programme- AICRP (Sugarcane)
Principal Investigator's Report (2017-18)
Evaluation and identification of climate resilient ISH and IGH genetic stocks

Table 7.5.14: Juice sucrose % at harvest

Entry	Kolhapur			Vuyyuru			Pusa			Mean		
	Normal	Water logging	% change	Normal	Water logging	% change	Normal	Water logging	% change	Normal	Water logging	% change
AS04-1687	14.08	12.23	-13.14	8.15	8.07	-0.98	17.99	14.11	-21.57	13.41	11.47	-14.45
AS04-1689	12.96	11.35	-12.42	11.04	8.00	-27.54	15.29	16.03	4.84	13.10	11.79	-9.95
AS04-2097	13.48	11.37	-15.65	10.64	11.31	6.30	14.08	14.06	-0.14	12.73	12.25	-3.82
AS04-245	14.00	11.85	-15.36	11.44	10.32	-9.79	17.54	10.30	-41.28	14.33	10.82	-24.45
AS04-635	13.85	12.67	-8.52	12.01	12.30	2.41	17.35	14.19	-18.21	14.40	13.05	-9.37
BM1003-143	19.40	17.90	-7.73	19.12	15.81	-17.31	18.28	14.01	-23.36	18.93	15.91	-15.99
BM1005-149	16.77	19.26	14.85	16.18	18.22	12.61	18.42	14.60	-20.74	17.12	17.36	1.38
BM1009-163	19.97	19.15	-4.11	18.61	11.39	-38.80	17.22	13.87	-19.45	18.60	14.80	-20.41
BM1010-168	13.98	11.68	-16.45	11.56	10.24	-11.42	16.15	14.78	-8.48	13.90	12.23	-11.97
BM1022-173	16.21	15.37	-5.18	15.05	17.78	18.14	18.17	14.63	-19.48	16.48	15.93	-3.34
CYM07-986	16.23	15.45	-4.81	13.05	13.65	4.60	16.32	14.01	-14.15	15.20	14.37	-5.46
GU07-2276	13.01	11.94	-8.22	11.48	10.45	-8.97	18.53	16.52	-10.85	14.34	12.97	-9.55
GU07-3774	12.01	12.27	2.16	13.54	12.13	-10.41	14.83	14.80	-0.20	13.46	13.07	-2.92
GU07-3849	14.66	15.17	3.48	15.48	15.83	2.26	12.89	13.44	4.27	14.34	14.81	3.28
MA05-99	18.65	17.68	-5.20	16.34	16.47	0.80	15.72	13.92	-11.45	16.90	16.02	-5.21
MA05/22	19.52	18.84	-3.48	17.21	16.42	-4.59	14.08	11.43	-18.82	16.94	15.56	-8.11
MA05/51	16.56	15.53	-6.22	17.29	16.46	-4.80	16.09	14.42	-10.38	16.65	15.47	-7.07
MA5/37	17.22	17.27	0.29	12.06	15.80	31.01	15.88	13.18	-17.00	15.05	15.42	2.41
MA5/5	13.66	13.59	-0.51	15.66	16.16	3.19	15.69	17.92	14.21	15.00	15.89	5.91
PG9869-137	18.40	18.70	1.63				16.66	15.14	-9.12	17.53	16.92	-3.48
SA04-390	16.03	14.66	-8.55				15.72	13.39	-14.82	15.88	14.03	-11.65
SA04-409	20.68	19.22	-7.06	18.07	19.76	9.35	17.98	13.26	-26.25	18.91	17.41	-7.91
SA04-454	16.51	15.19	-8.00	15.99	15.96	-0.19	14.05	14.70	4.63	15.52	15.28	-1.50
SA04-458	17.53	16.41	-6.39	18.24	18.34	0.55	16.13	12.92	-19.90	17.30	15.89	-8.15
SA04-472	19.55	19.56	0.05				11.73	11.79	0.51	15.64	15.68	0.22
SA04-496	18.88	19.11	1.22	15.93	17.86	12.12	15.82	13.90	-12.14	16.88	16.96	0.47
SA98-13	19.25	18.15	-5.71	18.15	17.32	-4.57	16.16	12.92	-20.05	17.85	16.13	-9.65
Standards												
Check1	19.73	18.69	-5.27	19.36	18.25	-5.73	17.43	14.55	-16.52	18.84	17.16	-8.90
Check2	19.53	18.31	-6.25	20.18	20.70	2.58	17.13	14.80	-13.60	18.95	17.94	-5.33
Check3	19.68	18.78	-4.57	20.81	20.84	0.14	17.43	15.75	-9.64	19.31	18.46	-4.40
GM	16.76	15.91	-5.07	15.40	15.33	-0.45	16.23	14.11	-13.06	16.13	15.12	-6.28
CV	5.80	2.08		3.10	1.89		7.41	3.80				

Varietal Improvement Programme- AICRP (Sugarcane)
 Principal Investigator's Report (2017-18)
 Evaluation and identification of climate resilient ISH and IGH genetic stocks
 Table 7.5.15: Purity % at harvest

Entry	Kolhapur			Vuyyuru			Pusa			Mean		
	Normal	Water logging	% change	Normal	Water logging	% change	Normal	Water logging	% change	Normal	Water logging	% change
AS04-1687	79.54	77.43	-2.65	65.84	64.43	-2.14	88.72	86.87	-2.09	78.03	76.24	-2.29
AS04-1689	79.77	75.75	-5.04	74.89	61.54	-17.83	86.80	87.26	0.53	80.49	74.85	-7.00
AS04-2097	80.70	76.64	-5.03	73.86	82.83	12.14	86.84	87.17	0.38	80.47	82.21	2.17
AS04-245	85.31	79.52	-6.79	77.53	69.76	-10.02	87.50	79.52	-9.12	83.45	76.27	-8.60
AS04-635	82.35	79.06	-4.00	75.31	75.97	0.88	89.04	85.87	-3.56	82.23	80.30	-2.35
BM1003-143	93.57	91.35	-2.37	91.16	83.67	-8.22	85.06	87.26	2.59	89.93	87.43	-2.78
BM1005-149	76.78	91.98	19.80	89.69	88.97	-0.80	85.55	87.37	2.13	84.01	89.44	6.47
BM1009-163	93.01	93.88	0.94	87.49	74.19	-15.20	88.79	85.22	-4.02	89.76	84.43	-5.94
BM1010-168	78.90	73.68	-6.62	81.24	76.98	-5.24	87.36	86.11	-1.43	82.50	78.92	-4.34
BM1022-173	91.28	90.39	-0.98	88.75	95.95	8.11	88.05	86.42	-1.85	89.36	90.92	1.75
CYM07-986	86.66	86.44	-0.25	85.84	80.07	-6.72	86.74	85.77	-1.12	86.41	84.09	-2.68
GU07-2276	86.52	83.57	-3.41	74.97	81.76	9.06	86.66	88.91	2.60	82.72	84.75	2.45
GU07-3774	74.21	79.08	6.56	83.68	83.74	0.07	85.82	85.52	-0.35	81.24	82.78	1.90
GU07-3849	80.23	88.65	10.49	85.58	91.74	7.20	83.85	85.76	2.28	83.22	88.72	6.60
MA05-99	94.87	92.77	-2.21	88.71	87.06	-1.86	86.24	86.87	0.73	89.94	88.90	-1.16
MA05/22	89.79	90.25	0.51	87.48	87.80	0.37	86.75	79.57	-8.28	88.01	85.87	-2.42
MA05/51	89.83	85.98	-4.29	89.59	85.91	-4.11	87.04	86.22	-0.94	88.82	86.04	-3.13
MA5/37	88.18	92.16	4.51	78.07	87.77	12.42	86.86	83.71	-3.63	84.37	87.88	4.16
MA5/5	79.35	83.53	5.27	86.19	88.00	2.10	86.42	89.42	3.47	83.99	86.98	3.57
PG9869-137	89.49	93.33	4.29				87.72	87.87	0.17	88.61	90.60	2.25
SA04-390	85.55	80.12	-6.35				86.56	86.42	-0.16	86.06	83.27	-3.24
SA04-409	95.18	91.14	-4.24	89.32	92.89	4.00	85.62	84.42	-1.40	90.04	89.48	-0.62
SA04-454	92.93	86.63	-6.78	91.49	87.49	-4.37	86.52	86.72	0.23	90.31	86.95	-3.73
SA04-458	84.59	83.69	-1.06	93.02	88.97	-4.35	86.91	86.67	-0.28	88.17	86.44	-1.96
SA04-472	89.48	95.26	6.46				83.17	83.32	0.18	86.33	89.29	3.43
SA04-496	91.83	95.34	3.82	83.36	90.49	8.55	87.12	85.07	-2.35	87.44	90.30	3.27
SA98-13	89.65	89.16	-0.55	91.17	91.65	0.53	87.61	85.47	-2.44	89.48	88.76	-0.80
Standards												
Check1	99.67	97.07	-2.61	95.23	94.66	-0.60	88.32	87.97	-0.40	94.41	93.23	-1.24
Check2	93.64	96.96	3.55	93.11	97.98	5.23	88.17	86.37	-2.04	91.64	93.77	2.32
Check3	93.75	93.61	-0.15	92.22	96.83	5.00	88.21	87.42	-0.90	91.39	92.62	1.34
GM	87.24	87.15	-0.10	85.34	85.54	0.23	86.87	85.95	-1.06	86.48	86.21	-0.31
CV	5.00	2.14		1.63	1.48		2.11	1.89				

Varietal Improvement Programme- AICRP (Sugarcane)
Principal Investigator's Report (2017-18)
Evaluation and identification of climate resilient ISH and IGH genetic stocks

Table 7.5.16: Cane yield t/ha at harvest

Entry	Kolhapur			Vuyyuru			Pusa			Mean		
	Normal	Water logging	% change	Normal	Water logging	% change	Normal	Water logging	% change	Normal	Water logging	% change
AS04-1687	60.81	47.49	-21.90	57.35	69.35	20.92	33.04	31.87	-3.54	50.40	49.57	-1.65
AS04-1689	45.62	29.63	-35.05	68.31	82.12	20.22	42.11	41.64	-1.12	52.01	51.13	-1.70
AS04-2097	128.30	67.26	-47.58	75.24	67.40	-10.42	26.86	25.34	-5.66	76.80	53.33	-30.56
AS04-245	72.09	51.91	-27.99	74.05	77.97	5.29	46.02	43.65	-5.15	64.05	57.84	-9.70
AS04-635	43.43	37.32	-14.07	80.38	74.35	-7.50	41.54	39.00	-6.11	55.12	50.22	-8.88
BM1003-143	73.26	32.35	-55.84	54.63	57.74	5.69	51.12	45.74	-10.52	59.67	45.28	-24.12
BM1005-149	77.91	25.11	-67.77	53.49	69.62	30.16	28.26	27.80	-1.63	53.22	40.84	-23.26
BM1009-163	75.56	53.64	-29.01	45.35	46.72	3.02	69.49	65.10	-6.32	63.47	55.15	-13.10
BM1010-168	59.64	31.49	-47.20	73.85	38.47	-47.91	37.28	35.49	-4.80	56.92	35.15	-38.25
BM1022-173	89.61	49.82	-44.40	99.82	55.60	-44.30	28.84	24.81	-13.97	72.76	43.41	-40.34
CYM07-986	28.07	23.60	-15.92	58.77	39.37	-33.01	44.99	40.79	-9.34	43.94	34.59	-21.29
GU07-2276	37.80	21.89	-42.09	60.94	69.90	14.70	44.07	36.82	-16.45	47.60	42.87	-9.94
GU07-3774	82.73	66.66	-19.42	75.66	76.61	1.26	61.81	54.15	-12.39	73.40	65.81	-10.35
GU07-3849	23.56	22.90	-2.80	81.46	62.05	-23.83	71.74	65.96	-8.06	58.92	50.30	-14.62
MA05-99	120.00	84.38	-29.68	39.18	54.39	38.82	65.75	60.52	-7.95	74.98	66.43	-11.40
MA05/22	84.32	43.73	-48.14	76.83	50.94	-33.70	69.49	64.30	-7.47	76.88	52.99	-31.07
MA05/51	143.30	72.23	-49.60	47.05	59.49	26.44	43.55	42.80	-1.72	77.97	58.17	-25.39
MA5/37	76.13	49.30	-35.24	62.23	52.54	-15.57	76.04	73.55	-3.27	71.47	58.46	-18.19
MA5/5	76.83	59.37	-22.73	61.77	45.59	-26.19	43.60	41.85	-4.01	60.73	48.94	-19.42
PG9869-137	86.15	65.20	-24.32				35.59	33.36	-6.27	60.87	49.28	-19.04
SA04-390	71.21	56.77	-20.28				38.34	35.61	-7.12	54.78	46.19	-15.67
SA04-409	139.90	106.60	-23.80	44.44	50.79	14.29	30.22	28.76	-4.83	71.52	62.05	-13.24
SA04-454	63.57	67.88	6.78	53.99	52.83	-2.15	30.54	26.66	-12.70	49.37	49.12	-0.49
SA04-458	47.83	36.70	-23.27	35.42	47.50	34.11	39.32	35.87	-8.77	40.86	40.02	-2.04
SA04-472	48.65	43.33	-10.94				47.99	33.79	-29.59	48.32	38.56	-20.20
SA04-496	62.54	52.01	-16.84	50.41	47.36	-6.05	26.50	27.32	3.09	46.48	42.23	-9.15
SA98-13	81.51	28.02	-65.62	57.18	45.41	-20.58	36.98	30.02	-18.82	58.56	34.48	-41.11
Standards												
Check1	44.86	28.82	-35.76	77.98	34.71	-55.49	59.03	55.58	-5.84	60.62	39.70	-34.51
Check2	36.58	20.82	-43.08	78.99	81.01	2.56	69.80	67.65	-3.08	61.79	56.49	-8.57
Check3	37.79	31.96	-15.43	103.22	74.55	-27.78	31.71	30.63	-3.41	57.57	45.71	-20.60
GM	71.67	46.94	-34.51	63.11	57.19	-9.38	45.72	42.21	-7.68	60.17	48.78	-18.93
CV	25.73	18.38		19.14	17.58		2.40	6.46				

Varietal Improvement Programme- AICRP (Sugarcane)
Principal Investigator's Report (2017-18)
Evaluation and identification of climate resilient ISH and IGH genetic stocks

Table 7.5.17: CCS yield t/ha at 360 days

Entry	Kolhapur			Vuyyuru			Pusa			Mean		
	Normal	Water logging	% change	Normal	Water logging	% change	Normal	Water logging	% change	Normal	Water logging	% change
AS04-1687	5.90	3.75	-36.44	3.15	2.94	-6.67	4.21	3.02	-28.27	4.42	3.24	-26.77
AS04-1689	3.91	2.28	-41.69	5.01	3.73	-25.55	4.30	4.67	8.60	4.41	3.56	-19.21
AS04-2097	11.40	4.69	-58.86	4.86	5.35	10.08	2.86	2.46	-13.99	6.37	4.17	-34.62
AS04-245	6.93	3.89	-43.87	5.60	4.65	-16.96	5.45	2.83	-48.07	5.99	3.79	-36.76
AS04-635	3.83	3.22	-15.93	6.33	6.05	-4.42	5.13	3.76	-26.71	5.10	4.34	-14.78
BM1003-143	10.00	4.04	-59.60	7.58	6.39	-15.70	6.36	4.54	-28.62	7.98	4.99	-37.47
BM1005-149	11.10	3.42	-69.19	6.25	9.11	45.76	3.43	2.71	-20.99	6.93	5.08	-26.66
BM1009-163	10.80	7.27	-32.69	5.93	3.16	-46.71	7.15	6.14	-14.13	7.96	5.52	-30.61
BM1010-168	5.44	2.09	-61.58	5.60	2.76	-50.71	4.11	3.69	-10.22	5.05	2.85	-43.63
BM1022-173	9.75	5.43	-44.31	10.84	7.25	-33.12	3.59	2.41	-32.87	8.06	5.03	-37.59
CYM07-986	3.15	2.48	-21.27	5.43	3.50	-35.54	5.16	3.89	-24.61	4.58	3.29	-28.17
GU07-2276	3.27	1.74	-46.79	4.49	5.00	11.36	5.59	4.32	-22.72	4.45	3.69	-17.15
GU07-3774	6.59	5.27	-20.03	7.03	6.62	-5.83	7.03	5.36	-23.76	6.88	5.75	-16.46
GU07-3849	2.26	2.39	5.75	8.87	7.00	-21.08	6.95	6.16	-11.37	6.03	5.18	-13.99
MA05-99	15.40	10.60	-31.17	4.66	6.34	36.05	7.06	5.78	-18.13	9.04	7.57	-16.22
MA05/22	11.50	5.68	-50.61	9.33	5.86	-37.19	6.62	4.68	-29.31	9.15	5.41	-40.91
MA05/51	15.90	7.70	-51.57	5.95	6.89	15.80	4.86	4.22	-13.17	8.90	6.27	-29.58
MA5/37	9.32	5.96	-36.05	4.99	5.94	19.04	8.31	6.70	-19.37	7.54	6.20	-17.77
MA5/5	7.17	5.36	-25.24	6.76	5.31	-21.45	4.51	5.24	16.19	6.15	5.30	-13.72
PG9869-137	11.50	8.49	-26.17				4.01	3.45	-13.97	7.76	5.97	-23.02
SA04-390	7.41	5.60	-24.43				4.36	3.28	-24.77	5.89	4.44	-24.55
SA04-409	20.50	14.40	-29.76	5.75	7.22	25.57	3.52	2.59	-26.42	9.92	8.07	-18.68
SA04-454	7.10	7.17	0.99	6.25	5.99	-4.16	2.86	2.65	-7.34	5.40	5.27	-2.47
SA04-458	5.63	4.02	-28.60	4.80	6.19	28.96	4.58	3.18	-30.57	5.00	4.46	-10.79
SA04-472	6.87	6.02	-12.37				3.66	2.69	-26.50	5.27	4.36	-17.28
SA04-496	8.65	7.01	-18.96	5.52	6.06	9.78	2.81	2.56	-8.90	5.66	5.21	-7.95
SA98-13	10.80	3.57	-66.94	7.55	5.70	-24.50	4.35	2.62	-39.77	7.57	3.96	-47.62
Standards												
Check1	6.32	3.86	-38.92	11.07	4.66	-57.90	7.05	6.30	-10.64	8.15	4.94	-39.36
Check2	5.34	2.66	-50.19	11.76	12.50	6.29	8.10	6.74	-16.79	8.40	7.30	-13.10
Check3	5.39	4.37	-18.92	15.39	11.50	-25.28	4.13	3.33	-19.37	8.30	6.40	-22.92
GM	8.46	5.15	-39.13	6.79	6.04	-11.05	5.07	4.07	-19.72	6.77	5.09	-24.90
CV	24.00	19.80		21.54	17.19		10.73	9.77				

Table 7.5.18: List of clones in each traits showing less than five percent reduction under water logged condition

Traits	Number of entries	Clones showing <5% reduction
Number of Tillers at 90 days ('000/ha)	14	AS 04-1687, AS 04-2097, AS 04-635, BM 1003143, BM 1009163, CYM 07-986, GU 07-3774, GU 07-3849, MA 5/22, MA 5/5, MA 5/51, PG 9869137, SA 04-458, SA 04-496
Number of shoots at 270 days ('000/ha)	1	SA 04-458
Single Cane weight (Kg) at 270 days	4	BM 1005149, GU 07-2276, GU 07-3849, SA 98-13
Cane length at 270 days	17	AS 04-1687, AS 04-245, AS 04-635, BM 1003143, BM 1005149, BM 1009163, BM 1022173, GU 07-2276, GU 07-3849, MA 5/37, MA 5/5, MA 5/51, SA 04-409, SA 04-454, SA 04-458, SA 04-496, SA 98-13
Cane diameter (cm) at 270 days	07	GU 07-2276, GU 07-3849, MA 5/37, PG 9869137, SA 04-472, SA 04-496, SA 98-13
Juice brix % at 270 days	12	AS 04-2097, BM 1009163, GU 07-2276, GU 07-3774, GU 07-3849, MA 5/22, MA 5/5, MA 5/51, PG 9869137, SA 04-454, SA 04-458, SA 98-13
Juice sucrose % at 270 days	13	AS 04-2097, BM 1003143, BM 1009163, GU 07-2276, GU 07-3774, GU 07-3849, MA 5/22, MA 5/5, MA 5/51, PG 9869137, SA 04-454, SA 04-458, SA 98-13
Purity % at 270 days	25	AS 04-1687, AS 04-2097, AS 04-245, AS 04-635, BM 1003143, BM 1005149, BM 1009163, BM 1022173, CYM 07-986, GU 07-2276, GU 07-3774, GU 07-3849, MA 5/22, MA 5/37, MA 5/5, MA 5/51, MA 5/99, PG 9869137, SA 04-390, SA 04-409, SA 04-454, SA 04-458, SA 04-472, SA 04-496, SA 98-13
Single cane weight (Kg) at harvest	04	AS 04-1687, BM 1022173, MA 5/22, SA 04-409
Cane length (cm) at harvest	20	AS 04-1687, AS 04-1689, AS 04-2097, AS 04-245, AS 04-635, BM 1003143, BM 1005149, BM 1009163, GU 07-3774, GU 07-3849, MA 5/22, MA 5/5, MA 5/51, MA 5/99, PG 9869137, SA 04-390, SA 04-409, SA 04-458, SA 04-496, SA 98-13
Cane diameter (cm) at harvest	17	AS 04-2097, AS 04-635, BM 1003143, BM 1005149, BM 1009163, BM 1022173, CYM 07-986, GU 07-2276, GU 07-3774, MA 5/37, MA 5/51, MA 5/99, PG 9869137, SA 04-390, SA 04-409, SA 04-454, SA 04-496

Varietal Improvement Programme- AICRP (Sugarcane)

Principal Investigator's Report (2017-18)

Evaluation and identification of climate resilient ISH and IGH genetic stocks

Number of Millable canes at harvest (000' /ha)	12	AS 04-1687, AS 04-2097, AS 04-635, BM 1009163, CYM 07-986, GU 07-3774, MA 5/51, PG 9869137, SA 04-390, SA 04-454, SA 04-458, SA 04-496
Juice brix % at harvest days	10	AS 04-1689, CYM 07-986, GU 07-3849, MA 5/22, MA 5/5, MA 5/51, MA 5/99, SA 04-454, SA 04-472, SA 04-496
Juice sucrose % at harvest	11	AS 04-2097, BM 1005149, BM 1022173, GU 07-3774, GU 07-3849, MA 5/51, MA 5/99, PG 9869137, SA 04-454, SA 04-472, SA 04-496
Juice Purity % at harvest	24	AS 04-1687, AS 04-2097, AS 04-635, BM 1003143, BM 1005149, BM 1010168, BM 1022173, CYM 07-986, GU 07-2276, GU 07-3774, GU 07-3849, MA 5/22, MA 5/37, MA 5/5, MA 5/51, MA 5/99, PG 9869137, SA 04-390, SA 04-409, SA 04-454, SA 04-458, SA 04-472, SA 04-496, SA 98-13
Cane yield t/ha at harvest	4	AS 04-1687, AS 04-1689, SA 04-454, SA 04-458
CCS yield t/ha at 360 days	1	SA 04-454

B. III 7 Evaluation and identification of climate resilient ISH and IGH genetic stocks

7.6 Mean performance of two plant one ratoon crops (2016-2018)

Data obtained from the centers viz., Kolhapur, Vuyyuru and Pusa under both normal and water logging conditions in two plant crops and one ratoon crop for the traits cane yield at harvest, commercial cane sugar yield at harvest, juice sucrose % at harvest, number of millable canes at harvest and single cane weight at harvest were considered for pooled analysis. The mean of these traits was calculated center wise and weighted mean was estimated under both normal and water logging conditions and overall change was estimated. The details are presented in the tables (7.6.1-7.6.5).

Cane yield (t/ha): The entries AS 04-1689, AS 04-635, GU 07-2276, SA 04-390 had less than 5% yield reduction under water logging.

CCS yield (t/ha) at harvest: Similarly, AS 04-1687, AS 04-1689, AS 04-635, GU 07-2276, MA 5/5, SA 04-390 were the entries with less than 5% reduction under waterlogging for sugar yield.

Juice sucrose % at harvest: For sucrose%, AS 04-1687, AS 04-1689, BM 1022173, GU 07-2276, GU 07-3774, GU 07-3849, MA 5/37, MA 5/5, PG 9869137, SA 04-472 had less reduction under stress.

Number of millable canes ('000/ha) at harvest: Almost thirteen entries had less than 5% reduction for number of millable canes at harvest, but entries AS 04-1689, AS 04-635, CYM 07-986, SA 04-390, SA 04-409, SA 04-454 had no reduction under stress.

Single cane weight (Kg) at harvest: The entries AS 04-1687, AS 04-245, BM 1022173, GU 07-3849, MA 5/99, SA 04-409, SA 04-458, SA 04-472, SA 04-496 had less than 10% reduction in single cane weight under water logging

Considering the above traits, the entries AS 04-1687, AS 04-1689, AS 04-635, SA 04-390 are having relatively better water logging tolerance.

Table 7.6.1: Cane yield (t/ha) at harvest

Entry	Kolhapur			Vuyyuru			Pusa			Pooled Mean		
	Normal	Water logging	% change	Normal	Water logging	% change	Normal	Water logging	% change	Normal	Water	% change
AS04-1687	124.52	90.09	-27.65	84.13	80.89	-3.85	61.69	58.50	-5.17	90.86	75.94	-16.42
AS04-1689	86.49	63.29	-26.82	70.23	109.31	55.65	67.88	66.64	-1.83	75.45	76.06	0.81
AS04-2097	104.76	59.26	-43.43	84.66	76.61	-9.51	52.52	46.83	-10.83	80.15	58.93	-26.47
AS04-245	96.40	55.88	-42.03	73.89	86.83	17.51	60.90	47.19	-22.52	77.46	60.36	-22.08
AS04-635	67.45	55.55	-17.65	77.01	99.78	29.56	55.52	55.64	0.21	65.37	66.64	1.94
BM1003-143	86.31	55.64	-35.53	70.59	56.28	-20.27	43.31	39.67	-8.40	66.26	49.81	-24.82
BM1005-149	68.07	27.97	-58.91	67.22	69.98	4.11	37.72	37.37	-0.92	56.47	42.00	-25.64
BM1009-163	107.57	64.17	-40.35	58.38	56.28	-3.61	51.11	47.82	-6.44	74.10	56.07	-24.34
BM1010-168	59.52	37.11	-37.65	80.96	54.50	-32.68	42.88	35.99	-16.07	58.64	41.04	-30.01
BM1022-173	97.14	68.75	-29.23	94.60	75.26	-20.45	57.28	42.87	-25.15	81.56	60.67	-25.61
CYM07-986	59.81	42.79	-28.46	64.10	47.40	-26.05	50.41	42.85	-15.00	57.36	43.96	-23.35
GU07-2276	62.86	47.82	-23.93	63.19	85.40	35.15	47.47	44.73	-5.77	57.17	56.05	-1.95
GU07-3774	92.02	69.63	-24.33	92.58	92.16	-0.46	66.60	53.13	-20.22	82.63	69.08	-16.40
GU07-3849	81.17	47.13	-41.93	85.63	60.76	-29.05	57.98	53.23	-8.20	73.59	52.82	-28.22
MA05-99	112.66	86.25	-23.44	59.10	48.33	-18.22	36.60	35.80	-2.18	70.75	57.85	-18.23
MA05/22	78.90	56.83	-27.98	69.52	67.36	-3.10	50.65	42.28	-16.53	65.96	54.01	-18.13
MA05/51	84.18	55.43	-34.15	71.37	65.35	-8.44	41.98	34.79	-17.13	65.16	50.17	-23.01
MA5/37	80.95	64.14	-20.77	79.26	68.92	-13.05	55.14	45.99	-16.59	70.85	58.53	-17.39
MA5/5	83.55	81.83	-2.07	70.32	61.22	-12.95	47.96	38.02	-20.72	66.90	60.25	-9.94
PG9869-137	91.15	85.20	-6.53				44.63	38.69	-13.32	68.38	63.16	-7.63
SA04-390	52.98	65.10	22.88				38.36	30.14	-21.43	49.21	51.89	5.44
SA04-409	102.39	96.57	-5.68	55.54	56.74	2.16	50.00	37.25	-25.51	71.03	64.37	-9.38
SA04-454	59.60	56.79	-4.72	81.15	66.47	-18.09	43.60	38.94	-10.69	58.99	52.52	-10.97
SA04-458	72.16	48.02	-33.46	51.33	56.24	9.58	39.50	35.75	-9.51	54.71	45.47	-16.89
SA04-472	91.98	87.99	-4.33				40.97	29.64	-27.66	68.73	61.96	-9.85
SA04-496	65.95	43.46	-34.10	64.03	60.17	-6.03	40.74	34.20	-16.06	56.02	44.17	-21.16
SA98-13	56.05	20.76	-62.96	65.45	42.81	-34.59	35.29	29.92	-15.21	50.61	29.71	-41.30
Standards												
Check1	77.17	36.71	-52.43	91.44	46.94	-48.67	50.52	50.29	-0.47			
Check2	71.06	48.52	-31.72	92.55	99.76	7.79	64.40	68.30	6.06			
Check3	66.82	57.01	-14.68	106.21	101.68	-4.27	47.94	42.13	-12.11			

Table 7.6.2: CCS yield (t/ha) at harvest

Entry	Kolhapur			Vuyyuru			Pusa			Pooled Mean		
	Normal	Water logging	% change	Normal	Normal	Water	%	Normal	Normal	Water	% change	Normal
AS04-1687	12.35	8.18	-33.76	5.81	9.71	67.28	6.25	6.03	-3.52	8.14	7.98	-2.01
AS04-1689	7.87	5.30	-32.67	6.09	9.43	54.79	6.39	6.56	2.66	6.78	7.10	4.62
AS04-2097	10.22	4.15	-59.36	6.96	6.43	-7.57	5.10	4.29	-15.83	7.43	4.96	-33.21
AS04-245	9.36	4.89	-47.74	6.53	6.97	6.74	6.24	3.88	-37.91	7.38	5.24	-28.92
AS04-635	6.18	5.42	-12.30	8.06	10.42	29.23	5.85	5.12	-12.59	6.70	6.99	4.28
BM1003-143	11.67	7.40	-36.62	10.73	10.13	-5.59	5.01	4.02	-19.75	9.14	7.18	-21.42
BM1005-149	9.54	3.63	-61.93	9.11	12.21	33.98	4.32	3.00	-30.69	7.66	6.28	-18.02
BM1009-163	15.00	8.95	-40.32	8.89	9.38	5.51	5.64	4.59	-18.57	9.84	7.64	-22.38
BM1010-168	5.84	2.77	-52.57	7.13	4.42	-37.93	3.96	2.91	-26.52	5.64	3.37	-40.28
BM1022-173	11.08	7.57	-31.66	9.67	11.53	19.23	6.36	3.72	-41.56	9.04	7.61	-15.82
CYM07-986	6.68	5.01	-24.91	6.55	5.18	-20.91	5.19	3.76	-27.44	6.14	4.65	-24.21
GU07-2276	5.70	5.17	-9.41	6.04	8.72	44.45	5.16	4.18	-18.88	5.63	6.02	6.99
GU07-3774	8.48	5.68	-33.06	9.33	9.35	0.21	6.96	5.09	-26.87	8.26	6.71	-18.77
GU07-3849	9.18	5.42	-40.99	7.35	9.89	34.57	5.96	4.76	-20.18	7.50	6.69	-10.80
MA05-99	13.70	10.01	-26.95	8.10	7.03	-13.22	4.09	3.50	-14.43	8.63	6.84	-20.70
MA05/22	10.79	6.98	-35.28	9.61	8.99	-6.52	5.20	3.44	-33.85	8.53	6.47	-24.14
MA05/51	9.94	5.53	-44.38	8.65	7.85	-9.25	4.42	3.21	-27.43	7.67	5.53	-27.90
MA5/37	9.59	7.91	-17.48	8.12	7.65	-5.83	5.61	4.20	-25.24	7.78	6.59	-15.30
MA5/5	10.20	10.44	2.29	8.27	9.88	19.38	5.59	3.86	-30.89	8.02	8.06	0.42
PG9869-137	12.18	11.12	-8.73				4.71	4.34	-7.86	8.45	7.73	-8.48
SA04-390	6.46	7.79	20.53				4.12	2.46	-40.16	5.29	5.13	-3.15
SA04-409	15.33	13.48	-12.05	7.77	8.92	14.76	5.66	3.84	-32.16	9.59	8.75	-8.76
SA04-454	7.40	6.17	-16.58	8.18	6.48	-20.82	4.47	3.78	-15.36	6.68	5.48	-18.00
SA04-458	9.28	5.74	-38.15	7.55	7.60	0.71	4.50	2.88	-36.00	7.11	5.40	-23.97
SA04-472	13.07	12.02	-7.98				3.75	2.99	-20.27	8.41	7.51	-10.70
SA04-496	9.39	5.76	-38.69	8.66	8.93	3.08	4.87	3.65	-25.00	7.64	6.11	-19.98
SA98-13	7.66	2.65	-65.38	9.99	7.03	-29.69	3.94	2.88	-26.99	7.20	4.18	-41.90
Standards												
Check1	11.32	5.18	-54.21	13.46	7.40	-45.05	6.02	5.13	-14.78			
Check2	10.28	6.79	-33.94	14.45	15.38	6.48	7.48	6.84	-8.56			
Check3	9.58	8.03	-16.19	16.56	16.64	0.48	5.47	4.48	-18.04			

Table 7.6.3: Juice sucrose % at harvest

Entry	Kolhapur			Vuyyuru			Pusa			Pooled Mean		
	Normal	Water logging	% change	Normal	Normal	Water	%	Normal	Normal	Water	% change	Normal
AS04-1687	14.75	13.17	-10.67	9.39	12.91	37.45	14.59	12.98	-11.03	12.91	13.02	0.85
AS04-1689	13.83	12.59	-8.92	10.53	10.80	2.50	13.31	14.45	8.59	12.56	12.61	0.45
AS04-2097	15.17	12.77	-15.84	11.22	10.58	-5.71	13.41	12.68	-5.47	13.26	12.01	-9.47
AS04-245	15.41	14.14	-8.28	11.54	11.26	-2.48	14.89	11.25	-24.49	13.95	12.21	-12.45
AS04-635	14.44	13.82	-4.27	13.49	12.64	-6.25	14.64	13.33	-8.95	14.18	13.26	-6.49
BM1003-143	19.44	18.89	-2.83	18.15	17.52	-3.45	15.94	13.44	-15.70	17.84	16.62	-6.86
BM1005-149	18.20	17.86	-1.87	17.40	19.59	12.58	16.10	11.51	-28.53	17.23	16.32	-5.30
BM1009-163	19.98	19.78	-0.98	17.22	16.11	-6.45	16.37	13.26	-19.02	17.86	16.38	-8.25
BM1010-168	14.97	13.21	-11.78	12.81	10.84	-15.37	13.90	11.22	-19.26	13.89	11.76	-15.38
BM1022-173	16.89	15.94	-5.62	14.27	17.77	24.55	15.90	12.22	-23.11	15.69	15.31	-2.38
CYM07-986	16.74	16.59	-0.90	14.08	12.76	-9.35	14.07	12.56	-10.73	14.96	13.97	-6.62
GU07-2276	13.68	14.44	5.58	11.73	12.44	6.05	15.24	12.77	-16.23	13.55	13.22	-2.46
GU07-3774	15.08	14.36	-4.82	13.56	13.16	-2.93	13.97	14.07	0.72	14.21	13.86	-2.42
GU07-3849	16.72	16.56	-0.98	13.55	15.42	13.80	13.60	12.33	-9.36	14.62	14.77	1.00
MA05-99	17.93	17.06	-4.83	16.19	16.92	4.51	15.64	14.00	-10.47	16.67	15.60	-6.40
MA05/22	19.49	18.20	-6.59	16.81	16.95	0.81	14.95	11.79	-21.18	16.68	15.68	-5.99
MA05/51	17.40	15.44	-11.23	15.71	16.50	5.07	14.61	12.40	-15.11	16.58	15.33	-7.54
MA5/37	18.16	18.29	0.73	15.10	16.48	9.14	14.40	12.41	-13.82	15.51	15.09	-2.73
MA5/5	17.71	17.61	-0.56	15.60	16.73	7.26	15.98	13.63	-14.69	16.44	16.44	-0.02
PG9869-137	18.75	18.35	-2.12				15.42	15.26	-1.08	17.09	16.80	-1.66
SA04-390	18.43	16.95	-8.03				15.33	12.30	-19.73	16.88	14.63	-13.33
SA04-409	20.93	20.11	-3.90	17.42	18.36	5.38	16.70	13.26	-20.62	18.35	17.24	-6.07
SA04-454	18.35	16.80	-8.45	14.60	13.74	-5.87	14.49	13.31	-8.14	15.81	14.62	-7.57
SA04-458	18.44	17.55	-4.79	17.06	16.29	-4.48	15.29	10.88	-28.82	16.93	14.91	-11.91
SA04-472	19.64	19.06	-2.95				14.29	14.10	-1.33	16.97	16.58	-2.28
SA04-496	19.86	18.80	-5.35	17.67	17.60	-0.42	16.52	14.59	-11.66	18.02	17.00	-5.66
SA98-13	19.57	18.40	-5.99	18.36	19.29	5.08	14.72	12.31	-16.38	17.55	16.67	-5.03
Standards												
Check1	20.65	19.70	-4.59	19.37	18.31	-5.46	16.39	13.50	-17.65			
Check2	19.94	19.25	-3.44	20.27	20.22	-0.26	16.07	13.91	-13.46			
Check3	20.00	19.43	-2.85	20.52	20.81	1.38	15.01	14.28	-4.82			

Table 7.6.4: Number of millable canes ('000/ha) at harvest

Entry	Kolhapur			Vuyyuru			Pusa			Pooled Mean		
	Normal	Water logging	% change	Normal	Normal	Water	%	Normal	Normal	Water	% change	Normal
AS04-1687	145.26	114.53	-21.16	96.91	104.68	8.02	84.34	90.32	7.09	108.84	103.18	-5.20
AS04-1689	121.58	102.70	-15.53	90.48	112.46	24.28	111.41	109.26	-1.93	107.83	108.14	0.29
AS04-2097	125.63	100.74	-19.81	83.33	82.90	-0.51	65.57	65.71	0.22	91.51	83.12	-9.17
AS04-245	137.57	89.79	-34.73	103.79	89.97	-13.32	94.29	73.31	-22.25	111.88	84.35	-24.61
AS04-635	124.93	109.01	-12.74	87.97	106.85	21.47	82.95	101.91	22.85	98.62	105.92	7.41
BM1003-143	74.37	67.32	-9.48	58.96	61.92	5.01	60.35	53.10	-12.01	64.56	60.78	-5.86
BM1005-149	67.95	35.31	-48.03	57.92	64.71	11.71	55.61	55.25	-0.66	60.49	51.76	-14.44
BM1009-163	88.33	57.62	-34.76	69.23	65.74	-5.04	55.12	76.03	37.94	70.89	66.46	-6.24
BM1010-168	86.07	59.19	-31.24	81.17	66.70	-17.82	67.08	54.16	-19.26	78.11	60.02	-23.16
BM1022-173	71.61	50.86	-28.98	63.43	65.81	3.75	59.33	72.77	22.66	64.79	63.15	-2.53
CYM07-986	91.33	72.51	-20.61	81.44	74.92	-8.00	62.80	94.51	50.48	78.52	80.65	2.70
GU07-2276	110.03	93.37	-15.14	70.05	79.62	13.67	54.06	59.84	10.70	78.04	77.61	-0.56
GU07-3774	87.19	74.38	-14.69	105.77	103.55	-2.10	95.06	100.70	5.93	96.01	92.87	-3.26
GU07-3849	98.39	63.71	-35.24	87.76	89.28	1.72	94.67	97.44	2.93	93.61	83.48	-10.82
MA05-99	110.98	98.54	-11.21	60.04	51.18	-14.75	71.32	64.71	-9.26	74.30	66.03	-11.13
MA05/22	62.87	45.81	-27.14	54.53	49.91	-8.47	54.50	54.65	0.26	55.30	47.58	-13.96
MA05/51	77.96	59.77	-23.32	57.25	49.17	-14.11	59.90	63.82	6.55	67.87	62.00	-8.65
MA5/37	69.53	58.88	-15.31	64.76	51.30	-20.79	61.48	85.40	38.91	68.63	67.53	-1.60
MA5/5	86.79	81.12	-6.53	62.54	57.85	-7.51	52.99	56.80	7.19	69.70	66.48	-4.62
PG9869-137	61.69	63.26	2.54				59.25	56.53	-4.59	60.47	59.90	-0.95
SA04-390	48.84	61.43	25.78				32.83	59.26	80.48	40.84	60.34	47.76
SA04-409	76.11	76.33	0.29	48.16	52.12	8.22	57.53	61.44	6.79	60.60	63.29	4.44
SA04-454	57.31	56.15	-2.01	56.64	47.37	-16.37	39.97	62.14	55.47	51.31	55.22	7.63
SA04-458	72.56	56.91	-21.57	55.08	57.67	4.69	55.99	50.11	-10.51	61.21	54.89	-10.32
SA04-472	70.71	68.75	-2.76				76.26	54.28	-28.83	73.49	61.52	-16.29
SA04-496	81.14	63.90	-21.25	64.20	58.00	-9.66	46.52	42.91	-7.75	63.95	54.94	-14.09
SA98-13	66.75	32.07	-51.96	50.15	37.68	-24.86	52.79	58.08	10.02	56.56	42.61	-24.66
Standards												
Check1	63.01	36.10	-42.71	56.39	42.52	-24.59	73.86	81.09	9.80			
Check2	62.18	54.44	-12.45	70.51	64.34	-8.75	89.96	93.74	4.20			
Check3	50.03	51.81	3.57	74.95	69.83	-6.84	70.79	56.38	-20.36			

Table 7.6.5: Single cane weight (Kg) at harvest

Entry	Kolhapur			Vuyyuru			Pusa			Pooled Mean		
	Normal	Water logging	% change	Normal	Normal	Water	%	Normal	Normal	Water	% change	Normal
AS04-1687	0.85	0.76	-10.55	0.57	0.53	-7.6	0.75	0.71	-4.89	0.73	0.67	-8.26
AS04-1689	0.73	0.61	-15.98	0.62	0.52	-16.22	0.6	0.6	-0.56	0.65	0.58	-10.82
AS04-2097	0.89	0.66	-25.19	0.93	0.66	-28.67	0.83	0.74	-10.89	0.88	0.69	-22.26
AS04-245	0.65	0.61	-6.12	0.5	0.46	-7.33	0.63	0.57	-8.99	0.6	0.55	-7.82
AS04-635	0.54	0.5	-7.36	0.39	0.34	-13.56	0.74	0.5	-31.67	0.56	0.45	-19.64
BM1003-143	1.17	0.85	-27.43	1.11	1.05	-5.69	0.76	0.8	5.26	1.01	0.9	-11.51
BM1005-149	0.91	0.7	-23.08	1.07	0.92	-14.29	0.65	0.68	4.08	0.88	0.77	-12.88
BM1009-163	1.26	1.14	-10.03	0.85	0.81	-4.33	0.99	0.6	-38.85	1.03	0.85	-17.74
BM1010-168	0.64	0.57	-10.42	0.82	0.52	-36.18	0.61	0.66	7.61	0.69	0.58	-15.87
BM1022-173	1.38	1.26	-8.94	1.06	1.15	8.81	0.91	0.74	-18.32	1.12	1.05	-5.67
CYM07-986	0.62	0.55	-11.23	0.51	0.42	-17.76	0.89	0.48	-46.07	0.67	0.48	-28.22
GU07-2276	0.54	0.5	-8.59	0.9	0.83	-7.78	0.9	0.76	-15.93	0.78	0.69	-11.49
GU07-3774	0.93	0.82	-11.15	0.49	0.59	19.59	0.78	0.52	-32.62	0.73	0.64	-12.27
GU07-3849	0.7	0.67	-3.83	0.69	0.66	-5.29	0.65	0.56	-13.4	0.68	0.63	-7.35
MA05-99	1.11	1	-10.48	0.82	0.84	3.27	0.57	0.67	18.82	0.92	0.94	1.81
MA05/22	1.21	1.15	-5.22	1.3	1.09	-15.94	0.92	0.74	-18.91	1.05	0.89	-15.29
MA05/51	1	0.89	-11.3	1.14	0.85	-25.15	0.73	0.61	-16.36	0.9	0.78	-13.38
MA5/37	0.96	0.87	-9.37	0.99	0.89	-9.8	0.94	0.56	-40.78	1.02	0.82	-19.61
MA5/5	0.9	0.84	-7.38	0.97	0.85	-12.33	0.87	0.66	-23.85	0.92	0.75	-18.77
PG9869-137	1.51	1.35	-10.62				0.82	0.69	-16.19	1.17	1.02	-12.29
SA04-390	1.05	0.96	-8.25				1.05	0.53	-49.37	1.05	0.75	-28.8
SA04-409	1.37	1.3	-5.35	1.01	0.99	-1.32	0.81	0.66	-18.52	1.06	0.98	-7.52
SA04-454	1.01	0.94	-6.91	1.23	0.95	-22.55	1.03	0.65	-36.69	1.09	0.85	-22.32
SA04-458	0.93	0.8	-14.64	0.98	0.9	-8.47	0.73	0.78	6.36	0.89	0.83	-6.77
SA04-472	1.25	1.12	-10.9				0.6	0.66	10.61	0.93	0.89	-3.96
SA04-496	0.8	0.69	-13.75	0.7	0.73	3.79	0.92	0.78	-15.22	0.81	0.73	-9.47
SA98-13	0.84	0.65	-22.31	1.33	0.79	-40.6	0.67	0.6	-11.39	0.95	0.68	-28.42
Standards												
Check1	1.13	0.82	-27.14	1.48	0.83	-44.14	0.68	0.67	-1.95			
Check2	1.1	0.84	-23.33	1.25	0.94	-25.27	0.73	0.74	1.83			
Check3	1.24	0.97	-21.56	1.2	1.1	-8.36	0.68	0.69	1.97			

B. III 7.Evaluation and identification of climate resilient ISH and IGH genetic stocks (2017-18)

The data received from Motipur centre was very late (on 24.09.18) and by the time analysis and compilation was already completed for the trials. Hence the data could not be included in analysis and interpretation. The data on shoot count (000'/ha) (just before water logging, 30 days after water logging and 60 days after logging), single cane weight (kg) (just before water logging, 30 days after water logging and 60 days after logging), cane diameter (cm) (just before water logging, 30 days after water logging and 60 days after logging), cane length (cm) (just before water logging, 30 days after water logging and 60 days after logging), internode length (cm) (just before water logging, 30 days after water logging and 60 days after logging), number of fully emerged leaves (just before water logging, 30 days after water logging and 60 days after logging), leaf area/plant (cm²) (just before water logging, 30 days after water logging and 60 days after logging), single cane weight (kg) at 300 days, cane length (cm) at 300 days, cane diameter (cm) at 300 days, NMC ('000/ha) at 300 days, juice extraction % at 300 days, juice purity at 300 days, cane fibre % at 300 days, juice extraction % at 360 days, foliage color (30 days after water logging and 60 days after logging), aerial rooting (number) and aerial rooting (intensity) were not given. However the data sent by the centre is given in Table 1 – 4.

Table 1: Performance of entries for water logging-Plant II (Normal condition)

Entry	Germination %	Tillers (000'/ha) 90 (120 days)	Shoots (000'/ha) (240 days)	Data at 300 days		Data at 360 days		
				Juice Brix %	Juice Sucrose %	Single cane weight (kg)	Cane length (cm)	Cane diameter (cm)
BM 1003143	31.51	159.05	101.09	16.98	14.99	1.10	263.50	2.35
BM 1005149	22.52	98.51	70.79	16.17	16.08	0.90	213.00	1.95
BM 1009163	23.06	155.75	177.25	13.91	13.59	1.05	212.50	2.65
BM 1010168	27.48	68.18	100.99	15.09	13.75	1.15	208.50	2.65
BM 1022173	34.57	130.19	98.75	12.03	10.55	0.85	212.50	2.25
PG 9869137	19.06	79.07	87.35	15.88	14.50	1.00	256.50	2.15
SA 98-13	39.27	72.89	124.91	12.83	14.92	1.35	272.50	2.35
SA 04-454	22.16	131.77	77.22	17.22	15.36	0.90	237.50	2.20
SA 04-4792	25.10	53.39	44.72	12.31	11.17	1.25	286.00	2.50
SA 04-458	24.50	83.85	64.54	16.19	14.39	0.85	222.50	2.00
SA 04-390	23.54	99.01	152.50	17.19	14.98	0.85	242.50	2.35
SA 04-496	20.09	81.16	71.52	16.24	14.33	1.00	222.50	2.30
SA 04-409	33.68	64.54	120.66	15.87	13.82	0.80	282.00	2.00
AS 04-1689	33.97	150.47	228.11	13.91	12.10	0.85	261.00	1.80
AS 04-245	19.73	87.83	104.03	16.24	14.64	1.00	226.50	2.45
AS 04-2097	32.58	113.29	113.21	14.81	12.33	0.85	283.50	2.05
AS 04-635	37.15	177.17	193.11	15.81	13.57	0.90	248.50	2.05
AS 04-1687	15.15	91.28	114.64	13.19	11.17	0.80	231.50	2.25
MA 5/51	19.29	90.13	107.03	14.71	13.30	1.05	278.50	2.40
MA 5/5	26.03	199.95	162.41	16.01	12.94	1.25	273.50	2.20
MA 5/37	28.65	80.50	82.90	14.79	16.59	0.85	232.50	2.25
MA 5/99	27.76	73.17	53.05	18.05	14.43	1.05	288.00	2.40
MA 5/22	23.62	124.86	100.52	15.36	13.78	1.20	282.50	2.50
GU 07-3849	34.25	111.91	193.91	16.19	14.54	0.75	243.00	1.85
GU 07-3774	19.25	133.94	150.88	15.29	10.43	0.65	265.00	2.10
GU 07-2276	35.02	141.87	160.79	11.93	10.67	1.00	272.50	2.25
CYM 07-986	29.75	103.31	132.87	15.04	12.88	0.95	236.00	2.00
Standards								
BO 154	35.71	151.33	106.16	14.79	12.76	1.45	267.50	2.20
BO 91	32.15	92.45	98.17	16.29	14.35	1.55	251.50	1.95
Co 0232	38.04	61.03	82.34	20.71	16.89	1.50	272.50	2.10

Entry	Data at 360 days							
	NMC (000'/ha)	Juice Brix %	Juice sucrose %	Purity %	Cane fibre %	CCS%	Cane yield (t/ha) at 360 days	CCS t/ha
BM 1003143	68.44	15.69	13.77	87.73	11.95	9.48	70.50	6.67
BM 1005149	85.47	14.75	12.76	86.41	12.20	8.74	68.35	5.99
BM 1009163	53.52	17.67	15.81	89.50	12.34	11.00	70.24	7.72
BM 1010168	83.04	15.99	13.94	87.16	11.62	9.57	76.81	7.34
BM 1022173	100.35	15.76	13.94	88.40	12.18	9.80	65.29	6.81
PG 9869137	93.96	18.29	16.26	88.92	11.55	11.27	64.50	7.28
SA 98-13	93.53	15.06	12.76	84.64	12.14	8.64	70.53	6.07
SA 04-454	83.20	16.67	14.50	87.01	12.18	9.85	71.95	7.09
SA 04-4792	35.01	19.14	17.22	89.97	12.32	12.01	37.55	4.51
SA 04-458	80.97	16.05	13.97	87.01	11.89	9.59	60.55	5.80
SA 04-390	38.37	18.05	16.14	89.41	11.35	11.22	36.97	4.15
SA 04-496	54.18	16.81	15.30	91.01	12.15	10.75	43.89	5.80
SA 04-409	53.28	15.61	13.33	85.36	12.34	9.07	54.19	4.94
AS 04-1689	170.12	15.79	14.30	90.53	12.40	10.00	74.46	7.44
AS 04-245	78.42	16.68	14.35	86.00	12.28	9.79	70.84	6.93
AS 04-2097	116.55	16.15	13.97	86.49	12.08	9.56	71.07	6.77
AS 04-635	117.79	16.03	13.77	85.86	12.03	9.38	67.07	6.29
AS 04-1687	96.38	15.18	12.95	85.29	12.44	8.80	68.98	6.08
MA 5/51	100.61	17.86	16.26	93.56	12.47	10.40	58.79	6.70
MA 5/5	116.00	17.12	15.05	87.88	12.16	10.38	56.92	6.02
MA 5/37	95.12	17.60	15.81	89.83	12.26	11.01	51.39	5.65
MA 5/99	75.99	17.73	15.81	89.19	11.97	10.98	62.49	6.85
MA 5/22	83.56	17.12	15.05	87.91	12.05	10.38	64.06	7.16
GU 07-3849	110.62	15.80	13.78	87.24	12.38	9.47	63.90	6.06
GU 07-3774	119.88	16.85	15.05	89.28	12.41	10.46	65.08	6.78
GU 07-2276	126.63	14.92	12.72	85.31	12.39	8.65	70.29	6.06
CYM 07-986	166.48	15.97	14.03	88.01	12.24	9.67	78.63	7.59
Standards								
BO 154	142.25	17.89	16.14	90.19	12.03	11.27	74.95	8.48
BO 91	141.26	19.23	17.47	89.55	12.36	11.98	168.86	8.25
Co 0232	137.78	19.08	17.01	89.14	12.29	11.81	67.64	7.99

Table 2: Performance of entries for water logging-Plant II (Water logging condition)

Entry	Germination %	Tillers (000'/ha) 90 (120 days)	Shoots (000'/ha) (240 days)	Data at 300 days				
				Single cane weight (kg)	Cane length (cm)	Cane diameter(cm)	Juice Brix %,	Juice Sucrose %
BM 1003143	31.51	159.05	101.09	1.35	259.00	2.10	17.08	15.40
BM 1005149	22.52	98.51	70.79	0.85	210.50	1.80	16.51	14.44
BM 1009163	23.06	155.75	177.25	1.05	216.50	2.00	14.89	12.50
BM 1010168	27.48	68.18	100.99	1.35	213.50	2.20	13.24	11.15
BM 1022173	34.57	130.19	98.75	0.85	207.50	2.00	12.59	11.61
PG 9869137	19.06	79.07	87.35	0.95	242.00	2.00	14.34	12.46
SA 98-13	39.27	72.89	124.91	1.20	263.00	2.05	16.16	14.74
SA 04-454	22.16	131.77	77.22	0.90	230.00	2.05	17.06	15.35
SA 04-4792	25.10	53.39	44.72	1.15	265.00	2.15	12.79	11.64
SA 04-458	24.50	83.85	64.54	0.75	232.00	2.00	14.44	12.81
SA 04-390	23.54	99.01	152.50	0.90	215.00	2.15	15.14	13.39
SA 04-496	20.09	81.16	71.52	0.90	209.00	1.85	15.34	13.05
SA 04-409	33.68	64.54	120.66	0.75	236.50	1.90	17.49	15.47
AS 04-1689	33.97	150.47	228.11	0.80	256.00	1.55	11.98	10.65
AS 04-245	19.73	87.83	104.03	1.00	213.50	2.05	15.24	13.39
AS 04-2097	32.58	113.29	113.21	0.75	280.00	1.80	14.91	16.05
AS 04-635	37.15	177.17	193.11	0.80	286.00	2.00	14.44	42.62
AS 04-1687	15.15	91.28	114.64	0.80	221.50	2.00	13.43	11.98
MA 5/51	19.29	90.13	107.03	1.05	273.50	2.30	15.54	13.94
MA 5/5	26.03	199.95	162.41	1.10	276.00	2.00	13.64	11.78
MA 5/37	28.65	80.50	82.90	0.70	244.00	2.05	14.86	13.38
MA 5/99	27.76	73.17	53.05	0.95	288.50	2.05	15.94	14.06
MA 5/22	23.62	124.86	100.52	1.20	223.50	2.10	14.54	12.09
GU 07-3849	34.25	111.91	193.91	0.65	246.00	1.95	13.64	11.53
GU 07-3774	19.25	133.94	150.88	0.55	263.50	2.00	15.24	12.88
GU 07-2276	35.02	141.87	160.79	0.90	268.00	2.05	14.64	13.38
CYM 07-986	29.75	103.31	132.87	0.80	271.50	1.80	15.06	13.02
Standards								
CoLk 94184	35.71	151.33	106.16	1.50	264.50	2.20	17.86	16.17
Co 0232	32.15	92.45	98.17	1.45	250.00	2.10	15.87	14.28
Co 0233	38.04	61.03	82.34	1.45	267.00	2.10	17.71	15.49

Entry	Data at 360 days							
	NMC (000'/ha)	Juice Brix %,	Juice sucrose %	Purity %	Cane fibre %	CCS%	Cane yield at 360 days	CCS t/ha
BM 1003143	68.01	14.13	11.70	82.81	11.91	7.83	63.69	4.98
BM 1005149	85.16	13.67	11.20	81.93	11.85	7.45	67.18	5.01
BM 1009163	52.91	17.64	15.81	89.63	11.71	11.01	58.80	6.47
BM 1010168	82.47	15.53	14.14	91.09	11.55	9.92	75.32	7.46
BM 1022173	99.57	13.98	11.59	82.99	12.60	7.76	64.04	4.99
PG 9869137	93.18	68.29	16.59	90.73	11.17	11.61	63.40	7.36
SA 98-13	92.93	13.52	11.90	87.94	12.09	8.21	69.58	5.72
SA 04-454	82.32	15.80	14.47	87.94	11.96	9.78	70.42	6.86
SA 04-4792	34.05	19.14	16.89	88.24	11.85	11.67	36.50	4.26
SA 04-458	69.86	14.80	12.82	86.59	11.04	8.77	59.34	5.20
SA 04-390	37.38	18.04	16.26	90.17	12.16	11.35	35.91	4.07
SA 04-496	53.32	16.30	15.11	92.61	11.61	10.57	52.73	5.59
SA 04-409	52.17	15.10	12.22	80.94	11.98	8.08	53.01	4.28
AS 04-1689	169.41	15.55	12.53	80.58	12.06	8.26	73.24	6.05
AS 04-245	77.12	14.75	13.22	89.60	11.06	9.20	72.97	6.40
AS 04-2097	115.22	15.80	13.78	87.27	12.01	9.05	69.72	6.31
AS 04-635	116.67	16.03	13.94	86.89	12.01	9.56	65.93	6.30
AS 04-1687	94.73	14.28	11.90	83.28	12.03	7.99	67.85	5.39
MA 5/51	99.92	17.86	16.14	90.35	10.63	11.28	57.62	6.49
MA 5/5	114.72	14.24	11.97	83.99	12.92	8.07	55.87	4.49
MA 5/37	93.95	16.30	13.97	85.69	12.29	9.52	50.16	4.78
MA 5/99	74.67	16.64	16.41	87.71	11.72	11.32	61.76	6.55
MA 5/22	82.92	17.09	14.90	87.11	11.30	10.23	68.20	6.97
GU 07-3849	109.36	17.73	16.26	91.73	12.60	11.44	63.48	7.25
GU 07-3774	118.14	16.27	13.78	84.70	11.46	9.33	64.42	5.81
GU 07-2276	125.61	13.63	11.70	85.85	12.33	7.98	69.62	5.55
CYM 07-986	165.07	14.97	12.71	84.81	11.57	8.61	77.79	5.20
Standards								
CoLk 94184	141.07	19.93	17.34	87.07	12.03	11.90	74.19	8.80
Co 0232	139.13	18.24	16.35	89.63	12.89	11.38	67.83	7.71
Co 0233	136.83	18.08	16.26	89.92	12.54	11.34	66.68	7.55

Table 3: Performance of entries for water logging- Ratoon (Normal condition)

Entry	No. of Tillers (000'/ha) 90 (120 days)	Shoot count (000'/ha)	Data at 270 days		Data at 330 days			
			Juice Brix %,	Juice sucrose %	Single cane weight (kg)	Cane length (cm)	Cane diameter (cm)	NMC (000'/ha)
BM 1003143	103.60	75.27	16.99	14.99	1.45	291.50	2.35	68.78
BM 1005149	158.00	166.32	17.17	16.08	0.90	227.50	1.90	123.94
BM 1009163	85.56	86.49	15.41	13.59	1.35	296.00	2.60	76.25
BM 1010168	96.66	91.57	15.09	13.75	1.40	298.50	2.65	80.23
BM 1022173	80.47	146.61	12.03	10.55	0.95	264.00	2.20	103.39
PG 9869137	78.63	52.26	15.89	14.50	1.45	257.50	2.15	41.54
SA 98-13	159.10	133.20	12.83	15.47	1.75	282.50	2.05	117.92
SA 04-454	81.86	77.24	18.22	15.78	1.00	255.00	2.20	65.52
SA 04-4792	110.54	113.77	12.31	11.17	1.40	285.00	2.55	96.70
SA 04-458	113.31	124.01	15.69	13.79	0.65	295.50	2.00	106.46
SA 04-390	80.01	77.43	17.19	14.98	0.95	260.00	2.35	52.74
SA 04-496	116.09	113.77	15.74	14.33	0.65	256.00	1.90	88.15
SA 04-409	160.02	150.50	12.86	14.99	0.95	263.50	2.00	112.21
AS 04-1689	119.79	149.99	13.91	11.61	0.60	287.50	1.75	112.98
AS 04-245	111.38	67.99	16.24	14.80	0.95	245.00	2.70	55.15
AS 04-2097	114.70	124.88	13.81	15.96	1.25	300.00	2.05	111.60
AS 04-635	113.77	152.68	14.31	12.61	1.25	284.00	2.05	121.37
AS 04-1687	90.65	168.49	15.69	13.56	0.85	266.00	2.00	134.29
MA 5/51	62.90	61.98	14.71	13.29	1.50	314.00	2.65	52.82
MA 5/5	100.83	91.58	16.01	14.22	1.40	302.50	2.25	66.59
MA 5/37	94.96	113.31	14.79	13.47	1.45	270.00	2.10	96.90
MA 5/99	87.88	128.57	13.11	14.21	1.00	297.50	2.40	98.11
MA 5/22	125.34	126.26	15.36	13.61	1.60	265.00	2.50	115.01
GU 07-3849	129.04	152.63	16.19	14.21	0.45	261.50	2.00	99.82
GU 07-3774	94.81	137.83	15.29	13.07	0.65	247.50	1.95	104.37
GU 07-2276	133.16	135.48	11.93	10.67	1.30	291.50	2.35	118.89
CYM 07-986	162.80	145.24	15.04	13.09	1.10	282.00	2.00	117.80
Standards								
BO 0154	81.17	105.29	14.79	13.01	1.40	280.00	2.15	92.01
BO 091	37.33	52.21	16.29	14.18	0.90	275.00	1.85	41.05
Co 0232	51.87	69.39	15.21	13.12	0.90	242.50	2.05	60.81

Entry	Data at 330 days						
	Juice Brix %,	Juice sucrose %	Purity %	Cane fibre %	CCS%	Cane yield at 330 days	CCS t/ha 330 days
BM 1003143	17.84	16.05	89.975	12.5	11.19	53.31	5.95
BM 1005149	18.68	15.005	80.525	12.085	9.875	75.655	7.535
BM 1009163	16.91	14.86	87.875	12.48	10.245	66.67	6.825
BM 1010168	17.09	13.625	78.665	12.115	8.825	62.87	5.56
BM 1022173	16.075	13.345	81.89	12.28	8.94	90.775	8.12
PG 9869137	17.39	15.77	89.115	12.18	11.035	34.325	3.79
SA 98-13	16.325	14.79	90.52	12.295	10.345	76.92	7.89
SA 04-454	20.22	17.01	83.61	12.065	11.55	55.98	6.515
SA 04-4792	15.81	13.88	87.715	12.53	9.565	73.75	7.015
SA 04-458	17.69	15.89	89.83	12.665	11.07	71.37	7.82
SA 04-390	18.19	15.385	84.265	12.3	10.41	45.72	4.87
SA 04-496	18.24	16.13	88.45	12.77	11.15	49.48	5.47
SA 04-409	15.355	12.895	83.275	12.865	8.69	62.38	5.355
AS 04-1689	15.445	12.46	80.82	12.82	8.23	54.985	4.46
AS 04-245	16.24	14.25	87.615	12.66	9.82	55.025	5.555
AS 04-2097	15.805	14.25	90.05	12.485	9.94	79.995	7.93
AS 04-635	16.31	14.265	87.42	12.375	9.81	69.38	6.865
AS 04-1687	16.69	15.04	90.18	12.6	10.49	76.975	7.98
MA 5/51	15.66	14.09	89.97	12.645	9.825	47.28	4.64
MA 5/5	17.51	15.68	89.64	12.3	10.905	55.905	6.025
MA 5/37	16.375	14.25	86.975	12.46	9.78	80.31	7.685
MA 5/99	15.605	13.345	84.655	12.04	9.075	71.61	6.23
MA 5/22	15.71	14.215	90.46	12.065	9.935	57.46	5.68
GU 07-3849	17.19	15.465	89.83	12.73	10.785	61.84	6.705
GU 07-3774	16.875	14.2	83.86	12.4	9.58	64.465	6.26
GU 07-2276	13.925	11.665	83.735	12.6	7.85	83.35	6.545
CYM 07-986	15.04	13.415	92.69	12.51	9.31	66.98	6.07
Standards							
BO 0154	16.89	14.68	86.885	12.05	10.065	69.76	7.01
BO 091	17.09	15.5	90.66	12.54	10.85	69.355	7.525
Co 0232	18.84	16.56	89.665	12.415	11.435	58.39	6.68

Table 4: Performance of entries for water logging- Ratoon (Water logging condition)

Entry	No. of Tillers (000'/ha) 90 (120 days)	Shoot count (000'/ha)	Data at 270 days		Data at 330 days			
			Juice Brix %,	Juice sucrose %	Single cane weight (kg)	Cane length (cm)	Cane diameter (cm)	NMC (000'/ha)
BM 1003143	183.25	98.03	16.31	14.50	1.10	300.00	2.15	65.76
BM 1005149	154.01	69.38	16.26	14.44	0.75	241.00	1.70	86.11
BM 1009163	155.34	177.11	13.39	11.50	1.15	281.00	2.15	52.20
BM 1010168	81.40	98.49	13.24	11.15	1.15	296.00	2.25	83.34
BM 1022173	109.61	103.60	12.54	11.61	0.85	255.00	1.95	99.34
PG 9869137	90.19	76.31	14.34	12.46	0.95	243.50	2.00	94.12
SA 98-13	109.61	124.88	16.16	14.74	1.20	266.50	1.50	93.21
SA 04-454	80.96	78.62	17.06	15.35	0.95	230.00	2.05	85.27
SA 04-4792	43.48	44.40	12.79	11.14	1.05	261.00	2.15	33.48
SA 04-458	124.43	63.83	14.44	12.81	0.70	254.50	1.95	80.12
SA 04-390	72.61	153.09	15.14	13.39	0.95	217.00	2.15	37.13
SA 04-496	69.38	70.30	15.34	13.05	0.85	247.00	1.75	53.71
SA 04-409	84.14	121.17	17.48	15.47	0.65	296.00	1.95	53.91
AS 04-1689	160.51	228.94	11.98	10.69	0.85	273.00	1.55	168.72
AS 04-245	141.99	102.67	15.24	13.39	1.05	215.00	2.15	77.88
AS 04-2097	120.71	112.83	14.40	14.79	0.75	261.50	1.80	115.37
AS 04-635	159.96	199.31	14.44	12.12	0.70	308.00	1.95	118.23
AS 04-1687	107.73	148.29	13.43	11.98	0.80	242.00	1.85	96.66
MA 5/51	141.53	106.37	15.54	13.94	1.15	305.00	2.30	94.36
MA 5/5	155.64	185.93	13.64	11.78	1.10	301.50	2.05	117.76
MA 5/37	59.63	81.30	14.86	13.38	0.75	250.00	1.95	93.62
MA 5/99	144.28	51.34	15.94	13.85	1.05	295.50	2.00	76.30
MA 5/22	66.60	100.36	13.44	13.39	1.25	245.00	2.05	83.75
GU 07-3849	101.73	193.33	13.64	11.53	0.50	242.00	1.80	153.62
GU 07-3774	188.12	161.87	13.24	11.25	0.50	217.50	1.95	207.24
07-2276	78.88	166.41	14.64	13.38	0.95	299.50	2.05	126.85
CYM 07-986	166.28	131.99	15.04	13.02	0.95	287.50	1.80	168.06
Standards								
CoLk 94184	98.58	104.93	16.86	15.35	1.50	262.50	2.15	141.36
Co 0232	97.05	97.93	16.37	14.94	1.65	245.00	1.95	140.27
Co 0233	92.55	82.44	14.26	12.53	1.70	252.50	2.20	137.26

Entry	Data at 330 days						
	Juice Brix %,	Juice sucrose %	Purity %	cane fibre %	CCS%	Cane yield	CCS t/ha
BM 1003143	19.57	16.89	86.65	12.29	11.55	81.21	9.37
BM 1005149	19.77	17.22	87.11	11.61	11.83	76.66	9.06
BM 1009163	13.62	11.98	87.74	12.26	8.26	79.24	6.53
BM 1010168	17.65	16.02	90.74	11.25	11.21	82.27	9.20
BM 1022173	15.62	14.19	90.83	11.72	9.94	90.16	8.95
PG 9869137	17.37	15.71	90.38	11.29	10.98	66.86	7.27
SA 98-13	19.97	17.45	87.50	11.60	12.00	72.33	8.15
SA 04-454	20.17	17.70	87.75	11.96	12.20	78.29	8.76
SA 04-4792	16.70	15.14	90.70	11.34	10.60	40.27	7.01
SA 04-458	18.77	16.32	87.02	11.08	11.19	57.39	5.20
SA 04-390	19.57	17.34	88.63	11.17	12.00	32.82	5.25
SA 04-496	19.92	17.34	87.05	10.96	11.91	61.68	5.80
SA 04-409	17.60	15.65	88.84	11.68	10.83	63.21	7.08
AS 04-1689	14.42	12.94	89.52	11.07	9.01	94.19	7.11
AS 04-245	18.22	16.50	90.64	11.41	11.50	83.91	8.78
AS 04-2097	17.15	14.48	79.13	11.69	9.98	84.46	10.67
AS 04-635	16.31	14.89	91.05	10.96	10.45	106.19	9.22
AS 04-1687	18.05	15.50	86.14	12.32	10.57	79.95	8.65
MA 5/51	16.80	15.13	90.06	12.03	10.55	67.84	8.22
MA 5/5	16.40	14.89	90.57	11.33	10.42	68.71	6.92
MA 5/37	19.40	17.12	88.55	11.25	11.83	56.15	7.32
MA 5/99	16.55	14.77	89.35	11.80	10.26	50.43	5.94
MA 5/22	18.56	16.92	91.23	11.38	11.87	54.78	6.16
GU 07-3849	16.20	14.43	88.81	11.07	10.02	89.79	8.07
GU 07-3774	15.90	13.73	89.42	11.61	9.39	99.93	8.42
GU 07-2276	18.10	15.64	86.39	10.95	10.70	91.00	10.34
CYM 07-986	20.17	17.66	87.73	11.57	12.16	86.02	9.69
Standards							
CoLk 94184	20.07	17.78	89.11	11.34	12.31	83.32	10.29
Co 0232	19.22	16.59	86.42	11.56	11.34	83.31	9.44
Co 0233	13.37	11.40	85.30	11.61	7.74	89.91	7.08

