

ALL INDIA COORDINATED RESEARCH PROJECT ON SUGARCANE

VARIETAL IMPROVEMENT PROGRAMME

PRINCIPAL INVESTIGATOR'S REPORT 2016-17

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PRINCIPAL INVESTIGATOR
VARIETAL IMPROVEMENT PROGRAMME

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All India Coordinated Research Project (Sugarcane) – Year 2016-17
Principal Investigator's (Crop Improvement) report

EXECUTIVE SUMMARY

The All India Co-ordinated Research Project on Sugarcane (AICRP-S) is the largest networked research programme in sugarcane for the development of new improved zonal/location specific varieties. Sugarcane varietal development under AICRP(S) has two major components *viz.*, fluff supply programme and zonal varietal trials. Under the fluff supply programme, desired crosses are made at National Hybridization Garden functioning at ICAR-Sugarcane Breeding Institute, Coimbatore and crossed seeds (fluff) are sent to different sugarcane research stations for raising seedlings and selecting location specific varieties. At present, twenty three sugarcane research stations are participating in the fluff supply and varietal development programme. Elite clones developed by the fluff receiving centres of each zones are pooled and these common entries are evaluated in IVT (one year) and AVT (two years) across a number of locations within the respective zones. Thus AICRP(S) provides a common platform for exchanging and evaluating elite clones developed by different participating centres within each zone. In IVT, clones are evaluated for one year and better performing clones are forwarded to Advanced Varietal Trials (AVT). In AVT, entries are evaluated in two plant and one ratoon crops in two years. These trials are conducted by 39 sugarcane research stations located in the five different agro-climatic zones. Data from all these trials including cane yield, juice quality, reaction to pest and diseases and tolerance to salinity and drought are compiled and best entries across the centres in each zone are proposed for identification in AICRP(S) workshop. Identified clones 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 2016-17 are summarized below.

Weather, pests and diseases situation:

Deficient rainfall during the year 2016-17 was experienced in many centres. However Cuddalore received unusual excess rainfall. The lowest rainfall was reported by Pugalur (190.7 mm) followed by Coimbatore (386.5 mm) and the highest rainfall was received at Buralikson (2197.0 mm). Perumalapalle in peninsular zone recorded the maximum temperature of 46.8°C during May, 2016 and Muzzafarnagar and Faridkot in North West Zone recorded the lowest temperature (7.1 °C) during January, 2017. No major disease was reported by the centres. However minor incidence of insect pests like root borer, stem borer, shoot borer, top borer, stalk borer, plassey borer and other pest like pyrilla, black bug, mealy bug etc.were reported by centres. Red rot was reported by Pusa centre. 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 30 Zonal Varietal Trials (16 in early and 14 in midlate) were conducted during the year 2016-17. There were 8 IVT and 22 AVT trials. A total of 67 entries in early group and 91 entries in midlate group were evaluated of which 16 in early and 22 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	8+3	11+2	-	Co 10015, CoT 10369
AVT Ratoon	8+3	11+2	CoT 10367	CoT 10369
Pooled analysis	8+3	11+2	-	-
AVT I Plant	5+3	6+2	CoM 11082	-
IVT	8+3	20+2	Co 13002, MS 13081	Co 13008, Co 13009, Co 13013, Co 13018, Co 13020
Total entries	21	37	4	7
East Coast Zone				
AVT II Plant	5+3		CoA 12323, CoV 12356	

AVT Ratoon	5+3		CoA 12323, CoV 12356	
Pooled analysis	5+3		CoA 12323	
AVT I Plant	5+2	4+2	CoC 13336, CoV 13356	CoA 12324, CoC 13339
IVT	7+2	12+2	CoA 14321, CoC 14336, CoV 14356	Co 13031, CoC 14337, PI 14377
Total entries	17	16	7	5
North West Zone				
AVT II Plant	4+2	6+3	-	-
AVT Ratoon	4+2	6+3	-	-
Pooled Analysis	4+2	6+3	-	-
AVT I Plant	4+2	6+3	-	CoPant 12226, CoS 12232, Co 12029
IVT	9+2	13+3	Co 13034	Co 13035, CoH 13262, CoH 13263, CoS 13232
Total entries	17	25	1	7
North Central & North East Zone				
AVT II Plant	4+2	4+3	CoP 11437, CoP 11438, CoSe 11451	CoSe 11453
AVT Ratoon	4+2	4+3	CoP 11437, CoP 11438, CoSe 11451	CoSe 11453
Pooled Analysis	4+2	4+3	CoP 11438	CoSe 11453
AVT I Plant	3+2	4+2	-	CoSe 12453
IVT	4+2	4+2	CoP 13437	CoSe 13453
Total Entries	11	12	4	3
Grand total (Entries)	67	91	16	22

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

Qualifying entries in different trials:

Zone	Trial	Entries
North Central and North East Zone	AVT – Early (II Plant +Ratoon)	CoP 11438
North Central and North East Zone	AVT – Midlate (II Plant +Ratoon)	CoSe 11453
East Coast Zone	AVT – Early (II Plant +Ratoon)	CoA 12323

The entries which recorded 10 % improvement for cane yield and numerically superior/onpar for juice sucrose % compared to the best standard 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 CoA 12323 (Early) and in North Central and North East zones, CoP 11438 (Early) and CoSe 11453 (Midlate) were 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 629 parental clones during 2016-17. Flowering was delayed by two weeks and out of 629 parents, only 330 flowered and the per cent of clones flowered during 2016 was 52.46 % against 58.26 % in the previous year.

Nineteen centres participated in the crossing programme. The centers were facilitated to make 502 bi-parental crosses and 42 selfs at NHG at ICAR-SBI, Coimbatore. Besides bi-parental crosses, 12 poly crosses, 94 general collections of open pollinated fluff (GCs) were also made for these centers. Further, 12 centers were facilitated to effect 60 bi-parental crosses and 40 general collections at National Distant Hybridization Facility (NDHF) available at ICAR-SBIRC, Agali. Altogether 562 bi-parental test crosses, 42 selfs, 12 poly crosses and 134 GCs were effected. Fluff weighing 19.52 kg of crosses made at NHG and NDHF during 2016 flowering season was supplied to the 20 participating centers of fluff supply programme.

Crosses made by the participating centres and the fluff (g) despatched from NHG during 2016-17

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	179 (10)	4028.3	7*	360.0	65	1206.0	26	465.0	34	675.0	6734.3
EAST COAST ZONE	93 (2)	1793.5	7*	134.5	31	703.5				9.0	2640.5
NORTH WEST ZONE	146 (19)	3702.7	5*	201.5	33	1218.0	33	476.0	5	81.5	5679.7
NORTH CENTRAL ZONE	84(11)	2114.0	5*	160.5	46	2174.0	1				4461.0
GRAND TOTAL	502 (42)	11638.5	12	856.5	94	5301.5	60	962.5	40	765.5	19515.5

Action Taken Report on the recommendations of the AICRP(S) biennial workshop conducted at Pune during 2016

	Recommendation	Centres	Action taken
1	Henceforth monitoring teams will be constituted with the scientists from the same zone. In addition, National Monitoring team will be also constituted with the members from ICAR-SBI and ICAR-IISR for monitoring the trials conducted by some of the centres across all zones.	Project Coordinator – AICRP-S)	The zone-wise Monitoring Teams and National Monitoring Team have been constituted with the members from ICAR-SBI, Coimbatore, ICAR-IISR, Lucknow and other AICRP(S) centres for monitoring the trials conducted by different centres across all zones.
2	AVT (I Plant) trials should be harvested in time and ratooning operations should be carried out properly for raising a good ratoon crop.	All centres	Centres reported timely harvest of AVT (I Plant) trials for raising a good ratoon crop.
3	Quantity of the fluff supplied to the participating centres of Fluff Supply Programme will be decided based on the capacity of the centre to raise and handle the seedlings. All the centres are requested to inform the number of seedlings which can be handled / evaluated. Remaining fluff will be stored at ICAR-SBI, Coimbatore for supplying to the centres in the subsequent years.	All centres and ICAR – SBI, Coimbatore	Information on capacity to raise and handle the seedlings was reported by centres. Rudrur: 10,000 Pune: 15,000 Shajahanpur: 50,000 Navsari: 8,000 – 10,000 Seorahi: 50,000 Kapurthala: 15,000 - 20,000 Uchani – 50,000 Bethuadhari – 4,000 Buralikson: 35,000 Pusa: 50,000 – 60,000 Anakapalle: 10,000 Thiruvalla: 5,000 Since germination of the crosses effected during 2016 flowering season was poor, all the fluff of the crosses effected by the centres during 2016 was sent to the respective centre. Remaning fluff of biparetnal crosses , polycrosses and general collections were sent to Buralikson on special request

			by the centre.
4	Zonal crosses will be dispensed from this year onwards as centres are not keen in continuing	PI – Crop Improvement	Zonal crosses were not made during 2016-17 season as per the proceedings 31 st AICRP(S) group meeting held at VSI Pune. Hence no fluff of zonal crosses were supplied to any of the participating centres of fluff supply programme
5	The new entries with MR/R reactions to red rot are only accepted for inclusion in ZVT in North West, North Central, North East and East Coast zones. Subsequently when the entries were evaluated for red rot in IVT, HS/S red rot ratings were reported for some of the entries by the same centre which proposed the entries. This inconsistency is a serious issue as a lot of resources is wasted in multiplying, supplying and evaluating them in IVT. Hence it is decided that such centres which are reporting inconsistent red rot rating will not be permitted to propose new entries for the next three years	All centres	Many centres accepted to follow the recommendations. Pune: For Peninsular zone, red rot reaction from the nearest testing centre ie Navsari should be considered and not the data from the lower peninsular zone, as most of the clones developed by upper peninsular zone is never fit for getting high cane and sugar yield in lower peninsular zone. Hence the decision of not permitting the centres for proposing new entries for next three years should be reconsidered.
6	The varieties notified by the CVRC for a particular zone are generally notified by the states under the zone. However some states are not immediately releasing such varieties for cultivation in respective state. Hence the State Agricultural Universities should conduct the adaptability trials of the	All centres	Agreement has been communicated by the centres

	varieties released by the CVRC in respective states, as per the requirements, for releasing such varieties (from other states / universities / institutes) in their respective states. Centres will supply the seeds of new varieties to the SAUs for conducting adaptability trials		
7	The minimum bench marks (criteria) for classifying sugarcane clones into early (16 % sucrose and 85 % juice purity) and midlate (18 % sucrose and 85 % juice purity) were decided after detailed discussions (Naidu and Arulraj, 1987). Greater genetic improvement for juice quality was attained in the past with the release of CoJ 64 in subtropics and CoC 671 for tropics and the concept of comparing new entries with the best standard came in to practice. Based on the discussion, the entries which record 10 % improvement for cane yield and numerically on-par / superior for juice sucrose % or an entry which record 5 % improvement for juice sucrose % and numerically on-par/ superior for cane yield compared to respective best standards will be considered for identification and release. R/MR reactions by plug method to red rot in North	All centres	Centres agreed to follow the guidelines in future

	West, North Central, North East and East Coast zones and MS by plug method and R by nodal method in Peninsular zone will also be the criteria for identification and release of sugarcane varieties		
8	ICAR-SBI, Coimbatore and ICAR-IISR, Lucknow may arrange for a short term training programme for training the AICRP(S) scientists in fluff sowing, seedling raising, juice analysis and fibre analysis	ICAR – SBI, Coimbatore and IISR, Lucknow	The scientists who require training can approach either ICAR – SBI, Coimbatore and IISR, Lucknow for training programme
9	In Peninsular Zone, early and midlate trials will be combined to conduct a common IVT. Accordingly, Initial Varietal Trial will be conducted with 37 entries and three standards during 2017-18 in alpha statistical design	All centres of Peninsular zone	The centres have already implemented the decision and planted IVT trial in alpha design
10	Statistical analysis of data of IVT and climate resilient traits, which are conducted in alpha design, will be carried out by AICRP(S) coordinating unit / ICAR-IISR, Lucknow.	Project Coordinator and ICAR-IISR, Lucknow	The statistical analysis of data of IVT and climate resilient traits, which have been conducted in alpha design may be taken up by Dr Rajesh Kumar Principal Scientist (Agricultural Statistics) at ICAR-IISR, Lucknow. As per discussion and decision taken in the meeting, data of different centres may be sent directly to Dr Rajesh Kumar.
11	In Peninsular Zone, AVT (I-Plant) will be conducted with 8 entries viz., Co 12007, Co 12008, Co 12009, Co 12012, Co 12019, Co 12024, CoM 12085 and VSI 12121 and three standards (Co 86032, CoSnk 05103, CoC 671)	Peninsular zone centres	Centres reported conductance of AVT (I Plant) as per the technical programme

	during the year 2017-18		
12	CoSe 01421, the latest released check will be supplied by Seorahi to all the centres in North Central and North East Zones	Seorahi centre	Seorahi centre reported that the seed materials of CoSe 01421 was supplied to the zonal centres as per the demand
13	In North West Zone both early and midlate trials will be conducted with the uniform row spacing of 90 cm	Centres of NWZ	The ZVT were planted with the uniform spacing of 90 cm as per the reports received from the centres
14	In North West Zone Co 05009 and Co 05011 will be included as latest released checks in early and midlate trials respectively	Centres of NWZ	Co 05009 and Co 05011 were included as latest released checks in early and midlate trials respectively
15	Natural incidence of red rot was noticed in CoPant 14221 at Kapurthala centre in the seed multiplication stage itself. Hence the entry will be excluded from the IVT (Early) to be conducted during 2017-18. The centres must take utmost care while proposing new entries, otherwise action will be taken against the centres as per the recommendation number 5 above	Centres of NWZ	Compliance of the recommendation was communicated by the centres
16	Lucknow centre will lift the seeds of Co 14034 and Co 14035 from Karnal centre for planting in IVT (Early) during the year 2017-18	Lucknow and Karnal	Lucknow centre did not lift the seed materials from Karnal centre
17	The seeds of entries Co 14034, Co 14035, CoH 14261, CoH 14262, CoLk 14202, CoLk 14204, CoLk 14205, CoPb 14211, CoPb 14212, CoPb 14184 and CoPb 14185 will be lifted by Pantnagar from the respective centres	Pantnagar, Karnal, Uchani, Lucknow, Kapurthala and Faridkot	Lifting of seed materials from respective centres and multiplication was reported by Pantnagar
18	Gorakhpur centre will lift the seeds of all entries of IVT	Seorahi and Gorakhpur	Gorakhpur centre did not conduct the trial

	(Midlate) from Seorahi centre for planting AVT (ML – I Plant) during the year 2017-18		
19	Soft copy of the new proposal for inclusion in ZVT should be sent immediately to PI (Crop Improvement) for future reference	All centres	Centres informed that this will be followed from next year onwards
20	The format for proposing new entries was discussed for submitting / presenting data uniformly and the centres should present the data as per the format from next year onwards	All centres	The data will be presented as per the format as reported by the centres
21	Monitoring team report of the individual centre for three years may be compiled for deciding the performance and continuation of centres. Non performing centres will be identified and communicated to the Council for further necessary action	Project Coordinator	Reports of monitoring teams constituted for 2014-15 to 2016-17 indicated that more than 95% of the AICRP(S) experiments were in category of excellent/very good/good. One centre i.e. Bethuadahari in West Bengal report for the period was average.

1. Weather conditions and pest and diseases incidence during 2016-2017 at different Zones

1.1. Peninsular Zone

Data received from the centers of peninsular zone on weather parameters are presented in Tables 1.1.1 to 1.1.11. The highest maximum monthly mean temperature (46.8°C) at Perumalapalle and the lowest (27.27°C) at Basmathnagar were recorded during May 2016 and December 2016 respectively. The lowest monthly mean minimum temperature of 8.52°C was recorded at Basmathnagar during December 2016 and the highest mean minimum temperature of 29.3°C was at Thiruvalla during April 2016. The rainfall in the zone ranged from 386.5 mm at Coimbatore to 1744.12 mm at Thiruvalla. Pests like root grub, top borer, sugarcane white woolly aphid and disease like yellow leaf disease, leaf spot and rust were observed at Mandya center. Sankeshwar reported the incidence of thrips, root grub, early shoot borer, sugarcane woolly aphid and white fly and diseases like smut and rust. Pest like internodes borer, top shoot borer, mealy bugs, woolly aphids, scale insect, white fly, sugarcane pyrilla and diseases like rust, grassy shoot disease, smut, brown spot, pokka boeng, ring spot, yellow Leaf disease and pineapple disease were observed at Padegaon. Smut, grassy shoot, mosaic, pokkah boeng, smut, brown spot, pine apple disease and rust diseases and early shoot borer, internode borer and mealy bug were observed at Pune. The pest incidence of white fly, scale, early shoot borer, inter-node borer, plessey borer, mealy bug, termites, white wholly aphid, and nematodes incidence and diseases like rust, wilt, yellow leaf virus, and sugarcane streak mosaic virus diseases were observed in Perumalapalle

1.2. East Coast Zone

In the East Coast Zone, the highest maximum temperature (39.5°C) during April 2016 and the lowest (25.5°C) during December 2016 were recorded at Vuyyuru and Nayagarh respectively. The lowest monthly mean minimum temperature 15.4°C was recorded at Vuyyuru during December 2016. The highest mean minimum temperature of 30.9°C was at Nayagarh during May 2016. The rainfall in the zone ranged from 662.5mm at Nellikuppam to 1272.1mm at Anakapalle. Data on weather parameters recorded at different centers of this zone are presented in Tables 1.2.1 to 1.2.4.

1.3 North West Zone

The highest mean maximum temperature (40.6°C) during May 2016 and the lowest mean maximum temperature (18.1°C) during January 2017 were recorded at Faridkot. The lowest monthly mean minimum temperature (7.1°C) during January 2017 was at Muzaffanagar and Faridkot. The highest mean minimum temperature of 28.4°C during June 2016 was recorded at Faridkot. The rainfall in the zone ranged from 500.7 mm at Faridkot to 1237.5mm at Pantnagar. Data on weather parameters recorded in this zone are presented in Tables 1.3.1 to 1.3.5.

1.4 North Central and North East Zone

Among the five centres in this zone, Buralikson, Seorahi and Pusa centres reported on the weather parameters during 2016-17 cropping season. The highest maximum monthly mean temperature recorded was 36.02°C at Seorahi and 38.3°C at Pusa during April 2016. The lowest monthly mean maximum temperature at Seorahi was 21.25°C while that at Pusa was 22.0°C during December 2016. The rainfall during 2016-17 was 1100.6mm in Seorahi, 1020.4mm in Pusa and 2197.0mm at Buralikson. Data on weather parameters recorded in this center are presented in Tables 1.4.1. and 1.4.3. Insect pests like root borer, stem borer, shoot borer, top borer, stalk borer, plassey borer and other pest like pyrilla, black bug, mealy bug etc. in trace and diseases like Smut, pokkah boeing, wilt and red rot in traces were observed at Pusa centre.

Peninsular Zone

1.1.1 Basmathnagar

Month / Year	Temperature (°C)		Wind Speed	RH %	Rainfall	No. of rainy days
	Minimum	Maximum				
January, 2016	9.51	28.09	2.59	47.08		
February , 2016	10.46	30.10	2.90	45.38		
March, 2016	15.70	33.21	1.68	45.26		
April, 2016	19.37	38.26	2.02	42.89		
May, 2016	22.74	41.30	3.52	43.26		
June, 2016	20.96	35.49	3.85	70.04	173.50	9
July, 2016	19.60	31.07	2.99	89.79	293.00	9
August , 2016	19.65	28.11	2.92	84.17	64.30	5
September , 2016	21.74	28.93	2.72	86.39	298.50	8
October, 2016	19.43	29.99	1.75	74.18	80.00	3
November, 2016	17.60	28.91	1.13	59.94		
December, 2016	8.52	27.27	3.20	56.53		
Total / Average	17.11	31.73	2.60	62.07	909.30	34

1.1.2 Coimbatore

Month / Year	Temperature (°C)		Relative humidity (%)		Wind speed	Open pan evaporation	Rainfall (mm)	No. of rainy days
	Max	Min	7.30 hr	14.30 hr				
April 2016	38.5	25	81.34	38.49	1.3	5.6	8.1	1
May 2016	35.8	24.7	85.10	49.00	1.7	4.95	66.3	7
June 2016	33.75	23.95	81.30	55.75	4.3	4.4	79	7
July 2016	32.25	22.8	80.85	56.15	4.9	4.5	17.2	3
Aug 2016	33.45	23.35	77.30	49.10	4.8	6	0	0
Sept 2016	33.75	21.55	82.70	51.55	3.3	5.4	0	0
Oct 2016	33.9	21.25	86.50	57.70	1.7	4.5	73.8	3
Nov 2016	33.35	20.85	84.60	57.50	0.5	3.5	12.2	1
Dec 2016	30.9	17.35	87.50	65.00	1.1	2.85	36.6	5
Jan 2017	31.55	17.3	85.60	61.05	1.6	3.45	33.3	2
Feb 2017	34.2	17.55	84.81	56.06	1.8	4.61	0	0
March 2017	35.4	21.2	86.15	55.90	1.4	4.85	60	4
Total / Mean	33.9	21.40	83.65	54.43	2.36	4.55	386.5	33

1.1.3 Mandya

Month / Year	Temperature (°C)		Relative humidity (%)		Rainfall (mm)	Rainy days	Sunshine hours
	Max.	Min.	7.30 hr	14.30 hr			
April, 2016	37.0	16.4	83	66	0	0	7.4
May, 2016	36.9	16.5	83	66	34.4	2	7.4
June, 2016	32.7	20.0	85	78	102.0	8	4.0
July, 2016	30.9	20.7	87	63	65.6	6	4.6
August, 2016	32.2	20.3	92	56	104.1	3	5.3
September, 2016	33.3	19.1	92	61	68.2	3	2.5

October, 2016	34.5	17.3	86	55	65.0	2	6.7
November, 2016	31.9	15.8	89	43	4.4	1	8.8
December, 2016	30.5	12.2	92	40	41.9	3	7.8
January, 2017	31.3	13.9	90	46	6.5	1	8.4
February, 2017	33.5	11.0	73	61	0	0	7.6
March 2017	32.6	19.5	80	62	0	0	5.6
Total / Mean	33.11	16.89	86	50.08	492.1	2.42	6.34

1.1.4 Navsari

Month / Year	Temperature (°C)		Relative humidity (%)		Rainfall (mm)	Rainy days
	Max.	Min.	A.M.	P.M.		
January, 2016	30.5	11.8	81.4	29.5	0	0
February , 2016	30.3	13.8	85.4	33.9	0	0
March, 2016	35.5	18.7	85.7	29.5	2.0	1
April, 2016	35.6	22.1	82.4	39.9	0.0	0.0
May, 2016	34.4	26.7	82.8	58.2	0.0	0.0
June, 2016	33.8	27.3	84.7	71.5	91.0	3.0
July, 2016	29.7	24.8	93.6	83.4	497.0	20.0
August , 2016	29.7	24.9	91.5	79.5	196.0	15.0
September , 2016	30.1	23.6	96.6	76.9	529.0	13.0
October, 2016	32.0	20.5	90.0	58.7	96.0	5.0
November, 2016	33.0	14.5	74.5	28.9	0.0	0.0
December, 2016	32.1	13.6	72.6	28.5	0.0	0.0
Total / Average	32.23	20.19	85.1	51.53	1411	57

1.1.5 Padegaon

Month / Year	Temperature (°C)		Humidity (%)		Sunshine hours	Rainfall (mm)	Rainy days
	Max.	Min.	Mor.	Eve.			
January, 2016	30.4	11.3	91	54	8.4	0	0
February , 2016	34.8	15.9	84	36	7.8	3.2	1
March, 2016	37.5	18.8	92	45	7.9	4.2	1
April, 2016	40.9	22.3	90	44	8.5	0	0
May, 2016	39.2	23.8	88	50	9.3	20.6	2
June, 2016	33.6	23.2	89	68	4.6	99.2	6
July, 2016	29.9	22.4	95	92	1.6	52	7
August , 2016	29.6	22.8	95	92	4.1	102.4	5
September , 2016	30.1	21.3	94	92	3.4	146.6	7
October, 2016	31.2	19	94	89	7	96.1	4
November, 2016	30.9	11.1	91	74	8.4	0	0
December, 2016	31.2	9.9	91.5	73	8	4.9	0
Total / Average	33.28	18.48	91.21	67.42	6.58	529.20	33

1.1.6 Perumallapalle

Month / Year	Temperature (°C)		R. H % I	R. H % II	Rainy days	Total rainfall (mm)
	Max	Min				
January, 2016	28.2	19.8	95.5	56.5	0	0

February , 2016	27.4	20.2	94.0	55.5	0	0
March, 2016	41.5	26.4	68.5	44.5	0	0
April, 2016	45.8	32.5	55.5	42.5	0	0
May, 2016	46.8	32.6	65.0	44.5	3	148.0
June, 2016	34.8	25.6	85.5	54.5	8	201.1
July, 2016	32.0	23.4	89.5	53.0	6	184.1
August , 2016	29.5	22.8	79.5	49.5	1	38.0
September , 2016	36.4	26.4	75.8	45.5	2	15.8
October, 2016	35.6	27.2	85.5	45.0	0	0
November, 2016	36.6	28.2	83.5	45.5	0	0
December, 2016	28.8	21.2	93.5	54.5	4	148.4
Total / Average	35.3	25.5	80.9	49.3	24	735.4

1.1.7 Pune

Month / Year	Temperature (°C)		Relative humidity (%)		Rainfall (mm)	No. of rainy days
	Min.	Max.	AM	PM		
April 2016	20.52	38.80	57.25	18.0	02.40	01
May 2016	23.57	38.57	54.75	25.25	06.50	01
June 2016	24.20	33.03	78.40	53.40	59.0	06
July 2016	22.40	27.57	90.50	77.25	151.10	11
August 2016	21.94	27.66	88.0	78.50	235.90	13
September 2016	21.15	28.47	88.75	71.25	56.60	09
October 2016	19.32	29.73	90.75	52.50	80.40	04
November 2016	11.94	30.58	93.40	31.0	0	0
December 2016	11.97	30.12	91.75	30.75	0	0
January 2017	11.27	29.60	91.50	29.50	0	0
February 2017	13.63	32.63	85.25	25.00	0	0
March 2017	16.34	35.54	72.20	15.80	0	0
Total / Average	18.19	31.86	81.88	42.35	591.90	45

1.1.8 Pugalur

Month / Year	Temperature (°C)		Rain fall (mm)	No. of rainy days	Sunshine hours
	Min.	Max.			
January	20.7	36.3	0.0	0	6.7
February	21.1	36.9	0.0	0	7.98
March	24.6	40.0	0.0	0	8.03
April	27.6	41.9	2.3	1	8.65
May	26.3	39.5	76.1	6	7.74
June	25.8	36.7	4.2	1	5.47
July	25.6	35.8	45.0	5	6.15
August	26.0	36.7	17.4	4	7.15
September	25.9	36.7	6.6	1	6.53
October	25.3	37.2	10.6	2	6.79
November	23.5	34.8	9.1	2	6.21
December	21.7	32.3	19.4	2	5.65
Total / Average	24.5	37.1	190.7	24	6.9

1.1.9 Rudrur

Month / Year	Temperature (°C)		RH-I (%)	RH-II (%)	Rainfall (mm)	Rainy days
	Min.	Max.				
January, 2016	17.9	33.48	79.8	72.45		Nil
February, 2016	20.17	36.88	64.2	43.96		Nil
March, 2016	19.3	39.78	40.67	39.9	1.3	Nil
April, 2016	23.1	38.8	64.4	40.73	3.9	Nil
May, 2016	22	42.5	58.77	35.13	18.1	1
June, 2016	20.6	37.56	83.16	61.43	157.8	9
July, 2016	21.32	30.24	85.54	69.96	156.5	17
August, 2016	21.21	31.92	84.25	66.96	143.8	11
September, 2016	20.7	31.33	89	77	400.2	16
October, 2016	23.67	32.2	88.32	62.8	101.02	5
November, 2016	19.46	32.81	84.83	48.93		Nil
December, 2016	17.3	31.98	80.77	59.58		Nil
Total / Average	20.56	34.96	75.31	56.57	982.62	59

1.1.10 Sankeshwar

Month /Year	Temperature (°C)		Relative humidity (%)		Rainy days	Rainfall (mm)
	Min.	Max.	RH I	RH II		
January, 2016					-	0.00
February , 2016					1	21.4
March, 2016					-	0.0
April, 2016					3	43.6
May, 2016					3	54.4
June, 2016					6	51.0
July, 2016					19	267.4
August , 2016					12	121.00
September , 2016					7	80.0
October, 2016					1	4.2
November, 2016					1	15.2
December, 2016					-	0.00
Total / Average					53	658.2

1.1.11 Thiruvalla

Month / Year	Temperature (°C)		Total rainfall (mm)	No of rainy days
	Min.	Max.		
January, 2016	33.1	22.4	0	0
February , 2016	33.5	23.6	75.2	2
March, 2016	33.9	24.8	103	7
April, 2016	34.3	29.3	8	4
May, 2016	33.4	27.3	337.5	17
June, 2016	30.5	24.6	520	28
July, 2016	30.3	24.3	400.4	22
August , 2016	31.3	24.5	165.4	20
September , 2016	29.8	24.1	20.62	8

October, 2016	29.8	25.1	66.5	7
November, 2016	31.5	24.1	13.5	7
December, 2016	31.8	23.6	34	2
Total / average	31.93	24.81	1744.12	124

1.2 East Coast Zone

1.2.1 Anakapalle

Month / Year	Temperature(°C)		Relative humidity (%)		Rainfall (mm)	No. of rainy days
	Max.	Min.	Max.	Min.		
February,2016	33.2	23.1	91	47	0	0
March,2016	35.1	23.8	90	48	0	0
April,2016	36.4	27.6	84	51	0	0
May,2016	35.8	28.0	82	57	209.2	6
June,2016	33.4	27.4	88	69	186.4	9
July,2016	31.9	27.0	87	69	158.4	9
August,2016	33.2	27.3	85	63	182.0	10
September,2016	30.8	26.5	92	78	352.1	18
October,2016	31.8	24.6	85	55	183.4	7
November,2016	31.3	20.2	87	43	0.6	0
December,2016	30.5	19.0	86	44	0	0
January, 2017	31.1	16.4	80	41	0	0
Total / average	32.87	24.24	86.42	55.42	1272.10	59

1.2.2 Nayagarh

Month / Year	Temperature (°C)		Av. RH (%)	Rainy days	Rainfall (mm)
	Max.	Min.			
April 2016	33.7	27.7	57.9	02	21.7
May 2016	37.3	30.9	52.6	12	147.7
June 2016	34.7	29.0	69.2	13	160.0
July 2016	37.4	25.5	73.7	15	212.0
August 2016	27.5	21.3	78.3	17	231.8
September 2016	30.9	24.5	77.2	17	223.3
October 2016	30.6	23.9	64.2	06	59.6
November 2016	30.1	23.8	54.1	02	8.6
December 2016	25.5	21.3	55.9	-	-
January 2017	27.2	20.9	62.1	-	-
February 2017	32.2	26.6	53.8	-	-
March 2017	34.6	27.8	54.3	06	59.0
Total / average	31.8	27.8	62.8	90	1123.7

1.2.3 Vuyyuru

Month / Year	Temperature °C		Relative humidity (%)		Rainfall (mm)	No. of rainy days
	Max.	Min.	F.N.	A.N.		
January, 2016	31.1	18.5	89.0	48.0	Nil	Nil

February, 2016	33.5	19.1	18.4	48.0	Nil	Nil
March, 2016	36.7	22.7	90.0	44.0	Nil	Nil
April, 2016	39.5	25.00	79.0	41.0	Nil	Nil
May, 2016	39.3	25.9	70.0	45.0	131.6	4.0
June, 2016	33.8	24.3	84.0	65.0	316.6	14.0
July, 2016	35.0	23.8	80.0	58.0	43.6	7.0
August, 2016	35.8	24.1	80.0	55.0	149.6	8.0
September, 2016	32.5	22.1	89.0	66.0	106.2	9.0
October, 2016	32.8	19.8	79.0	58.0	129.8	4.0
November, 2016	32.3	17.4	80.0	52.0	Nil	Nil
December, 2016	31.0	15.4	82.0	52.0	14.0	1
Total / average	34.44	21.51	76.7	52.67	891.4	47

1.2.4 Nellikuppam

Month/ Year	Temperature (°C)		Relative humidity (%)	Rainfall mm	No. of rainy days
	MAX	MIN	FN		
April, 2016	38.47	27.43	78.10	-	-
May, 2016	37.30	26.80	79.40	90.20	5
June, 2016	37.00	26.30	80.40	55.80	4
July, 2016	35.77	25.77	82.23	45.00	4
August, 2016	37.26	26.61	80.42	118.00	3
September, 2016	35.00	25.00	84.00	100.00	5
October, 2016	34.77	25.19	84.29	81.00	3
November, 2016	32.70	22.40	89.30	16.00	2
December, 2016	30.00	20.40	90.00	46.00	4
January, 2017	30.60	21.00	90.40	100.70	4
February, 2017	33.79	22.75	87.00	-	-
March, 2017	34.77	24.26	83.00	9.80	1
Total / average	34.79	24.49	84.05	662.50	35

1.3 North West Zone

1.3.1 Faridkot

Month / Year	Temperature (°C)		Relative humidity (%)		Rainfall (mm)	No. of rainy days
	Max.	Min.	Max.	Min.		
February 2016	23.0	8.3	92	47	23.2	2.0
March 2016	28.1	14.7	85	46	75.0	4.0
April 2016	36.5	20.3	59	23	2.0	0
May 2016	40.6	25.0	58	29	28.5	2.0
June 2016	39.4	28.4	69	41	72.7	3.0
July 2016	35.3	27.9	81	64	91.7	5.0
August 2016	33.8	26.6	86	71	190.9	8.0
September 2016	34.4	25.2	83	58	0	0
October 2016	34.0	18.7	87	36	0	0

November 2016	28.6	10.6	89	32	0	0
December 2016	23.4	8.5	94	50	0	0
January 2017	18.1	7.1	93	61	16.7	2.0
Total / average	31.27	18.44	81.33	46.5	500.7	26

1.3.2 Lucknow

Month / Year	Temperature (°C)		Relative humidity (%)		BSS	EVP	Wind speed	Rainfall (mm)
	Max.	Min.	Max.	Min.				
April, 2016	40.2	23.3	46.8	16.1	10.0	9.9	5.2	0
May, 2016	39.0	25.4	64.5	34.1	9.7	7.0	3.1	39.6
June, 2016	37.9	27.6	77.4	51.0	8.1	8.1	2.8	92.4
July, 2016	33.4	26.3	92.0	76.6	4.3	3.0	2.2	219.6
August, 2016	33.7	23.7	82.4	73.2	6.0	3.0	2.4	243.4
September, 2016	33.4	25.2	22.2	69.1	6.7	3.2	2.3	202.4
October, 2016	33.5	12.7	92.2	45.9	8.4	2.8	1.3	56.6
November, 2016	28.6	11.2	92.0	48.4	6.0	1.7	1.1	0
December, 2016	22.2	9.1	97.5	61.7	2.2	0.8	1.0	0
January, 2017	22.0	7.8	94.6	51.6	5.68	1.4	1.7	16.5
February, 2017	25.8	10.3	91.3	36.9	8.58	2.6	2.1	0.4
March, 2017	31.8	17.1	75.8	25.4	9.3	4.3	4.5	5.4
Total / average	31.8	18.3	77.4	49.2	7.1	4.0	2.5	876.3

1.3.3 Muzaffarnagar

Month / Year	Temperature (°c)		Relative humidity (%)		Total Rainfall (mm)	No. of rainy days
	Max.	Min.	Fore noon	After noon		
April, 2016	37.1	20.7	50	23	3.0	1
May, 2016	37.2	23.9	60	36	66.2	6
June, 2016	36.0	25.7	75	53	37.4	5
July, 2016	32.2	25.4	91	75	316.8	16
August, 2016	33.3	25.1	88	73	187.8	12
September, 2016	33.3	23.8	88	60	117.4	4
October, 2016	31.9	17.9	80	50	-	-
November, 2016	26.7	9.9	83	48	-	-
December, 2016	22.6	7.6	94	54	-	-
January, 2017	20.5	7.1	92	51	45.2	4
February, 2017	24.5	9.0	85	45	1.8	1
March, 2017	28.4	12.8	69	35	18.0	4
Total / average	30.3	17.4	79.6	50.2	793.6	53

1.3.4 Pantnagar

Month / Year	Temperature (°C)		Relative humidity (%)		Rainfall (mm)	No. of rainy days
	Max.	Min.	712	1412		
April, 2016	37.62	18.86	67.5	29.73	0	0
May, 2016	35.33	22.66	68.84	41.23	135.4	8

June, 2016	34.42	26.21	78.1	58.4	171.2	13
July, 2016	31.5	25.58	90.32	74.68	499.1	23
August, 2016	33.15	26.12	88.42	67.71	201.6	15
September, 2016	32.57	24.34	89.23	67.33	166.2	5
October, 2016	31.7	18.53	86.03	52.42	0	0
November, 2016	27.97	11.02	91.3	38.87	0	0
December, 2016	22.7	9.3	94	55	0	0
January, 2017	20.5	7.6	93	57.1	60.4	3
February, 2017	24.8	9.1	91.8	47.5	0	0
March, 2017	28.9	11.8	84.5	39.3	3.6	1
Total / average	30.09	17.59	85.25	52.44	1237.5	68

1.3.5 Shahjahanpur

Month/year	Temperature (°C)		Relative humidity (%)		Rainfall (mm)	Number of rainy days
	Max.	Min.	AM	PM		
April 2016	38.9	22.5	48.0	19.0	Nil	-
May 2016	38.2	24.4	66.0	43.0	37.0	5
June 2016	37.0	27.5	75.0	59.0	50.0	3
July 2016	32.8	26.0	92.0	80.0	462.0	23
August 2016	33.7	26.1	86.0	73.0	168.0	10
September 2016	33.7	25.0	86.0	67.0	158.0	5
October 2016	33.1	19.7	83.0	51.0	28.0	2
November 2016	28.3	12.0	86.0	49.0	Nil	Nil
December 2016	21.4	9.8	95.0	72.0	Nil	Nil
January 2017	20.9	8.4	92.0	65.0	16.0	2
February 2017	25.9	10.6	82.0	47.0	1.8	1
March 2017	30.1	14.7	70.0	36.0	13.6	3
Total / average	31.2	18.0	80.08	55.08	934.4	54

1.4 North Central and North East Zones

1.4.1 Buralikson

Month/year	Temperature (°C)	Total Rainfall (mm)	No of rainy days	Relative humidity % (Avg)
	Maximum Range			
April, 16	20.6-32	317.8	14	80.4
May, 16	23-35	289.4	18	85.6
June, 16	25-36	444.6	19	84.9
July, 16	27-35	567.4	22	86
August, 16	31-38.8	104.8	9	75.4
September, 16	31-34.8	230.2	12	76
October, 16	25-36	44.4	4	79
November, 16	22.4-33	16.8	4	84.8
December, 16	22-28.4	-	-	76.9
January, 2017	23.4-28.4	4	1	74
February, 2017	20-30.6	61	5	76.4

March, 2017	21-31.8	116.6	8	78
Total / average	-	2197.0	116	79.83

1.4.2. Seorahi

Month/year	Temperature (O ^c)		Relative humidity (%)		Rain fall (mm)	Number of rainy days
	Max.	Min.	AM	PM		
April 2016	23.72	36.02	66.13	40.30	Nil	Nil
May 2016	23.03	34.90	81.35	53.45	187.6	11
June 2016	24.94	33.90	80.56	58.16	73.2	14
July 2016	24.85	30.61	92.06	69.35	397.4	22
August 2016	25.41	32.43	88.00	62.06	95.4	13
September 2016	24.38	31.25	94.06	70.46	274.2	19
October 2016	20.28	32.35	90.58	59.96	26.0	1
November 2016	12.6	28.89	93.80	59.46	Nil	Nil
December 2016	9.04	21.25	95.55	62.93	Nil	Nil
January 2017	6.94	21.30	93.94	60.16	17.2	2
February 2017	9.02	28.49	91.07	55.07	Nil	Nil
March 2017	12.23	27.97	85.53	56.33	29.6	4
Total / average	18.03	29.64	87.80	58.97	1100.6	86

1.4.3 Pusa

Months / Year	Temperature (O ^c)		Relative humidity (%)		Rainfall (mm)	No. of rainy days
	Max.	Min.	7.0 Hrs.	14.0 Hrs.		
April 2016	38.3	21.7	70.0	29.0	3.2	1
May 2016	34.6	23.1	83.4	53.1	132.8	9
June 2016	34.6	34.6	34.6	34.6	105.1	9
July 2016	32.0	26.0	91.0	79.0	304.1	21
August 2016	33.7	26.2	86.0	67.0	110.8	10
September 2016	31.4	25.0	93.0	79.0	319.2	23
October 2016	32.8	23.0	88.0	58.0	34.6	5
November 2016	29.0	15.9	86.0	44.0	0	0
December 2016	22.3	11.3	90.0	65.0	0	0
January 2017	22.4	8.7	93.0	62.0	0	0
February 2017	26.0	10.9	90.0	58.0	0	0
March 2017	26.0	10.9	90.0	58.0	10.6	02
Total Average	363.1	237.3	995	686.7	1020.4	80

Simultaneous selection of high yielding and stable sugarcane genotypes using AMMI stability criterion under AICRP(S) during 2014-15 and 2015-16 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. Simultaneous selection indices were constructed using Additive Main Effects and Multiplicative Interaction (AMMI) model and stability parameters were worked out. 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) was used to select 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 was used for selection of superior genotypes under Advance Varietal Trial of early and midlate maturity group in Plant I & II and ratoon crops in Peninsular Zone, East Coast Zone, North West Zone and North Central Zone. In each zone, ranking of varieties was 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.

I. PENINSULAR ZONE

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

Three entries, Co 09004, Co 09007, and CoN 09072 and three standards, CoC 671, Co 94008 and Co 85004 were evaluated during three crop cycles (I & II Plant crop and ratoon crop) at 17 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 1.1 to 1.3.

Results based on index of simultaneous selection of high CCS (t/ha) and stable genotypes revealed that the entries, Co 09004, was the top ranker followed by standard CoC 671 and Co 85004, whereas entry Co 09007 was at 4th rank. Such a ranking differed with the ranking based only on mean data of CCS(t/ha) presented in Table 1.1. Considering top entry with high CCS (t/ha) and stable genotype, only Co 09004 was superior among the entries. This entry was 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 the entries, Co 09004 & Co 09007 and the standard Co 85004 were at first, second and third rank, respectively. Such a ranking differed with the ranking based only on mean data of cane yield (Table 1.2). Considering top two high yielding and stable genotypes, only Co 09004 & Co 09007 were superior among entries. These entries were also superior than the best standard Co 85004.

Results based on index of simultaneous selection for high sucrose (%) and stable genotypes revealed that standard, CoC 671, was the top ranker followed by entry, Co 09007, whereas entry CoN 09072 was at 3rd rank. Such a ranking differed with the ranking based only on mean data of sucrose content (Table 1.3). Considering top two high sucrose and stable genotypes, Co 09007 was at first rank followed by CoN 09072. These two entries were inferior than the best standard CoC 671 for sucrose (%).

From the above analysis, it may be concluded that entry, Co 09004, was the most stable genotype with superiority for CCS (t/ha) and cane yield (t/ha) in early maturing group of Peninsular zone. This entry Co 09004 was also better than all the three standards. For sucrose (%), it's performance was nearly equal to the best standard CoC 671.

II. EAST COAST ZONE

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

Four entries, CoA 11321, CoA 11323, CoC 10336 and CoC 11336 and three standards *viz.*, Co 6907, CoC 01061 and CoA 92081 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 2.1 to 2.3.

Results based on index of simultaneous selection of high CCS (t/ha) and stable genotypes revealed that standard CoA 92081 was the top ranker followed by entry CoA 11321 and CoC 10336. Such ranking differed with the ranking based only on mean data of CCS (t/ha) presented in Table 2.1. Considering top entry with high CCS (t/ha) and stable genotype, only CoA 11321 was at first rank and superior among the entries. However it was inferior to the best standard CoA 92081.

Results based an index of simultaneous selection for high cane yield (t/ha) and stable genotypes revealed that the entry CoC 10336 and standard CoA 92081 were at first and second rank, respectively. Such a ranking differed with the ranking based only on mean data of cane yield (Table 2.2). Considering top entry with high cane yielding and stable genotypes, only CoC 10336 was at first rank and superior among entries. This entry was also better than the best standard CoA 92081.

Results based on index of simultaneous selection for high sucrose (%) and stable genotypes revealed that entries, CoA 11323, CoA 11321, and standard CoA 92081 were at first, second and third rank, respectively. Such a ranking differed with the ranking based only on mean data of sucrose content (Table 2.3). Considering top two high sucrose and stable genotypes, two entries CoA 11323 and CoA 11321 were superior and at first and second ranks respectively. These entries were also better than the best standard CoA 92081.

From the above analysis, it may be concluded that none of the entries were most stable and high in cane yield (t/ha), ccs (t/ha) and sucrose (%) in early maturity group of East Coast Zone. However, if we consider only the numerical values of cane yield (t/ha), ccs (t/ha) and sucrose (%), CoA 11321 recorded the highest values in the trial and also better than the best standard CoC 01061. But this entry, CoA 11321, was highly unstable in the trial.

III. NORTH WEST ZONE

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

Three entries, Co 10035, CoH 10261 and CoS 10231 and two standadrs, CoJ 64 and CoPant 84211 were evaluated during three crop cycles (I and II Plant crop and ratoon crop) at 6 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 3.1. to 3.2.

Results based on index of simultaneous selection of high CCS (t/ha) and stable genotypes revealed that entry CoH 10261 and standard CoJ 64 were at first and second rank, respectively. Such a ranking differed with the ranking based only on mean data of CCS (t/ha) presented in Table 3.1. Considering top entry with high CCS (t/ha) and stable genotypes, CoH 10261 followed by CoS 10231 were superior. This entry was also better than the best standard CoJ 64.

Results based on index of simultaneous selection of high cane yield (t/ha) and stable genotypes revealed that the entry CoH 10261 and standard CoJ 64 were at first and second rank, respectively. Such a ranking differed with the ranking based only on mean data of cane yield (Table 3.2). Considering top entry with high yielding and stable genotypes, CoH 10261 was superior and first rank. This entry was also better than the best standard CoJ 64.

Results based on index of simultaneous selection of high sucrose (%) and stable genotypes revealed that the standard CoJ 64, and entry, Co10035, were at first and second respectively. Such a ranking differed with ranking based only on mean data of sucrose content (Table 3.3). Considering top entry with high sucrose (%) and stable genotypes, entry Co10035 was superior among the entries. However none of the entries were better than the best standard CoJ 64.

From the above analysis, it may be concluded that the entries CoH 10261 was most stable genotypes with high yield and CCS (t/ha) content in early maturity group of North West Zone.

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

Five entries, Co 10036, CoH 10262, CoPant 10221, CoPb 10181 and CoPb 10182 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 3.4 to 4.6.

Results based on index of simultaneous selection for high CCS (t/ha) and stable genotypes revealed that standard, CoS 8436 and the entries CoPant 10221 and CoH 10262 were at first, second and third rank, respectively. Such a ranking differed with the ranking based only on mean data of CCS (t/ha) presented in Table 3.4.

Results based on index of simultaneous selection for cane yield (t/ha) and stable genotypes revealed that the entries, CoPant 10221, CoPb 10181 and CoH 10262 were at first, second and third rank, respectively. Such a ranking differed with the ranking based only on mean data of cane yield (Table 3.5). These entries were superior to the best standard CoS 8436.

Results based on index of simultaneous selection for sucrose (%) and stable genotypes revealed that the standards, CoS 8436 and entry CoH 10262 were at first and second rank, respectively. Such a ranking differed with the ranking based only on mean data of sucrose content (Table 3.6). Considering top entry with high sucrose and stable genotypes, only CoH 10262 was superior among the entries. However, it was inferior to the best standard CoS 8436.

From the above analysis, it may be concluded that the only entry CoPant 10221 was most stable and high cane yielding and CCS (t/ha) in midlate maturity group of North West Zone. Numerical values were also superior than the best standard CoS 8436. However standard, CoS 8436, was highly stable genotype for cane yield(t/ha), CCS (t/ha) and sucrose (%) in midlate maturity group of North West Zone.

IV. NORTH CENTRAL ZONE

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

Three entries, CoSe 10451, CoSe 10452 and CoSe 10453 and three standards, BO 91, CoP 9301, CoSe 92423 were evaluated during three crop cycles (I and II Plant crop and ratoon crop) at 4 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 4.1 to 4.3.

Results based on index of simultaneous selection for high CCS (t/ha) and stable genotypes revealed that the entry, CoSe 10452 and standard CoP 9301 were at first and second rank, respectively. Such a ranking differed with the ranking based only on mean data of CCS (t/ha) presented in Table 4.1. This entry was also superior than the best standard CoP 9301.

Results based on index of simultaneous selection for cane yield (t/ha) and stable genotypes revealed that the entries, CoSe 10452 and standard CoSe 92423 were at first and second rank, respectively. Such a ranking differed with the ranking based only on mean data of cane yield (Table 4.2). Considering top high yielding and stable genotype, CoSe 10452 was at first rank. This entry was also superior than the best standard CoSe 92423.

Results based on index of simultaneous selection for sucrose (%) and stable genotypes revealed that the entry, CoSe 10453 and standard CoSe 92423 were at first and second rank, respectively. Such a ranking differed with the ranking based only on mean data of sucrose content

(Table 5.3). Considering top high sucrose and stable genotype, only CoSe 10453 was superior entry. This entry was also superior than the best standard CoP 9301.

From the above analysis, it may be concluded that the only entry CoSe 10452 was most stable and high yielding and ccs(t/ha) in midlate maturity group of North Central Zone. However this entry was highly unstable for sucrose (%).

Table 1.1 - 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 09004	1.35	14.39	54.24	1	1	6
Co 09007	1.23	12.41	45.23	4	2	4
CoN 09072	1.20	12.22	47.76	5	4	5
Standard						
CoC 671	1.34	12.22	29.20	2	3	1
Co 94008	1.13	11.06	42.81	6	6	3
Co 85004	1.25	11.61	32.90	3	5	2

Table 1.2 - 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 09004	1.33	109.17	2828.91	1	1	5
Co 09007	1.29	99.74	2214.69	2	2	3
CoN 09072	1.18	97.73	3397.97	6	3	6
Standard						
CoC 671	1.22	92.73	2217.18	5	4	4
Co 94008	1.22	92.50	2170.57	4	5	2
Co 85004	1.27	91.38	1742.88	3	6	1

Table 1.3 - 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 09004	1.24	18.95	7.24	4	2	5
Co 09007	1.29	17.73	4.65	2	5	1
CoN 09072	1.25	18.11	5.79	3	4	3
Standard						
CoC 671	1.33	18.96	5.16	1	1	2
Co 94008	1.16	17.59	7.70	6	6	6
Co 85004	1.23	18.54	6.89	5	3	4

Table 2.1 - 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 11321	1.28	13.57	15.60	2	1	6
CoA 11323	1.21	12.92	17.11	5	2	7
CoC 10336	1.27	12.28	9.90	3	4	3
CoC 11336	1.20	12.51	14.63	6	3	5
Standard						
Co 6907	1.22	10.54	7.39	4	7	2
CoC 01061	1.19	11.99	12.53	7	5	4
CoA 92081	1.36	11.82	6.68	1	6	1

Table 2.2- 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 11321	1.23	111.31	759.06	3	1	5
CoA 11323	1.17	106.46	801.87	6	4	6
CoC 10336	1.44	109.07	303.49	1	3	2
CoC 11336	1.19	109.42	832.38	5	2	7

Standard						
Co 6907	1.17	92.41	424.98	7	7	3
CoC 01061	1.21	99.42	463.55	4	5	4
CoA 92081	1.35	99.01	296.01	2	6	1

Table 2.3 - 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 11321	1.29	17.16	2.37	2	1	3
CoA 11323	1.32	17.01	2.11	1	3	1
CoC 10336	1.24	16.40	2.47	5	6	4
CoC 11336	1.24	16.59	2.57	4	5	5
Standard						
Co 6907	1.20	16.21	2.78	6	7	6
CoC 01061	1.19	17.04	3.71	7	2	7
CoA 92081	1.28	16.84	2.32	3	4	2

Table 3.1 - 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 10035	0.96	7.76	21.20	5	5	4
CoH 10261	1.65	9.22	3.76	1	4	1
CoS 10231	1.21	9.91	18.16	3	1	3
Standard						
CoJ 64	1.30	9.41	8.69	2	3	2
CoPant 84211	1.13	9.51	27.51	4	2	5

Table 3.2 - 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 10035	0.98	63.42	1350.04	5	5	5

CoH 10261	1.42	78.88	500.01	1	2	2
CoS 10231	1.29	82.77	955.44	3	1	3
Standard						
CoJ 64	1.39	76.56	496.30	2	4	1
CoPant 84211	1.17	77.50	1298.07	4	3	4

Table 3.3 - 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 10035	1.28	17.64	2.06	2	2	2
CoH 10261	1.19	16.96	2.60	5	5	4
CoS 10231	1.25	17.31	2.19	3	4	3
Standard						
CoJ 64	1.33	17.67	1.77	1	1	1
CoPant 84211	1.20	17.48	2.83	4	3	5

Table 3.4 - 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 10036	1.04	8.57	19.44	8	8	8
CoH 10262	1.31	10.26	11.95	3	1	6
CoPant 10221	1.33	9.70	8.61	2	4	2
CoPb 10181	1.30	10.01	11.03	4	2	5
CoPb 10182	1.27	9.79	10.99	5	3	4
Standard						
CoS 767	1.26	9.06	8.77	6	6	3
CoS 8436	1.34	8.73	6.26	1	7	1
CoPant 97222	1.15	9.37	16.46	7	5	7

Table 3.5 - 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		Index value based rank	Cane Yield (t/ha) based rank	Stability based rank
Co 10036	1.03	73.52	1512.59	8	7	8
CoH 10262	1.30	84.28	672.88	3	1	4
CoPant 10221	1.52	81.75	322.87	1	4	1
CoPb 10181	1.33	83.71	569.35	2	3	3
CoPb 10182	1.26	84.28	802.17	4	2	6
Standard						
CoS 767	1.17	76.57	793.36	6	6	5
CoS 8436	1.24	71.53	462.38	5	8	2
CoPant 97222	1.14	77.19	942.24	7	5	7

Table 3.6 - 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 10036	1.23	17.04	2.87	6	7	5
CoH 10262	1.31	17.61	2.44	2	2	1
CoPant 10221	1.19	17.24	3.57	7	5	7
CoPb 10181	1.28	17.51	2.67	4	4	3
CoPb 10182	1.17	16.94	3.73	8	8	8
Standard						
CoS 767	1.23	17.19	2.95	5	6	6
CoS 8436	1.31	17.72	2.46	1	1	2
CoPant 97222	1.28	17.57	2.70	3	3	4

Table 4.1 - 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
CoSe 10451	1.23	8.75	4.50	5	2	6
CoSe 10452	1.34	8.76	2.68	1	1	3
CoSe 10453	1.24	8.42	3.39	3	3	5
Standard						
BO 91	1.23	7.63	2.42	4	6	1
CoP 9301	1.25	8.05	2.65	2	4	2
CoSe 92423	1.21	7.76	2.71	6	5	4

Table 4.2 - 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
CoSe 10451	1.19	70.63	169.11	4	2	6
CoSe 10452	1.43	70.88	60.42	1	1	2
CoSe 10453	1.16	68.14	164.07	5	3	5
Standard						
BO 91	1.30	61.46	57.80	3	6	1
CoP 9301	1.10	63.53	153.65	6	5	4
CoSe 92423	1.32	64.37	63.16	2	4	3

Table 4.3 - 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
CoSe 10451	1.25	17.34	2.33	3	5	3
CoSe 10452	1.21	17.42	2.76	6	3	6
CoSe 10453	1.29	17.38	2.03	1	4	2
Standard						
BO 91	1.25	17.58	2.51	4	2	4
CoP 9301	1.24	17.86	2.74	5	1	5
CoSe 92423	1.26	16.82	2.01	2	6	1

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, Sirugamani
Telangana	Rudrur

List of trials conducted during 2016-17

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

C –Conducted NC-Not conducted C*: Vitiating due to drought c#: Data not received

2.1. Advanced Varietal Trial II Plant – Early (2016-17)

Centers where trial was conducted (13)	Coimbatore, Akola, Kolhapur, Mandya, Navsari, Padegaon, Perumallapalle, Pravaranagar, Pugalur, Pune, Sameerwadi, Sankeshwar and Thiruvalla
Entries (8)	Co 10004, Co 10005, Co 10006, Co 10024, Co 10026, Co 10027, CoT 10366 and CoT 10367
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	2016-17
Crop duration	10 months

Results of the previous year: Eight early clones were evaluated along with three standards at 17 centres during 2015-16. Five entries viz., Co10024 (13.47 t/ha), Co10027 (13.40 t/ha), Co10026 (13.29 t/ha), Co10005 (13.26 t/ha) and CoT 10367 (13.11 t/ha) did record higher sugar yield than the best standard CoC 671 (13.06 t/ha). For cane yield, five entries viz., Co 10024 (106.62 t/ha), Co 10026 (105.87 t/ha), Co 10005 (105.43 t/ha), Co 10027 (104.80 t/ha) and CoT 10367 (102.39 t/ha) performed better than the best standard CoC 671 (99.63 t/ha). None of the entries showed higher CCS% and sucrose per cent than the best standard CoC 671 (13.21% and 18.87% respectively).

Results of the current year: Eight early clones along with three standards were evaluated at 13 centres during 2016-17. Basmath nagar, Kawardha, Powarkheda, Rudrur and Sirugamani centres didn't conduct the trial. Co 85004 was the best standard in the zone for CCS yield (11.21 t/ha) and cane yield (88.00 t/ha) at harvest. All the test entries except Co 10006 were numerically superior to the best standard for CCS yield and cane yield. Co 10026 was the first ranked entry for CCS yield (13.44 t/ha) and cane yield (106.30 t/ha) in the zone. For CCS yield, the entry Co10026 recorded more than 10% improvement over the best standard at eight locations followed by the entry Co 10005 at five locations. The entries Co 10027 & CoT 10367 (12.54 t/ha) were at second position for CCS yield whereas, Co 10005 (12.44 t/ha) ranked as third in the zone. In case of cane yield at harvest both the entries, Co 10026 and Co 10005 recorded more than 10% improvement over the best standard at seven locations each. The entries Co 10005 (99.34 t/ha) & Co 10024 (97.86 t/ha) were at second and third positions respectively for cane yield. For CCS % and sucrose per cent at harvest CoC 671 was the best standard in the zone. None of the test entries were superior over CoC 671 for CCS% (12.87%) and sucrose per cent (18.40%). The entry CoT 10367 ranked second in the zone for both CCS% (12.81%) and sucrose per cent (18.23%) followed by the entry Co 10027 (12.65% and 17.96% respectively). For cane characters the best entry in this trial was Co 10026 with 19.87% improvement in sugar yield and 20.80% improvement in cane yield over the best standard respectively, but for juice quality characters it ranked as fifth in the zone with 12.52 CCS% & 17.78% sucrose. For juice quality traits the best entry was CoT 10367, the values were on par with the best standard and for cane characters it performed better than the best standard Co 85004. The details are presented in Tables 2.1.1 to 2.1.20. None of the entries tested recorded improvement for both cane yield and juice quality traits together over the best standard in the zone.

Varietal Improvement Programme- AICRP (Sugarcane)
Principal Investigator's Report (2016-17)
Peninsular zone AVT II Plant- Early

Table 2.1.1 CCS t/ha at harvest

S. No.	Entries	Coimbatore	Akola	Kolhapur	Mandya#	Navsari#	Padegaon#	Perumallapalle	Pravaranaagar	Pugalur	Pune	Sameerwadi	Sanke shwar	Thiruvalla	Mean	Rank
1	Co 10004	15.40	8.55	12.72	14.28	14.96	11.88*	9.60	14.27	9.22	13.87	4.37	9.55	10.60	11.48	5
2	Co 10005	19.99	9.17	13.35	13.73	15.33*	11.67*	10.50	16.73	9.83	13.21	5.87	8.82	13.50	12.44	3
3	Co 10006	11.40	9.69	6.84	11.84	13.62	9.87	13.30	12.00	8.08	8.53	4.26	8.48	10.90	9.91	
4	Co 10024	17.81	8.84	12.04	13.06	15.68*	11.93*	12.90	15.34	8.75	11.32	4.18	11.70	13.50	12.08	4
5	Co 10026	22.31*	9.46	12.17	13.20	14.27	16.66*	13.40	17.09	9.42	13.65	6.72	11.77*	14.60*	13.44	1
6	Co 10027	16.73	11.18*	14.07	12.49	14.26	14.27*	15.60	16.27	10.41	10.04	5.54	9.18	12.90	12.54	2
7	CoT 10366	16.19	9.24	8.77	12.38	14.14	11.87*	16.50*	13.31	8.16	10.02	6.84	7.69	13.40	11.42	
8	CoT 10367	16.13	9.22	9.74	11.63	13.15	16.17*	20.40*	18.44*	11.97	10.29	4.54	10.68	10.60	12.54	2
Standards																
1	CoC 671	17.11	8.83	12.96	9.75	12.03	9.63	11.50	15.83	9.87	12.00	5.34	8.17	11.70	11.13	
2	Co 94008	13.79	8.72	11.94	11.13	12.36	9.74	8.10	12.27	9.27	9.39	4.01	10.22	11.90	10.22	
3	Co 85004	15.62	9.67	11.42	10.94	12.96	9.43	14.20	12.00	11.77	9.89	5.37	10.02	12.50	11.21	
	Grand mean	16.59	9.32	11.46	12.22	13.89	12.10	13.27	14.87	9.70	11.11	5.19	9.66	12.37		
	SE	1.55	0.46	0.80	-	0.77	0.43	-	0.45	0.62	0.89	0.91	0.51	0.59		
	CD	3.26	1.36	2.42	4.86	2.27	1.25	1.5	1.35	1.30	2.63	NS	1.51	1.67		
	CV	11.47	8.58	12.09	39.90	9.61	6.09	7.1	5.33	7.91	13.92	30.51	9.21	8.25		
Qualifying entries at each centre																
	1	Co 10026	Co 10027		Co 10004	Co 10024	Co 10026	CoT 13067	CoT 13067		Co 10004	CoT 13066	Co 10026	Co 10026	Co 10026	
	2	Co 10005			Co 10005	Co 10005	CoT 10367	CoT 13066			Co 10026	Co 10026	Co 10024		CoT 13067	
	3				Co 10026	Co 10004	Co 10027				Co 10005				Co 10027	

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

Qualifying entries: Co 10026 (8), Co 10005 (5), Co 10004 (4), Co 10024 (4), Co 10027 (4), CoT 10366 (4), CoT 10367 (3)

Performance across locations: All the test entries except Co 10006 recorded higher sugar yield than the best standard Co 85004 (11.21%). The entry Co 10026 (13.44 t/ha) was the highest sugar yielding entry in the zone with 19.87% improvement over the best check and recorded more than 10% improvement in sugar yield over the best standard at eight locations. The other entries which were having more than 10% improvement in mean sugar yield over the best standard were CoT 10367 (11.84%), Co 10027 (11.82%) and Co 10005 (10.99%). The entry Co 10005 showed more than 10% improvement for CCS yield over the best standard at five locations, whereas, the entries Co 10004, Co 10024, Co 10027 and CoT 10366 at four locations each and the entry CoT 10367 at three locations.

Varietal Improvement Programme- AICRP (Sugarcane)
Principal Investigator's Report (2016-17)
Peninsular zone AVT II Plant- Early

Table 2.1.2 Cane yield t/ha at harvest

S. No.	Entries	Coimbatore	Akola	Kolhapur	Mandya	Navsari#	Padegaon#	Perumalpal	Pravara nagar#	Pugalur	Pune	Sameerwadi	Sanke shwar	Thiruvalla#	Mean	Rank
1	Co 10004	118.35	70.63	94.75	78.54	119.10*	93.82*	71.60	111.35	75.86	103.90	45.93	93.22	80.30	89.03	
2	Co 10005	157.40*	72.69	89.69	115.30*	109.68	95.20*	91.90	128.67*	81.42	98.87	58.8	84.39	108.00*	99.34	2
3	Co 10006	95.30	76.77	48.56	75.17	101.44	77.55	98.80	91.74	66.95	72.26	44.44	71.78	86.50	77.48	
4	Co 10024	136.87	66.36	90.72	94.97	122.20*	95.50*	103.50	136.01*	70.77	83.47	41.85	114.20	116.00*	97.86	3
5	Co 10026	177.05*	74.48	91.06	94.33	108.29	125.50*	109.50	123.48*	81.53	105.70*	72.69	108.30	110.00*	106.30	1
6	Co 10027	131.47	87.79	98.46	95.62	104.65	108.10*	111.40	118.65	88.77	79.87	58.24	91.78	95.90	97.75	4
7	CoT 10366	137.35	74.57	70.50	94.52	105.94	99.65*	153.60*	87.60	75.00	82.96	72.5	83.98	111.00*	96.11	
8	CoT 10367	120.12	74.75	68.65	96.21	104.12	119.60*	142.10*	132.95*	97.79	77.61	45.46	112.40	78.4.0	97.70	5
Standards																
1	CoC 671	128.64	73.35	87.95	82.63	93.84	76.67	80.50	112.07	82.58	84.12	53.15	86.45	91.00	87.15	
2	Co 94008	116.61	71.99	90.36	92.15	94.48	82.82	68.50	101.74	77.71	76.34	40.74	110.10	95.40	86.07	
3	Co 85004	131.25	78.56	80.12	88.41	93.84	78	104.20	87.96	95.02	71.49	54.54	89.94	90.60	88.00	
	Grand mean	132.05	74.72	82.70	91.74	105.58	96.19	103.83	112.38	81.10	85.39	53.61	95.13	96.73		
	SE	10.75	3.67	5.31		5.48	2.67		3.78	5.51	6.83	7.72	4.05	4.35		
	CD	22.58	10.82	16.06	10.85	16.17	7.89	11.10	11.15	11.50	20.16	NS	11.94	12.40		
	CV	9.98	8.50	11.10	6.96	9.02	4.84	6.60	5.84	8.32	13.90	24.83	7.37	7.80		
Qualifying entries at each centre																
1		Co 10026	Co 10027		Co 10005	Co 10024	Co 10026	CoT 10366	Co 10024		Co 10026	Co 10026		Co 10024	Co 10026	
2		Co 10005				Co 10004	CoT 10367	CoT 10367	CoT 10367		Co 10004	CoT 10366		CoT 10366	Co 10005	
3						Co 10005	Co 10027		Co 10005		Co 10005			Co 10026	Co 10024	

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

Qualifying entries: Co 10005 (7), Co 10026 (7), CoT 10366 (5), Co 10024 (4), CoT 10367 (4), Co 10004 (3), Co 10027 (3)

Performance across the locations: All the eight test entries except Co 10006 were superior to the best standard Co 85004 (88.00 t/ha). Co 10026 (106.30 t/ha) was the first ranking entry in the zone with 20.80% yield improvement and recorded more than 10% improvement over the best standard at seven locations. The other entries which were having more than 10% improvement in mean sugar yield over the best standard were Co 10005 (12.89%), Co 10024 (11.20%), Co 10027 (11.08%) & CoT 10367 (11.03%). Co 10005 recorded more than 10% improvement over the best standard at seven locations with a mean cane yield of 99.34 t/ha and ranked as second in the zone. The other superior entries to the best standard were CoT 10366 at five locations, Co 10024 & CoT 10367 at four locations each and Co 10004 & Co 10027 at three locations each respectively.

Varietal Improvement Programme- AICRP (Sugarcane)
Principal Investigator's Report (2016-17)
Peninsular zone AVT II Plant- Early

Table 2.1.3 CCS % at harvest

S. No.	Entries	Coimbatore	Akola	Kolhapur	Mandya	Navsari	Padegaon	Perumalpal	Pravara nagar	Pugalur	Pune	Sameerwadi	Sankeshwar	Thiruvalla	Mean	Rank
1	Co 10004	12.99	12.11	13.08	13.05	12.52	12.65	13.40	12.82	12.15	13.35	9.46	10.22	13.20	12.39	
2	Co 10005	12.70	12.59	13.86	14.04	13.96	12.26	11.50	13.01	12.08	13.38	9.43	10.45	12.60	12.45	
3	Co 10006	11.94	12.66	13.10	12.87	13.45	12.74	13.40	13.05	12.09	11.81	9.60	11.81	12.60	12.39	
4	Co 10024	13.00	13.27	12.83	13.11	12.79	12.49	12.50	11.29	12.39	13.54	9.91	10.25	11.70	12.24	
5	Co 10026	12.62	12.69	13.03	13.96	13.18	13.27	12.20	13.85	11.56	12.94	9.30	10.85	13.30	12.52	5
6	Co 10027	12.71	12.76	13.50	13.66	13.62	13.20	14.00	13.72	11.72	12.57	9.51	10.01	13.50	12.65	3
7	CoT 10366	11.78	12.39	12.02	13.24	13.35	11.91	10.80	13.79	10.87	12.06	9.41	9.12	12.00	11.75	
8	CoT 10367	13.43	12.30	13.76	13.83	12.63	13.52*	14.30	13.88	12.25	13.25	10.28	9.50	13.60	12.81	2
Standards																
1	CoC 671	13.30	12.06	13.90	13.86	12.84	12.57	14.30	14.13	11.97	14.27	10.06	11.14	12.90	12.87	1
2	Co 94008	11.75	12.05	12.63	13.22	13.09	11.77	11.80	12.07	11.93	12.31	9.75	9.29	12.50	11.85	
3	Co 85004	11.92	12.31	13.78	13.81	13.82	12.09	13.70	13.66	12.38	13.85	9.62	9.42	13.80	12.62	4
Grand mean		12.52	12.51	13.24	13.56	13.27	12.58	12.85	13.25	11.92	13.00	9.69	10.18	12.82		
SE		0.39	0.29	0.25	-	0.22	0.25	-	0.33	0.26	0.14	0.55	0.25	0.27		
CD		0.82	NS	0.75	NS	0.66	0.73	0.50	0.98	0.54	0.42	NS	0.74	0.78		
CV		9.98	3.97	3.25	4.06	2.92	3.40	2.40	4.38	2.60	1.89	9.90	4.25	3.68		
Qualifying entries at each centre																
1			Co 10024					Co 10026						Co 10006		
2								CoT 10367								
3								Co 10027								

*Significant at 5% level

Qualifying entries:: Co 10006 (1), Co 10024 (1), Co 10026 (1), Co 10027 (1), CoT 10367 (1)

Performance across locations: The standard CoC 671 recorded the highest CCS% of 12.87 in the zone. Among the entries, CoT 10367 ranked second (12.81%) in the zone and it showed more than 5% improvement over the best standard at Padegaon centre. The other test entries which recorded more than 5% improvement over the best standard were Co 10024 at Akola, Co 10026 and Co 10027 at Padegaon and Co 10006 at Sankeshwar.

Varietal Improvement Programme- AICRP (Sugarcane)
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Table 2.1.4 Sucrose% at harvest

S. No.	Entries	Coimbatore	Akola	Kolhapur	Mandya	Navsari	Padegaon	Perumallapalle	Pravara nagar	Pugalur	Pune	Sameerwadi	Sanakeshwar	Thiruvalla	Mean	Rank
1	Co 10004	18.54	17.61	18.31	18.37	18.19	17.62	18.40	18.24	17.39	18.65	14.24	15.29	19.00	17.68	
2	Co 10005	18.30	17.65	19.50	19.72	19.51	17.33	15.80	18.58	17.44	18.70	14.31	15.57	18.00	17.72	
3	Co 10006	17.15	18.05	18.52	18.15	19.34	17.86	18.30	18.24	17.41	16.72	14.24	17.33*	18.00	17.64	
4	Co 10024	18.46	18.56	18.01	18.39	18.69	17.56	16.90	16.25	17.69	18.91	14.66	15.23	16.80	17.39	
5	Co 10026	18.01	17.79	18.30	19.64	18.84	18.56*	16.60	19.56	16.69	18.07	14.03	16.10	19.00	17.78	5
6	Co 10027	18.12	17.80	19.05	19.26	19.29	18.54*	19.10	19.32	16.92	17.65	14.20	14.90	19.30	17.96	3
7	CoT 10366	17.01	17.16	16.84	18.60	18.86	16.66	15.60	19.19	15.69	16.90	13.93	13.74	17.20	16.72	
8	CoT 10367	19.06	17.97	19.40	19.37	18.55	18.90*	19.40	19.21	17.63	18.52	15.14	14.35	19.50	18.23	2
Standards																
1	CoC 671	19.07	17.98	19.69	19.49	18.67	17.63	19.50	19.79	17.25	19.93	14.94	16.44	18.40	18.37	1
2	Co 94008	17.05	17.42	17.73	18.73	18.82	16.66	15.80	16.73	17.18	17.30	14.46	14.05	17.80	16.90	
3	Co 85004	17.12	17.63	19.43	19.36	19.26	17.12	18.50	18.98	17.87	19.36	14.33	14.28	19.70	17.92	4
Grand mean		17.99	17.78	18.62	19.01	18.91	17.68	17.63	18.55	17.20	18.25	14.41	15.21	18.42		
SE		0.47	0.29	0.33		0.26	0.29		0.49	0.36	0.20	0.71	0.30	0.38		
CD		0.98	NS	0.99	NS	0.76	0.86	0.40	1.45	0.76	0.58	NS	0.88	1.08		
CV		3.19	2.83	3.05	3.78	2.35	2.86	1.20	4.60	2.61	1.88	18.14	3.38	3.59		
Qualifying entries at each centre																
1							CoT 10367						Co 10006			
2							Co 10026									
3							Co 10027									

*Significant at 5% level

Qualifying entries: Co 10006 (1), Co 10026 (1), Co 10027 (1), CoT 10367 (1)

Performance across locations: The standard CoC 671 (18.37%) was the best in the zone. Among the test entries CoT 10367 recorded 18.23% sucrose at harvest and ranked as second in the zone. The test entries which were showing 5% improvement over the best standard were CoT 10367, Co 10026 & Co 10027 at Padegaon centre and Co 10006 at Sanakeshwar centre.

Varietal Improvement Programme- AICRP (Sugarcane)
Principal Investigator's Report (2016-17)
Peninsular zone AVT II Plant- Early

Table 2.1.5 Brix % at harvest

S. No.	Entries	Coimbatore	Akola	Kolhapur	Man dya	Nav sari	Pade gaon	Peruma llapalle	Pravara nagar	Puga lur	Pune	Sameer wadi	Sanke shwar	Thiru valla	Mean
1	Co 10004	20.40	20.19	19.29	19.50	20.79	18.35	19.60	19.93	19.26	20.16	17.42	18.54	21.20	19.58
2	Co 10005	20.54	18.66	20.79	20.83	20.47	18.68	17.10	20.47	19.69	20.23	17.79	18.71	19.90	19.53
3	Co 10006	19.13	19.82	19.95	19.33	21.63	18.85	19.30	19.13	19.51	18.61	16.96	20.21	20.00	19.42
4	Co 10024	20.08	19.49	19.12	19.33	21.63	18.68	17.50	17.23	19.50	20.47	17.37	18.21	18.60	19.01
5	Co 10026	19.83	18.79	19.45	20.83	20.81	19.52	17.40	21.03	18.83	19.54	17.26	19.21	21.10	19.51
6	Co 10027	19.92	18.6	20.45	20.50	20.89	19.68	20.20	20.63	19.07	19.31	17.11	17.87	21.40	19.66
7	CoT 10366	19.18	17.62	17.79	19.67	20.31	17.52	18.70	19.93	17.71	18.39	16.54	16.87	19.10	18.41
8	CoT 10367	20.74	20.77	20.79	20.33	21.70	19.85	20.10	19.70	19.75	20.05	17.79	17.71	21.70	20.07
Standards															
1	CoC 671	21.19	21.64	21.29	20.67	21.38	18.68	20.60	20.87	19.39	21.53	17.83	19.37	20.30	20.37
2	Co 94008	19.42	19.69	18.79	20.17	21.05	18.18	16.10	17.20	19.27	18.96	17.23	17.37	19.70	18.70
3	Co 85004	19.08	19.52	20.83	20.33	20.08	18.68	19.20	19.63	20.15	20.91	17.21	17.71	21.90	19.63
	SE	0.41	0.56	0.36	-	0.36	0.22	-	0.76	0.40	0.23	0.66	0.26	0.40	
	CD	0.87	1.66	1.08	NS	1.06	0.65	0.60	2.26	0.84	0.69	NS	0.78	1.15	
	CV	2.53	4.98	3.11	3.43	2.97	2.03	1.80	6.79	2.56	2.05	6.68	2.48	3.43	

Varietal Improvement Programme- AICRP (Sugarcane)
Principal Investigator's Report (2016-17)
Peninsular zone AVT II Plant- Early

Table 2.1.6 Purity % at harvest

S. No.	Entries	Coimbatore	Akola	Kolhapur	Mandya	Navsari	Padegaon	Perumallapalle	Pravara nagar	Pugalur	Pune	Sameerwadi	Sanke shwar	Thiruvalla	Mean
1	Co 10004	90.89	87.25	94.96	93.69	87.54	96.01	93.90	91.52	90.27	92.51	81.80	82.49	88.90	90.13
2	Co 10005	89.11	94.58	93.81	94.16	93.63	92.78	92.40	90.77	88.57	92.47	80.29	83.24	89.50	90.41
3	Co 10006	89.66	91.07	92.85	93.32	89.44	94.72	94.80	95.32	89.21	89.83	83.97	85.74	89.20	90.70
4	Co 10024	92.78	95.29	94.22	94.57	86.44	93.98	96.60	93.16	90.74	92.40	84.29	83.67	89.30	91.34
5	Co 10026	90.83	94.70	94.13	93.77	90.55	95.09	95.40	93.07	88.65	92.49	81.41	83.79	89.30	91.01
6	Co 10027	90.98	95.75	93.17	93.51	92.41	94.21	94.60	93.64	88.74	91.41	82.94	83.44	89.50	91.09
7	CoT 10366	89.21	97.39	94.73	94.04	92.85	95.09	83.40	93.60	88.63	91.89	84.27	81.42	89.40	90.45
8	CoT 10367	91.15	86.68	93.33	94.75	85.53	95.21	96.50	93.21	89.27	92.38	84.96	81.05	89.20	90.24
Standards															
1	CoC 671	91.69	83.21	92.48	93.82	87.29	94.38	94.70	94.92	88.99	92.55	83.77	84.82	89.70	90.17
2	Co 94008	89.29	89.03	94.41	92.31	89.37	91.69	98.20	93.45	89.16	91.24	83.81	80.88	89.70	90.19
3	Co 85004	89.68	90.38	93.30	94.69	95.91	91.66	96.40	92.43	88.71	92.60	83.20	80.61	89.40	90.68
	SE	0.73	2.37	0.84	-	1.17	0.87	-	1.07	0.43	0.41	1.79	1.06	0.27	
	CD	1.53	7.00	N.S.	NS	3.46	2.56	2.40	3.16	0.91	1.20	NS	3.11	NS	
	CV	0.99	4.50	1.55	1.29	2.26	1.6	1.50	1.99	0.60	0.77	3.74	2.21	0.51	

Varietal Improvement Programme- AICRP (Sugarcane)
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Table 2.1.7 Pol% Cane at harvest

S. No.	Entries	Coimbatore	Akola	Kolhapur	Mandya	Navsari	Padegaon	Perumallapalle	Pravara nagar	Pugalur	Pune	Sameerwadi	Sanke shwar	Thiruvalla	Mean
1	Co 10004	14.38			13.89	13.89	15.03			14.31	14.04	10.40	11.58		13.90
2	Co 10005	13.79			14.98	14.97	14.73			14.36	13.94	10.45	11.32		14.02
3	Co 10006	13.51			13.93	14.62	15.58			14.32	12.89	10.40	13.34		14.07
4	Co 10024	14.10			13.84	14.03	15.18			14.56	14.20	10.70	11.10		14.03
5	Co 10026	14.14			14.94	14.19	15.92			13.73	13.80	10.25	11.94		14.08
6	Co 10027	14.21			14.58	14.57	15.91			13.88	13.53	10.37	11.18		14.00
7	CoT 10366	12.81			14.15	14.28	14.34			12.86	12.80	10.17	10.20		13.20
8	CoT 10367	14.12			14.84	14.17	16.33			14.49	13.91	11.05	10.89		14.20
	Standards														
1	CoC 671	14.96			14.79	14.12	15.15			14.17	15.13	10.91	10.73		14.22
2	Co 94008	12.83			14.41	14.24	14.12			14.10	12.89	10.56	10.58		13.46
3	Co 85004	13.30			14.81	14.68	14.54			14.70	14.42	10.46	12.40		14.10
	SE	0.37			-	0.21	0.24			0.30	0.15	-	0.27		
	CD	0.78			NS	0.62	0.69			0.64	0.43	NS	0.79		
	CV	3.28			3.72	2.53	2.69			2.67	1.85	8.48	4.07		

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Table 2.1.8 Extraction % at harvest

S. No.	Entries	Coimbatore	Akola	Kolhapur	Mandya	Navsari	Padegaon	Perumalpal	Pravara nagar	Pugalur	Pune	Sameerwadi	Sanke shwar	Thiruvalla	Mean
1	Co 10004	50.78			50.90	58.97	51.25		48.56		62.28		52.61	61.80	54.64
2	Co 10005	43.57			54.70	61.55	52.37		51.35		63.13		52.02	59.20	54.73
3	Co 10006	45.57			57.70	57.43	52.13		55.61		54.11		55.67	63.00	55.16
4	Co 10024	46.66			53.50	63.07	52.25		56.22		60.55		54.12	61.00	55.92
5	Co 10026	48.42			53.70	63.13	51.92		52.13		54.18		59.16	62.00	55.58
6	Co 10027	49.53			51.70	58.45	50.33		52.96		52.28		54.13	61.80	53.90
7	CoT 10366	46.40			52.80	55.80	50.57		54.53		60.50		46.26	60.20	53.39
8	CoT 10367	54.62			57.80	59.45	51.97		52.75		58.94		55.52	59.00	56.26
	Standards														
1	CoC 671	47.12			50.30	60.67	50.50		52.38		60.80		50.74	61.50	54.25
2	Co 94008	47.19			53.60	59.94	51.74		53.85		61.69		56.53	58.80	55.41
3	Co 85004	43.98			55.80	56.58	51.07		54.67		61.13		49.62	59.70	54.06
	SE	2.11			-	1.76	1.73		1.26		1.04		1.12	3.16	
	CD	4.43			NS	NS	NS		3.73		3.09		3.31	NS	
	CV	5.42			5.90	5.11	5.84		4.11		3.07		3.64	4.83	

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Table 2.1.9 Fibre % at harvest

S. No.	Entries	Coimbatore	Akola	Kolhapur	Mandya	Navsari	Padegaon	Perumallapalle	Pravaranaagar	Pugalur	Pune	Sameerwadi	Sanke shwar	Thiruvalla	Mean
1	Co 10004	12.46			14.40	13.57	14.67			12.72	14.72		14.31		13.84
2	Co 10005	14.63			14.00	13.32	15.04			12.70	15.27		17.28		14.61
3	Co 10006	11.21			13.20	14.44	12.72			12.72	12.87		13.00		12.88
4	Co 10024	13.59			14.70	14.87	13.54			12.74	14.92		17.13		14.50
5	Co 10026	11.46			13.90	14.66	14.21			12.76	13.64		15.87		13.79
6	Co 10027	11.59			14.30	14.49	14.21			12.95	13.35		15.01		13.70
7	CoT 10366	14.66			13.90	14.25	13.90			13.07	14.20		15.76		14.25
8	CoT 10367	15.91			13.40	13.62	13.60			12.77	14.90		14.15		14.05
Standards															
1	CoC 671	11.53			14.20	14.35	14.08			12.85	14.04		14.54		13.66
2	Co 94008	14.73			13.00	14.34	15.26			12.92	15.50		14.71		14.35
3	Co 85004	12.31			13.50	13.82	15.10			12.77	15.48		14.81		13.97
	SE	0.53			-	0.32	0.27			0.19	0.24		0.86		
	CD	1.12			NS	0.95	0.81			0.40	0.70		2.53		
	CV	4.98			4.20	3.93	3.35			1.88	2.86		9.80		

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

S. No.	Entries	Coimbatore	Akola	Kolhapur	Mandya	Navsari	Padegaon	Perumalpal	Pravara nagar	Pugalur	Pune	Sameerwadi	Sanke shwar	Thiruvalla	Mean
1	Co 10004	57.25	48.23	87.91	53.10	105.55	56.66	55.10	79.33	100.60	73.57	61.20	64.21	68.40	70.09
2	Co 10005	98.84	54.78	85.82	102.60	100.55	77.14	84.40	117.54	110.80	83.95	86.02	61.79	94.30	89.12
3	Co 10006	71.53	60.57	57.18	80.10	93.05	64.76	77.20	85.65	97.30	70.34	50.56	75.57	77.60	73.96
4	Co 10024	77.93	49.69	82.23	91.30	103.33	72.86	88.80	99.22	89.10	77.18	61.67	71.15	99.10	81.81
5	Co 10026	88.50	50.77	86.69	92.10	93.89	82.23	84.80	105.05	88.68	82.93	78.24	66.66	97.40	84.45
6	Co 10027	76.39	59.80	91.78	91.20	91.94	72.86	84.00	93.07	86.60	65.03	62.04	78.69	82.80	79.71
7	CoT 10366	60.03	56.25	68.11	88.40	89.72	63.02	71.70	81.00	62.55	63.26	75.00	65.96	94.50	72.27
8	CoT 10367	65.43	48.61	65.05	96.20	87.78	72.05	69.20	94.29	87.01	62.16	68.06	66.07	68.10	73.07
	Standards														
1	CoC 671	66.05	52.39	71.93	77.80	84.91	60.07	66.20	87.87	85.21	66.86	49.54	73.22	78.40	70.80
2	Co 94008	67.52	51.54	84.90	88.60	82.03	65.16	85.50	95.43	79.79	61.60	51.67	71.01	84.00	74.52
3	Co 85004	95.60	62.19	94.91	81.00	95.83	75.58	84.50	99.13	161.80	85.39	86.48	93.49	89.20	92.70
	SE	6.11	2.19	6.05	-	3.46	1.73	-	1.57	5.64	4.19	10.54	6.44	4.39	
	CD	12.84	6.46	18.31	5.40	10.20	5.10	9.70	4.65	11.77	12.37	NS	18.99	12.50	
	CV	9.98	7.01	13.15	3.80	6.41	4.32	7.40	2.89	7.25	10.08	27.5	15.57	8.95	

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Table 2.1.11 Stalk length (cm) at harvest

S. No.	Entries	Coimbatore	Akola	Kolhapur	Mandya	Navsari	Padegaon	Perumalpal	Pravara nagar	Pugalur	Pune	Sameerwadi	Sanke shwar	Thiruvalla	Mean
1	Co 10004	286.67	241.00	198.30	219.00	263.48	205.00	394.70	254.00	207.00	222.90	124.00	193.80	246.00	235.06
2	Co 10005	278.33	213.00	194.70	222.00	227.29	223.30	296.40	263.00	227.00	216.00	123.00	215.00	223.00	224.77
3	Co 10006	231.67	212.00	157.70	160.00	258.31	181.70	282.00	188.33	205.00	140.00	93.00	162.90	216.00	191.42
4	Co 10024	231.67	209.00	185.30	177.00	271.23	185.00	312.70	214.66	218.00	219.20	116.00	199.00	239.00	213.68
5	Co 10026	260.00	218.00	195.00	185.00	274.85	238.30	307.70	248.66	194.00	251.90	137.00	221.00	223.00	227.26
6	Co 10027	251.67	182.00	183.30	174.00	276.40	188.30	309.30	155.66	212.00	173.40	86.00	158.00	208.00	196.78
7	CoT 10366	250.00	191.00	178.70	185.00	278.99	176.70	318.40	196.00	203.00	167.30	122.00	147.90	212.00	202.07
8	CoT 10367	263.33	223.00	181.00	179.00	258.31	170.00	324.70	222.66	222.00	190.70	99.00	188.20	188.00	208.45
	Standards														
1	CoC 671	238.33	197.00	171.30	171.00	284.16	195.00	312.30	189.33	211.00	183.40	91.00	165.20	226.00	202.70
2	Co 94008	260.00	232.00	194.30	184.00	245.39	191.70	323.30	220.66	190.00	177.40	118.00	184.00	222.00	210.98
3	Co 85004	225.00	212.00	172.00	165.00	242.80	168.30	313.30	180.66	196.00	185.80	101.00	160.70	185.00	192.89
	SE	15.23	10.38	4.09	-	11.49	3.56	-	1.93	11.00	10.70	2.77	8.04	6.86	
	CD	31.99	30.63	12.37	23.00	33.90	10.50	14.30	5.70	24.00	31.57	8.18	23.71	19.50	
	CV	7.39	8.49	3.87	7.50	7.60	3.19	3.70	1.57	6.77	9.58	4.37	7.67	5.47	

Table 2.1.12 Stalk diameter (cm) at harvest

S. No.	Entries	Coimbatore	Akola	Kolhapur	Mandya	Navsari	Padegaon	Perumallapalle	Pravara nagar	Pugalur	Pune	Sameerwadi	Sanke shwar	Thiruvalla	Mean
1	Co 10004	3.41	2.57	2.42	3.37	2.51	3.10	3.50	2.42	2.89	3.01	3.20	2.92	2.68	2.92
2	Co 10005	2.73	2.82	2.35	2.69	2.62	3.00	2.70	2.27	2.37	2.83	2.50	2.71	2.26	2.60
3	Co 10006	2.53	2.62	2.09	2.99	2.48	2.77	2.90	2.43	2.68	2.38	2.60	2.52	2.58	2.58
4	Co 10024	3.12	2.94	2.53	2.97	2.65	3.40	2.90	2.41	2.94	2.69	2.90	3.06	2.57	2.85
5	Co 10026	2.96	3.05	2.15	3.03	2.76	3.10	3.30	2.48	2.69	3.32	2.70	2.93	2.55	2.85
6	Co 10027	3.44	3.34	2.38	3.19	2.68	3.67	3.20	2.50	3.41	3.43	3.20	2.90	2.72	3.08
7	CoT 10366	3.10	2.92	2.46	3.05	2.62	3.23	3.40	2.59	3.03	3.18	3.80	3.16	2.61	3.01
8	CoT 10367	3.21	3.18	2.48	3.30	2.68	3.47	3.40	2.51	2.94	3.21	3.20	3.16	2.47	3.02
	Standards														
1	CoC 671	3.12	3.10	2.48	3.26	2.72	3.40	3.00	2.30	2.94	2.96	2.90	3.01	2.78	2.92
2	Co 94008	2.94	2.89	2.65	3.05	2.68	3.10	3.00	2.49	2.73	3.27	3.20	3.12	2.49	2.89
3	Co 85004	2.60	2.99	2.11	2.77	2.51	2.67	2.90	2.28	2.35	2.40	2.80	2.68	2.31	2.57
	SE	0.13	0.10	0.09	-	0.03	0.06	-	0.05	0.13	0.09	0.05	0.08	0.08	
	CD	0.27	0.28	0.26	0.20	0.09	0.17	0.10	0.16	0.27	0.29	0.16	0.23	0.22	
	CV	5.12	5.59	6.35	3.84	1.99	3.23	2.00	4.08	5.75	5.78	3.14	4.56	5.37	

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Table 2.1.13 Single cane weight (kg) at harvest

S. No.	Entries	Coimbatore	Akola	Kolhapur	Mandya	Navsari	Padegaon	Perumalpal	Pravara nagar	Pugalur	Pune	Sameerwadi	Sanke shwar	Thiruvalla	Mean
1	Co 10004	2.09	1.47	1.21	1.48	1.24	1.65	1.30	1.42	1.27	1.46	1.06	1.37	1.23	1.40
2	Co 10005	1.32	1.33	0.98	1.12	1.25	1.23	1.10	1.17	1.07	1.28	0.83	1.33	1.19	1.17
3	Co 10006	1.10	1.27	0.86	0.96	1.20	1.20	1.30	1.04	1.07	1.10	0.51	0.91	1.07	1.05
4	Co 10024	1.42	1.33	1.11	1.06	1.32	1.31	1.20	1.37	1.55	1.25	0.76	1.57	1.05	1.25
5	Co 10026	1.43	1.47	0.91	1.02	1.23	1.53	1.30	1.20	1.13	1.31	0.77	1.55	1.15	1.23
6	Co 10027	1.73	1.47	0.93	1.05	1.18	1.48	1.30	1.28	1.72	1.28	0.70	1.12	1.32	1.27
7	CoT 10366	1.63	1.33	1.04	1.07	1.21	1.58	2.10	1.31	1.31	1.35	1.05	1.21	1.16	1.33
8	CoT 10367	1.91	1.53	1.25	1.28	1.25	1.66	2.20	1.41	1.66	1.31	0.92	1.62	1.02	1.46
	Standards														
1	CoC 671	1.54	1.40	1.19	1.06	1.35	1.28	1.20	1.34	1.41	1.31	0.59	1.21	1.21	1.24
2	Co 94008	1.42	1.40	1.46	1.04	1.16	1.27	1.20	1.14	1.07	1.28	0.80	1.49	1.09	1.22
3	Co 85004	1.05	1.27	0.84	1.09	1.02	1.03	1.20	0.89	0.87	0.85	0.48	0.92	1.05	0.97
	SE	0.12	0.07	0.06	-	0.05	0.03	-	0.02	0.08	0.03	0.10	0.10	0.05	
	CD	0.26	NS	0.18	0.21	0.16	0.08	0.10	0.07	0.17	0.09	0.31	0.29	0.14	
	CV	9.81	8.65	9.76	11.31	7.54	3.32	3.50	3.50	7.68	4.61	24.3	13.15	7.27	

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Table 2.1.14 Brix % at 8 months

S. No.	Entries	Coimbatore	Akola	Kolhapur	Mandya	Navsari	Padegaon	Perumalpal	Pravara nagar	Pugalur	Pune	Sameerwadi	Sanke shwar	Thiruvalla	Mean
1	Co 10004	20.66	18.57		18.50	18.61	16.67	18.90	19.12	17.93		15.76	12.95	16.90	17.69
2	Co 10005	19.11	17.97		18.50	19.24	17.00	16.50	18.32	17.75		15.63	12.62	16.90	17.23
3	Co 10006	19.96	17.44		16.17	19.12	16.33	15.90	18.45	17.30		15.27	14.28	17.20	17.04
4	Co 10024	20.79	18.24		16.83	19.50	16.17	16.80	18.49	18.32		13.10	10.62	15.30	16.74
5	Co 10026	19.68	18.30		19.00	19.77	17.33	16.50	19.35	18.67		15.51	12.48	17.10	17.61
6	Co 10027	19.41	16.17		18.00	18.59	17.33	16.30	17.65	16.90		13.14	10.62	17.20	16.48
7	CoT 10366	19.73	16.43		17.50	18.64	17.83	16.20	18.09	17.09		14.08	10.36	15.00	16.45
8	CoT 10367	20.08	18.37		17.83	19.50	17.33	16.50	18.92	17.80		14.40	11.29	17.10	17.19
Standards															
1	CoC 671	21.04	19.10		18.83	19.54	17.50	17.80	18.69	17.19		16.44	12.42	15.80	17.67
2	Co 94008	19.32	17.55		18.17	19.04	15.67	15.70	17.35	18.25		13.41	11.29	15.80	16.50
3	Co 85004	20.59	16.92		19.00	18.84	16.00	17.40	18.05	18.49		14.03	10.56	17.60	17.04
	SE	0.41	0.62		-	0.27	0.38	-	0.52	0.45		0.86	0.57	0.51	
	CD	0.86	NS		1.35	0.80	1.13	0.40	1.54	0.94		NS	1.69	1.46	
	CV	2.51	6.01		4.41	2.45	3.94	1.30	4.93	3.13		10.24	8.44	5.36	

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Table 2.1.15 Sucrose % at 8 months

S. No.	Entries	Coimbatore	Akola	Kolhapur	Mandya	Navsari	Padegaon	Perumallapalle	Pravara nagar	Pugalur	Pune	Sameerwadi	Sanke shwar	Thiruvalla	Mean
1	Co 10004	17.72			16.99	16.64	14.56	17.30	17.87	15.53		13.02	9.07	15.20	15.39
2	Co 10005	15.87			16.59	16.96	14.80	14.30	16.98	15.37		12.84	8.67	15.20	14.76
3	Co 10006	17.65			13.96	17.31	14.18	14.90	16.85	14.82		12.85	10.43	15.50	14.84
4	Co 10024	18.04			14.91	17.80	14.21	15.20	16.84	16.36		10.68	7.66	13.90	14.56
5	Co 10026	16.77			17.60	17.28	15.39	14.10	18.20	16.62		12.81	9.17	15.40	15.33
6	Co 10027	16.55			16.30	17.46	15.03	13.30	16.71	15.13		10.04	6.65	15.50	14.27
7	CoT 10366	16.92			15.68	17.41	16.32	14.10	16.73	15.02		11.69	6.00	13.60	14.34
8	CoT 10367	17.46			16.07	17.62	15.62	14.60	17.31	15.72		11.78	8.05	15.40	14.96
	Standards														
1	CoC 671	18.19			17.05	16.93	15.80	16.40	17.04	14.23		14.32	8.51	14.20	15.26
2	Co 94008	16.53			16.53	18.11	12.91	13.40	16.41	16.12		10.39	7.55	14.20	14.22
3	Co 85004	17.91			17.36	17.33	13.95	16.10	17.72	16.60		11.56	6.41	15.80	15.08
	SE	0.37			-	0.27	0.55	-	0.49	0.45		1.06	0.72	0.45	
	CD	0.77			1.88	0.80	1.63	0.50	1.47	0.94		NS	2.12	1.27	
	CV	2.61			6.77	2.69	6.48	2.00	5.03	3.56		15.34	15.51	5.18	

Varietal Improvement Programme- AICRP (Sugarcane)
Principal Investigator's Report (2016-17)
Peninsular zone AVT II Plant- Early

Table 2.1.16 Purity % at 8 months

S. No.	Entries	Coimbatore	Akola	Kolhapur	Mandya	Navsari	Padegaon	Perumallapalle	Pravara nagar	Pugalur	Pune	Sameerwadi	Sanke shwar	Thiruvalla	Mean
1	Co 10004	86.01	94.63		91.68	89.4	87.32	91.00	90.18	86.65		82.46	70.09	89.00	87.13
2	Co 10005	83.83	96.20		89.42	88.21	86.97	84.30	92.83	86.61		81.90	68.75	89.00	86.19
3	Co 10006	88.49	98.00		85.74	90.57	86.77	89.30	93.55	85.67		84.87	72.99	88.90	87.72
4	Co 10024	86.75	94.34		88.32	91.33	87.87	88.70	92.52	89.31		81.13	71.68	89.50	87.40
5	Co 10026	85.22	96.10		92.41	87.40	88.82	85.90	93.83	89.06		82.36	73.39	88.90	87.58
6	Co 10027	85.27	98.37		90.30	93.98	86.60	82.80	94.70	89.51		75.69	61.85	89.40	86.22
7	CoT 10366	85.76	97.60		89.34	93.54	90.94	85.80	92.48	87.88		85.80	57.53	89.10	86.89
8	CoT 10367	86.96	95.75		89.88	90.38	90.10	86.70	90.99	88.33		81.49	71.36	89.20	87.37
	Standards														
1	CoC 671	86.47	96.01		90.27	86.64	90.21	90.50	90.28	82.77		86.93	68.11	88.90	87.01
2	Co 94008	85.53	98.29		90.78	95.19	82.37	87.90	94.71	88.35		77.14	66.91	89.10	86.94
3	Co 85004	86.98	98.35		91.17	92.03	84.72	93.70	93.27	89.73		78.77	60.61	89.20	87.14
	SE	0.69	1.18		-	1.77	1.64	-	0.88	0.54		2.56	4.31	0.35	
	CD	1.45	NS		NS	5.21	4.84	2.10	2.59	1.13		NS	12.7	NS	
	CV	0.98	2.11		3.34	3.37	3.25	1.40	1.64	0.76		5.45	11.04	0.68	

Varietal Improvement Programme- AICRP (Sugarcane)
Principal Investigator's Report (2016-17)
Peninsular zone AVT II Plant- Early

Table 2.1.17 CCS % at 8 months

S. No.	Entries	Coimbatore	Akola	Kolhapur	Mandya	Navsari	Padegaon	Perumalpal	Pravara nagar	Pugalur	Pune	Sameerwadi	Sanke shwar	Thiruvalla	Mean
1	Co 10004	12.69	12.54		11.95	11.57	10.02	12.40	12.68	10.64		8.70	5.49	10.60	10.85
2	Co 10005	11.22	12.42		11.54	11.72	10.16	9.60	12.00	10.53		8.56	5.18	10.60	10.32
3	Co 10006	12.81	12.37		9.53	12.12	9.72	10.10	12.25	10.10		8.67	6.49	10.80	10.45
4	Co 10024	12.99	12.24		10.31	12.51	9.80	10.60	12.54	11.37		7.09	4.72	9.69	10.35
5	Co 10026	11.99	12.63		12.43	11.89	10.67	9.90	13.19	11.54		8.56	5.73	10.70	10.84
6	Co 10027	11.83	11.48		11.39	12.42	10.30	9.90	11.93	10.52		6.43	3.70	10.90	10.07
7	CoT 10366	12.13	11.59		10.90	12.36	11.47	9.70	11.81	10.36		7.83	3.11	9.46	10.07
8	CoT 10367	12.59	12.61		11.20	12.32	10.90	10.10	12.06	10.87		7.83	4.93	10.70	10.56
	Standards														
1	CoC 671	13.08	13.17		11.91	11.60	11.03	11.60	11.97	9.52		9.83	5.07	9.88	10.79
2	Co 94008	11.83	12.51		11.58	12.95	8.62	9.80	11.71	11.15		6.71	4.42	9.94	10.11
3	Co 85004	12.91	12.06		12.18	12.22	9.58	11.90	12.00	11.56		7.72	3.47	11.10	10.60
	SE	0.28	0.39		-	0.27	0.47	-	0.39	0.32		0.84	0.61	0.31	
	CD	0.59	NS		1.55	0.80	1.37	0.40	1.16	0.68		NS	1.79	0.87	
	CV	2.79	5.43		8.04	3.88	7.90	2.30	5.59	3.74		18.14	22.12	5.12	

Varietal Improvement Programme- AICRP (Sugarcane)
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Peninsular zone AVT II Plant- Early

Table 2.1.18 Number of shoots ('000/ha) at 240 days

S. No.	Entries	Coimbatore	Akola	Kolhapur	Mandya	Navsari	Padegaon	Perumalpal	Pravara nagar	Pugalur	Pune	Sameerwadi	Sanke shwar	Thiruvalla	Mean
1	Co 10004	67.82	51.54		93.50	123.60	65.10	77.90	85.70	111.90	77.24	47.52	61.91	73.30	78.08
2	Co 10005	112.11	65.97		124.50	116.22	89.35	99.00	118.04	121.40	87.38	78.31	100.10	97.40	100.81
3	Co 10006	87.11	68.44		81.40	110.90	78.13	87.50	92.26	108.60	73.82	44.20	66.32	80.60	81.60
4	Co 10024	84.26	57.56		107.30	123.31	83.68	104.30	101.26	100.50	80.77	63.96	74.54	103.00	90.40
5	Co 10026	106.48	69.06		108.60	122.13	89.29	101.40	115.90	105.50	86.28	70.67	81.83	101.00	96.48
6	Co 10027	92.59	68.21		109.00	118.88	76.97	97.50	102.31	95.35	68.08	57.86	77.62	84.90	87.44
7	CoT 10366	69.75	59.88		113.90	113.11	68.98	72.60	98.33	71.17	66.40	65.42	75.15	100.00	81.24
8	CoT 10367	76.00	65.12		113.50	117.69	77.14	74.80	105.77	100.80	65.19	64.50	63.65	71.10	82.94
Standards															
1	CoC 671	77.93	64.20		102.10	107.94	69.56	73.30	92.10	93.55	69.84	69.74	59.85	81.10	80.10
2	Co 94008	85.11	56.87		117.80	107.65	73.84	101.60	101.90	90.63	64.57	39.73	72.79	84.90	83.11
3	Co 85004	108.64	71.76		109.50	133.06	87.85	123.40	112.80	171.3	88.17	86.18	86.96	94.20	106.15
	SE	5.72	3.98		-	5.00	2.13	-	1.75	6.80	4.02	7.38	7.20	4.15	
	CD	12.02	11.75		7.40	14.74	6.30	6.90	5.17	14.18	11.87	21.77	21.23	11.80	
	CV	7.97	10.86		4.00	7.35	4.73	4.30	2.96	7.83	9.26	20.50	16.71	8.13	

Varietal Improvement Programme- AICRP (Sugarcane)
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Table 2.1.19 Number of tillers ('000/ha) at 120 days

S. No.	Entries	Coimbatore	Akola	Kolhapur	Mandya	Navsari	Padegaon	Perumallapalle	Pravara nagar	Pugalur	Pune	Sameerwadi	Sanke shwar	Thiruvalla	Mean
1	Co 10004	75.54	55.56	93.81	109.90	141.19	88.43	89.50	128.02	137.20	113.10	69.67	85.73	66.00	96.44
2	Co 10005	104.94	74.38	92.77	134.80	132.52	130.60	102.40	138.30	150.70	149.90	87.72	110.50	92.60	115.54
3	Co 10006	107.64	52.85	62.91	92.40	129.81	128.00	93.70	123.79	164.30	109.90	57.32	88.29	77.60	99.12
4	Co 10024	102.08	64.89	92.25	121.60	135.77	99.07	111.50	145.11	131.60	156.20	67.51	122.40	99.30	111.48
5	Co 10026	97.15	77.16	92.42	123.50	136.59	108.30	111.80	148.49	134.60	147.90	91.43	107.20	97.30	113.37
6	Co 10027	106.02	75.69	97.11	123.90	134.15	95.83	106.90	135.59	133.30	133.80	70.52	102.60	80.70	102.50
7	CoT 10366	86.73	60.88	78.18	129.00	129.27	92.59	75.50	139.28	95.08	98.53	72.45	72.89	96.20	94.35
8	CoT 10367	90.05	67.67	70.95	128.40	131.44	92.13	95.60	143.88	137.20	124.60	73.76	86.03	67.90	100.74
	Standards														
1	CoC 671	89.81	66.20	85.36	117.00	123.04	79.86	89.30	125.65	120.80	124.70	71.67	84.49	76.60	96.49
2	Co 94008	83.49	59.26	90.80	132.70	117.08	85.65	110.50	117.68	120.20	85.19	56.24	74.94	79.90	93.36
3	Co 85004	121.30	75.69	108.30	127.80	147.97	98.38	135.80	139.59	205.90	163.30	87.65	105.30	91.00	123.69
	SE	4.96	4.65	4.88	-	4.80	4.01	-	1.18	7.97	5.58	5.32	5.22	3.68	
	CD	10.42	13.71	14.76	5.00	14.16	11.84	8.50	3.49	16.62	16.46	15.69	15.39	10.50	
	CV	6.28	12.13	9.63	2.40	6.27	6.96	5.40	1.52	7.02	7.56	12.58	9.56	7.58	

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Table 2.1.20 Germination % at 30 days

S. No.	Entries	Coimbatore	Akola	Kolhapur	Mandya	Navsari	Padegaon	Perumallapalle	Pravara nagar	Pugalur	Pune	Sameerwadi	Sanke shwar	Thiruvalla	Mean
1	Co 10004	57.99	40.95	42.59	53.20	51.05	28.47	48.30	43.40	64.44	44.90	46.00	48.93	63.40	48.74
2	Co 10005	59.09	41.67	35.42	45.50	43.18	26.74	32.50	40.13	67.64	44.62	48.00	46.73	62.80	45.69
3	Co 10006	59.49	38.04	27.08	29.90	45.04	24.65	38.90	43.43	60.83	52.02	42.00	40.6	68.70	43.90
4	Co 10024	62.62	45.48	39.00	43.60	55.68	25.35	50.80	50.85	66.53	56.25	57.00	44.18	70.40	51.37
5	Co 10026	69.44	44.11	34.95	43.60	55.68	38.19	49.50	50.71	67.50	58.74	59.00	60.26	68.90	53.89
6	Co 10027	76.16	44.46	40.74	41.30	50.59	34.03	45.10	49.01	76.39	58.71	58.00	60.73	80.30	55.04
7	CoT 10366	54.40	40.06	40.91	40.90	49.2	27.43	32.40	47.57	56.25	42.42	41.00	37.13	65.00	44.20
8	CoT 10367	75.12	45.00	45.20	38.50	49.67	36.11	46.60	50.12	79.31	72.34	62.00	60.84	66.80	55.97
	Standards														
1	CoC 671	56.94	46.31	34.43	36.20	44.57	33.68	42.20	41.96	67.50	50.32	50.00	47.08	75.10	48.17
2	Co 94008	65.97	45.06	37.44	38.70	42.72	31.60	49.30	48.68	59.72	56.48	58.00	47.08	52.70	48.73
3	Co 85004	71.82	48.75	40.57	39.20	45.5	29.86	53.90	43.02	82.64	59.93	50.00	48.35	97.90	54.73
	SE	5.30	2.61	2.16	-	1.43	1.71	-	0.97	5.53	1.68	2.32	3.66	3.38	
	CD	11.13	NS	6.54	NS	4.22	5.05	3.50	2.86	11.54	4.97	6.85	10.80	9.61	
	CV	10.06	10.38	9.85	20.00	5.12	9.71	4.60	3.63	10.03	5.38	7.74	12.87	8.34	

2.1.21. Assessment of entries by monitoring team

Entry / Locations	Perumalapalle	Pugalur	Coimbatore	Thiruvalla	Mandya	Sankeshwar	Sameerwadi	Kohlapur
Co 10004	Better	On-par	Better	On-par	Poor	Better	On-par	On-par
Co 10005	On-par	On-par	Better	On-par	Better	On-par	Better	On-par
Co 10006	On-par	On-par	Poor	On-par	Poor	On-par	Poor	Poor
Co 10024	Poor	Better	Better	Better	On-par	On-par	On-par	On-par
Co 10026	On-par	Poor	Better	On-par	On-par	Better	Better	Better
Co 10027	Better	Better	Better	Better	On-par	On-par	Poor	On-par
CoT 10366	Better	Better	On-par	Better	On-par	On-par	Better	On-par
CoT 10367	On-par	On-par	Better	On-par	On-par	Poor	Poor	Poor
Best standard	Co 94008	CoC 671	Co 94008	Co 85004	Co 94008	Co 94008	CoC 671 & Co 85004	CoC 671 Co94008

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Entries	Navsari	VSI, Pune	Padegaon	Pravara nagar	Akola	Pawar kheda	Rudrur
Co 10004	On par	On par	On par	On par	Poor	Better	N
Co 10005	Better	On par	On par	On par	On par	On par	O
Co10006	Better	Better	Poor	Poor	Better	Better	T
Co10024	On par	On par	On par	Better	On par	On par	
Co 10026	On par	On par	On par	On par	On par	Better	C
Co 10027	Better	Better	On par	On par	On par	On par	O
CoT10366	On par	On par	Better	On par	On par	On par	N
CoT10367	On par	Better	Better	On par	On par	Better	D
Co 85004(C)	Better	Better	Better	Best	Best	Better	U
Co 94008(C)	On par	Best	Poor	Better	Better	On par	C
CoC 671(C)	Best	Poor	Best	Better	Poor	Best	T

Annexure: Performance of entries at Powerkheda

S. No.	Clone	CCS t/ha	Cane yield t/ha	Brix % (10 m)	Sucrose % (10m)	Purity % (10m)	CCS % (10m)	NMC at 10m ('000/ha)
1	Co 10004	7.53	57.32	22.40	19.25	85.92	13.13	58.13
2	Co 10005	13.67	103.60	22.48	19.33	85.95	13.19	109.28
3	Co 10006	7.03	55.66	21.72	18.57	85.48	12.63	56.02
4	Co 10024	12.31	88.81	23.35	20.20	86.46	13.82	92.85
5	Co 10026	11.02	80.49	23.19	20.04	86.39	13.71	84.77
6	Co 10027	11.38	76.65	24.74	21.58	87.25	14.83	76.97
7	CoT 10366	10.34	74.12	23.51	20.36	86.58	13.94	75.43
8	CoT 10367	11.38	79.83	23.96	20.80	86.83	14.26	85.84
9	CoC 671	15.45	102.40	25.08	21.92	87.41	15.08	107.96
10	Co 94008	10.71	78.50	23.14	19.98	86.35	13.67	84.73
11	Co 85004	13.43	96.54	23.45	20.30	86.54	13.89	103.30
	CD at 5%	1.97	11.50	1.18	1.18	0.68	0.86	12.08
	CV	8.19	6.64	2.37	2.74	0.37	2.93	6.67

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S. No.	Clone	Stalk Length (m)	Stalk Diameter (cm)	Single cane weight (kg)	Brix % (8 m)	Sucrose % (8 m)	Purity % (8 m)	CCS % (8 m)	No. of shoots (‘000/ha)		Germination % (30 days)
									240 days	120 days	
1	Co 10004	2.04	2.63	1.68	21.95	18.80	85.63	12.80	58.19	60.00	50.75
2	Co 10005	2.24	2.37	1.71	22.03	18.88	85.66	12.86	110.98	112.70	55.52
3	Co 10006	2.26	2.49	1.53	21.27	18.12	85.17	12.30	57.72	59.44	47.08
4	Co 10024	2.16	2.60	1.65	22.90	19.75	86.20	13.49	94.55	96.27	55.08
5	Co 10026	2.32	2.56	1.68	22.74	19.59	86.12	13.38	85.31	87.03	53.12
6	Co 10027	2.09	2.76	1.91	24.29	21.13	87.01	14.51	78.67	80.39	51.51
7	CoT 10366	2.90	2.70	1.71	23.06	19.91	86.32	13.61	77.13	78.85	56.68
8	CoT 10367	2.18	2.69	1.61	23.51	20.35	86.58	13.94	87.53	86.67	51.75
9	CoC 671	2.77	2.60	1.96	24.63	21.47	87.18	14.75	109.66	111.38	63.41
10	Co 94008	2.28	2.54	1.71	22.69	19.53	86.08	13.34	83.10	84.82	57.45
11	Co 85004	2.32	2.51	1.83	23.00	19.85	86.23	13.57	105.00	104.72	60.28
	CD at 5%	0.43	0.21303	0.12	1.45	1.45	0.87	1.06	12.48	13.41	4.75
	CV	8.65	3.86	3.26	2.97	3.45	0.47	3.68	6.8	7.20	4.07

2.2. Advanced Varietal Trial Ratoon – Early (2016-17)

Centers where trial was conducted (10)	Coimbatore, Akola, Kolhapur, Navsari, Padegaon, Perumallapalle, Pravaranagar, Pune, Sankeshwar and Thiruvalla
Entries (8)	Co 10004, Co 10005, Co 10006, Co 10024, Co 10026, Co 10027, CoT 10366 and CoT 10367
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)
Planting time	2016-17
Crop duration	9 months

Results of the previous year: Eight early clones were evaluated along with three standards at 17 centres during 2015-16. Five entries *viz.*, Co10024 (13.47 t/ha), Co10027 (13.40 t/ha), Co10026 (13.29 t/ha), Co10005 (13.26 t/ha) and CoT 10367 (13.11 t/ha) were recorded higher sugar yield than the best standard CoC 671 (13.06 t/ha). For cane yield, five entries *viz.*, Co 10024 (106.62 t/ha), Co 10026 (105.87 t/ha), Co 10005 (105.43 t/ha), Co 10027 (104.80 t/ha) and CoT 10367 (102.39 t/ha) performed better than the best standard CoC 671 (99.63 t/ha). None of the entries showed higher CCS% and sucrose per cent than the best standard CoC 671 (13.21% and 18.87% respectively).

Results of the current year: Eight early clones were evaluated along with three standards at 10 centres in 2016-17. Basmathnagar, Kawardha, Mandya, Powarkheda, Pugalur, Rudrur, Sameerwadi and Sirugamani centres didn't conduct the ratoon trial. For CCS yield at harvest five entries *viz.*, Co 10026 (11.99 t/ha), CoT 13067 (11.03 t/ha), Co 10027 (10.82 t/ha), Co 10024 (10.45 t/ha) and Co 10005 (10.29 t/ha) performed better than the best standard Co 85004 (10.23 t/ha) in the zone. The entries Co 10026, CoT 13067 & Co 10004 (10.03 t/ha) recorded more than 10% improvement in sugar yield at harvest over the best standard at five locations and they ranked first, second & fifth respectively in the zone. For cane yield, all the test entries except Co 10006 were superior to the best check, Co 85004 (77.80 t/ha). Co 10026 (95.96 t/ha) ranked first in the zone and it showed more than 10% yield improvement over the best check at five locations. The second and third ranked entries in the zone, were Co 10024 (85.51 t/ha) and Co 10027 (83.58 t/ha) respectively. For CCS% and sucrose per cent CoC 671 was the best check in the zone with 12.95% and 18.57% respectively. CoT 13067 ranked first in the zone for both CCS% (13.12%) and sucrose per cent (18.79%). For CCS yield and cane yield the qualifying entry in the trial was Co 10026 with 17.21% & 23.35% improvement respectively over the best standard but the juice quality characters (12.38 CCS% and 17.82% sucrose respectively) were lesser than the best standard CoC 671. CoT 13067 was the best entry for juice quality traits as it was numerically superior to the best standard with numerical superiority over the best standard for CCS yield and cane yield. None of the entries combined 10% improvement in cane characters and 5% improvement in juice quality traits over the best standard. The data are presented in Tables 2.2.1 to 2.2.15.

Varietal Improvement Programme- AICRP (Sugarcane)
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Table 2.2.1 CCS t/ha at harvest

S. No.	Entries	Coimbatore	Akola#	Kolhapur	Navsari	Padegaon#	Perumalpal	Pravara nagar	Pune#	Sanke shwar	Thiruvalla	Mean	Rank
1	Co 10004	6.95	5.95	12.49	12.97	9.82	10.06	14.57	9.74*	10.29	7.50	10.03	
2	Co 10005	13.23	3.70	13.74*	11.97	10.76*	10.24	14.79	6.63	8.74	9.14	10.29	5
3	Co 10006	5.70	4.43	6.53	11.18	8.96	11.16	11.38	4.31	7.29	8.26	7.92	
4	Co 10024	14.40	7.57*	11.98	11.55	11.59*	8.29	15.39	7.57	8.29	7.84	10.45	4
5	Co 10026	16.40	4.56	11.52	13.44*	14.70*	7.79	16.42*	13.70*	10.21	11.17*	11.99	1
6	Co 10027	13.01	8.76*	13.56	12.22	11.91*	13.37	15.41	4.47	7.44	8.05	10.82	3
7	CoT 10366	10.80	5.79	8.85	11.26	9.31	10.58	12.95	7.45	8.76	7.24	9.30	
8	CoT 10367	9.27	6.90*	10.49	10.35	13.13*	16.25*	16.45*	7.17	12.77	7.49	11.03	2
Standards													
1	CoC 671	12.53	4.65	11.19	10.98	8.21	10.75	14.47	6.64	8.61	8.63	9.67	
2	Co 94008	7.92	5.08	10.25	9.82	7.81	12.87	12.22	5.31	11.05	8.55	9.09	
3	Co 85004	16.08	4.88	10.64	11.00	8.62	14.56	11.42	6.41	10.04	8.67	10.23	
	Grand mean	11.48	5.66	11.02	11.52	10.44	11.45	14.13	7.22	9.41	8.41		
	SE	1.24	0.52	0.82	0.70	0.44	-	0.47	0.49	0.74	0.50		
	CD	0.42	1.54	2.47	2.06	1.30	1.00	1.40	1.52	2.18	1.41		
	CV	6.29	15.97	12.82	10.48	7.31	6.20	5.84	9.11	13.58	10.23		
Qualifying entries at each centre													
	1		Co 10027	Co 1005	Co 10026	Co 10026	CoT 10367	CoT 10367	Co 10026	CoT 10367	Co 10026	Co 10026	
	2		Co 10024	Co 10027	Co 10004	CoT 10367		Co 10026	Co 10004				
	3		CoT 10367	Co 10024	Co 10027	Co 10027			Co 10024				

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

Qualifying entries: Co 10004 (5), Co 10026 (5), CoT 10367 (5), Co 10027 (4), Co 10024 (3), Co 10005 (2), CoT 10366 (2)

Performance across locations: The entry Co 10026 (11.99 t/ha) recorded the highest sugar yield with 17.21% improvement over the best standard followed by CoT 13067 (11.03 t/ha) and Co 10027 (10.82 t/ha) in the zone. The entries Co 10004, Co 10026 & CoT 10367 recorded more than 10% improvement for sugar yield over the best standard at five locations each. The entries Co 10027 & Co 10024 recorded more than 10% improvement over the best check at four and three locations respectively and the entries Co 10005 & CoT 10366 performed well at two locations each.

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Table 2.2.2 Cane yield t/ha at harvest

S. No.	Entries	Coimbatore	Akola#	Kolhapur	Navsari#	Padegaon#	Perumalpal	Pravara nagar	Pune#	Sanke shwar	Thiruvalla	Mean	Rank
1	Co 10004	51.61	60.23	86.08	111.80	73.54	76.40	107.67	84.60*	83.00	55.28	79.02	
2	Co 10005	91.33	40.99	84.40	107.50	82.66*	85.70	123.94*	59.90	73.00	68.68	81.81	5
3	Co 10006	43.18	45.25	43.89	105.80	65.67	77.57	88.61	42.20	60.33	64.44	63.69	
4	Co 10024	102.61	81.84*	82.84	109.80	84.16*	74.80	117.39*	66.50	69.33	65.90	85.51	2
5	Co 10026	131.75*	47.84	82.55	114.70*	105.40*	83.90	114.86	114.00*	80.67	83.61*	95.96	1
6	Co 10027	90.82	83.41*	91.88	105.30	90.85*	101.50	115.82	37.20	60.67	58.40	83.58	3
7	CoT 10366	81.23	58.95	67.95	103.80	73.82	120.80*	96.01	72.40*	74.33	58.75	80.80	
8	CoT 10367	67.61	72.50*	66.47	98.70	95.19*	110.00	129.63*	54.70	86.00	53.61	83.44	4
Standards													
1	CoC 671	81.81	54.01	72.93	91.66	61.17	77.60	112.99	57.30	62.33	66.74	73.85	
2	Co 94008	64.60	50.03	77.04	89.35	65.72	103.90	103.81	48.10	89.00	67.15	75.87	
3	Co 85004	118.29	51.36	71.05	97.16	65.15	99.70	86.60	52.10	75.33	61.32	77.80	
	Grand mean	84.08	58.76	75.19	103.23	78.48	91.99	108.85	62.65	74.00	63.99		
	SE	16.70	3.77	6.15	5.30	3.19	-	1.31	3.95	3.71	3.54		
	CD	5.62	11.11	18.60	15.62	9.40	10.10	3.88	12.20	10.95	10.06		
	CV	11.58	11.10	14.16	8.89	7.03	6.80	2.09	8.43	8.69	9.58		
Qualifying entries at each centre													
1		Co 10026	Co 10027	Co 10027	Co 10026	Co 10026	CoT 10366	CoT 10367	Co 10026		Co 10026	Co 10026	
2			Co 10024	Co 10004	Co 10004	CoT 10367			Co 10004				
3			CoT 10367		Co 10024	Co 10027			CoT 10366				

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

Qualifying entries: Co 10004 (5), Co 10026 (5), Co 10024 (4), Co 10027 (3), CoT 10367 (3), CoT 10366 (3), Co 10005 (2)

Performance across the locations: All the entries except Co 10006 performed better than best the check, Co 85004 (77.80 t/ha) in the zone. Co 10026 (95.96 t/ha) ranked first in the zone with 23.35% improvement over the best standard. The entries Co 10004 & Co 10026 showed more than 10% improvement over the best check at five locations each followed by Co 10024 at four locations, Co 10027, CoT 10367 & Co 10366 at three locations each and Co 10005 at two locations.

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Table 2.2.3 CCS % at harvest

S. No.	Entries	Coimbatore	Akola	Kolhapur	Navsari	Padegaon	Perumallapalle	Pravaranagar	Pune	Sanke shwar	Thiruvalla	Mean	Rank
1	Co 10004	13.51	9.82	14.52	11.57	13.36	13.17	13.54	11.50	12.41	13.58	12.70	5
2	Co 10005	14.48	9.04	16.28	11.12	13.01	11.95	11.93	11.10	12.03	13.27	12.42	
3	Co 10006	13.24	9.81	14.85	10.55	13.64	10.74	12.83	10.20	11.96	12.87	12.07	
4	Co 10024	14.06	9.19	14.46	10.55	13.77	11.08	13.10	11.30	11.81	11.93	12.13	
5	Co 10026	12.46	9.47	13.93	11.65	13.96	10.03	14.29	12.00	12.65	13.35	12.38	
6	Co 10027	14.35	10.44	14.76	11.61	13.09	13.17	13.31	12.00	12.26	13.76	12.88	4
7	CoT 10366	13.37	9.82	13.29	10.85	12.60	12.61	13.51	10.30	11.78	12.32	12.04	
8	CoT 10367	13.70	9.51	15.80	10.46	13.79	13.45	12.69	13.10*	14.75	13.96	13.12	1
Standards													
1	CoC 671	15.34	8.62	15.35	11.97	13.47	13.84	12.82	11.50	13.58	12.96	12.95	2
2	Co 94008	12.28	10.17	13.31	11.01	11.88	12.67	11.78	11.00	12.41	12.76	11.93	
3	Co 85004	13.61	9.50	15.03	11.30	13.24	13.24	13.19	12.30	13.32	14.13	12.89	3
	Grand mean	13.67	9.58	14.69	11.15	13.26	12.36	13.00	11.49	12.63	13.17		
	SE	1.08	0.36	0.33	0.26	0.25	-	0.41	0.20	0.65	0.27		
	CD	0.36	NS	0.99	0.76	0.75	0.30	1.21	0.60	1.93	0.76		
	CV	4.61	6.47	3.84	3.99	3.32	1.50	5.50	2.40	8.96	3.53		
Qualifying entries at each centre													
	1			Co 10005				Co 10026	CoT 10367	CoT 10367			
	2												
	3												

*Significant at 5% level

Qualifying entries: CoT 13067 (2), Co 10005 (1), Co 10026 (1),

Performance across locations: The entry CoT 13067 (13.12%) recorded higher CCS than the best standard CoC 671 (12.95%) and ranked as first in the zone. It showed more than 5% improvement over the best check at Pune and Sankeshwar centres. The test entries Co 10005 and Co 10026 recorded more than 5% improvement over the best check at Kolhapur and Pravaranagar respectively.

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Table 2.2.4 Sucrose% at harvest

S. No.	Entries	Coimbatore	Akola	Kolhapur	Navsari	Padegaon	Perumallapalle	Pravaranagar	Pune	Sanke shwar	Thiruvalla	Mean	Rank
1	Co 10004	19.19	15.52	20.22	16.37	18.60	18.40	19.06	16.60	18.05	19.47	18.15	5
2	Co 10005	19.99	14.26	22.47	16.01	18.34	17.00	17.44	16.10	17.91	18.99	17.85	
3	Co 10006	18.89	14.98	20.73	15.39	18.98	15.40	18.34	14.90	17.61	18.45	17.37	
4	Co 10024	19.87	14.42	20.22	15.27	19.20	15.70	18.34	16.30	17.46	17.12	17.39	
5	Co 10026	17.96	14.87	19.55	16.73	19.43	14.50	20.26*	17.10	18.67	19.13	17.82	
6	Co 10027	20.28	15.70	20.69	16.64	18.44	18.20	18.43	17.20	17.90	19.71	18.32	4
7	CoT 10366	19.56	14.86	18.40	15.72	17.67	13.30	18.98	15.00	17.53	17.65	16.87	
8	CoT 10367	20.05	14.94	21.96	15.46	19.47	18.07	18.39	18.40*	21.24	19.99	18.79	1
Standards													
1	CoC 671	21.09	14.32	21.47	16.86	19.00	19.30	18.26	17.00	19.86	18.54	18.57	2
2	Co 94008	17.65	15.24	18.65	16.18	17.02	17.30	16.90	15.70	18.24	18.24	17.11	
3	Co 85004	19.42	15.00	21.05	16.35	18.49	18.10	18.59	17.70	19.51	20.22	18.44	3
	Grand mean	19.45	14.92	20.49	16.09	18.60	16.84	18.45	16.50	18.54	18.86		
	SE	1.64	0.30	0.38	0.33	0.32	-	0.44	0.20	0.83	0.38		
	CD	0.55	NS	1.15	0.96	0.93	0.60	1.29	0.63	2.46	1.08		
	CV	4.91	3.52	3.22	3.50	2.93	1.90	4.13	1.73	7.78	3.50		
Qualifying entries at each centre													
	1							Co 10026			CoT 10367		
	2												
	3												

*Significant at 5% level

Qualifying entries: Co 10026 (1), CoT 13067 (1)

Performance across locations: The test entry CoT 13067 ranked first in the zone with 18.79% sucrose content and it recorded more than 5% improvement over the best standard at Sankeshwar centre. Co 10026 recorded 5% improvement over the best standard at Pravaranagar.

Table 2.2.5 Brix % at harvest

S. No.	Entries	Coimbatore	Akola	Kolhapur	Navsari	Padegaon	Perumallapalle	Pravara nagar	Pune	Sanke shwar	Thiruvalla	Mean
1	Co 10004	20.90	20.69	21.05	17.66	19.38	20.50	20.32	19.30	20.68	21.67	20.21
2	Co 10005	22.10	18.96	22.90	17.96	19.65	19.60	20.15	19.00	21.51	21.00	20.29
3	Co 10006	20.78	18.86	21.71	17.73	19.71	18.10	20.25	17.80	20.68	20.50	19.61
4	Co 10024	21.39	19.02	21.23	17.31	20.05	18.00	19.29	18.60	20.68	19.07	19.47
5	Co 10026	20.18	19.63	20.73	18.69	20.21	17.30	21.95	19.20	22.01	21.23	20.12
6	Co 10027	21.83	19.20	21.88	18.50	19.71	19.60	18.92	19.50	20.68	21.87	20.17
7	CoT 10366	20.62	18.37	18.90	17.90	18.71	18.50	20.15	17.80	21.01	19.57	19.16
8	CoT 10367	21.53	19.70	22.73	18.28	20.88	18.40	20.89	19.90	23.84	22.17	20.84
	Standards											
1	CoC 671	23.00	20.58	22.57	18.01	20.38	21.40	20.02	19.90	23.01	20.50	20.93
2	Co 94008	20.05	18.53	19.69	18.96	18.88	18.30	18.79	17.60	21.34	20.17	19.23
3	Co 85004	21.37	19.97	22.21	18.51	19.38	19.20	19.89	20.30	22.68	22.37	20.59
	SE	1.26	0.37	0.32	0.32	0.28	-	0.55	0.16	0.79	0.42	
	CD	0.42	1.09	0.96	0.94	0.83	0.90	1.63	0.49	2.34	1.20	
	CV	3.45	3.29	2.55	3.05	2.46	2.90	4.77	1.19	6.35	3.49	

Table 2.2.6 Purity % at harvest

S. No.	Entries	Coimbatore	Akola	Kolhapur	Navsari	Padegaon	Perumallapalle	Pravara nagar	Pune	Sanke shwar	Thiruvalla	Mean
1	Co 10004	91.81	75.01	96.06	92.64	95.98	89.76	93.77	86.20	87.27	89.15	89.77
2	Co 10005	90.73	75.22	98.12	89.13	93.35	86.74	86.48	84.70	83.43	89.65	87.76
3	Co 10006	90.90	79.51	95.45	86.78	96.24	85.08	91.23	83.80	85.12	89.19	88.33
4	Co 10024	92.87	76.15	95.23	88.19	95.77	87.22	91.55	87.30	84.40	88.94	88.76
5	Co 10026	89.11	75.94	94.30	89.49	96.13	83.84	91.61	88.80	84.83	89.32	88.33
6	Co 10027	92.90	81.74	94.58	89.93	93.51	91.94	95.49	88.10	86.58	89.41	90.42
7	CoT 10366	91.66	80.91	97.33	87.83	94.42	93.71	91.89	84.30	83.44	89.38	89.49
8	CoT 10367	92.76	75.82	96.56	84.54	93.21	98.19	88.04	92.10	88.92	89.47	89.96
	Standards											
1	CoC 671	93.52	69.74	95.16	93.67	93.21	90.20	88.22	85.20	86.13	89.65	88.47
2	Co 94008	89.06	82.28	94.76	85.39	90.15	93.55	88.71	89.10	85.50	89.66	88.82
3	Co 85004	90.88	75.20	94.82	88.29	95.41	94.27	91.34	87.00	85.73	89.68	89.27
	SE	NS	2.37	1.16	0.94	0.79	-	1.51	0.58	1.72	0.23	
	CD	1.10	7.00	NS	2.78	2.32	3.70	4.45	1.80	5.07	NS	
	CV	2.08	5.34	2.11	1.84	1.44	2.40	2.88	0.95	3.48	0.44	

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Table 2.2.7 Pol% Cane at harvest

S. No.	Entries	Coimbatore	Akola	Kolhapur	Navsari	Padegaon	Perumallapalle	Pravara nagar	Pune	Sanke shwar	Thiruvalla	Mean
1	Co 10004	14.66			12.51	14.35			12.50	13.62		13.87
2	Co 10005	14.87			12.24	12.78			11.90	12.96		13.17
3	Co 10006	14.34			11.71	15.01			11.30	13.79		13.53
4	Co 10024	15.00			11.68	15.13			12.40	13.12		13.63
5	Co 10026	13.83			12.62	15.34			12.90	14.45		14.00
6	Co 10027	15.34			12.78	14.01			13.00	14.05		14.14
7	CoT 10366	15.08			11.91	13.39			11.40	13.40		13.34
8	CoT 10367	15.28			11.70	14.56			13.80	16.13		14.40
	Standards											
1	CoC 671	16.30			12.73	14.07			12.90	14.50		14.13
2	Co 94008	13.28			12.28	12.29			11.70	13.85		13.11
3	Co 85004	14.62			12.43	13.09			13.10	15.31		13.92
	SE	1.31			0.24	0.26			0.18	0.64		
	CD	0.04			0.71	0.76			0.55	1.90		
	CV	5.16			3.39	3.18			2.04	7.89		

Table 2.2.8 Extraction % at harvest

S. No.	Entries	Coimbatore	Akola	Kolhapur	Navsari	Padegaon	Perumalpal	Pravara nagar	Pune	Sanke shwar	Thiruvalla	Mean
1	Co 10004	47.93			60.49	52.81		46.58	58.10	59.40	61.75	55.29
2	Co 10005	41.76			57.49	54.76		51.41	53.60	65.06	59.17	54.75
3	Co 10006	44.08			57.82	52.87		52.48	53.10	54.37	63.04	53.97
4	Co 10024	45.67			61.83	55.57		54.72	59.70	54.62	60.97	56.15
5	Co 10026	42.93			57.53	50.73		49.81	60.70	60.13	61.97	54.82
6	Co 10027	45.68			59.79	50.81		51.51	51.80	61.25	61.81	54.67
7	CoT 10366	40.41			60.49	52.50		52.99	49.30	52.46	60.24	52.62
8	CoT 10367	42.90			57.50	50.54		51.66	53.70	58.43	59.00	53.39
	Standards											
1	CoC 671	43.95			59.99	52.37		49.61	52.90	55.96	63.03	53.97
2	Co 94008	42.11			55.98	50.94		52.67	53.30	56.86	58.76	52.94
3	Co 85004	42.23			57.53	51.42		52.62	54.60	62.8	59.66	54.41
	SE	NS			1.29	1.16		0.92	0.79	4.30	1.71	
	CD	1.73			NS	NS		2.73	2.44	12.69	NS	
	CV	6.89			3.81	3.86		3.12	2.03	12.78	4.87	

Table 2.2.9 Fibre % at harvest

S. No.	Entries	Coimbatore	Akola	Kolhapur	Navsari	Padegaon	Perumalappalle	Pravara nagar	Pune	Sanke shwar	Thiruvalla	Mean
1	Co 10004	13.60			13.52	14.30			14.60	14.54		14.12
2	Co 10005	15.61			13.55	14.88			16.00	17.65		15.53
3	Co 10006	14.11			13.89	13.10			14.00	11.70		13.37
4	Co 10024	14.48			13.47	13.26			13.60	14.81		13.93
5	Co 10026	13.04			14.55	13.16			14.40	12.57		13.55
6	Co 10027	14.34			13.22	13.69			14.50	11.49		13.44
7	CoT 10366	12.92			14.27	14.34			14.00	13.67		13.85
8	CoT 10367	13.78			14.30	14.69			14.80	14.02		14.33
	Standards											
1	CoC 671	12.74			14.47	14.73			14.20	12.94		13.82
2	Co 94008	14.74			14.14	15.38			15.40	14.07		14.74
3	Co 85004	14.75			13.93	15.31			16.20	15.75		15.18
	SE	NS			0.29	0.37			0.30	0.53		
	CD	0.77			0.86	1.09			0.94	1.57		
	CV	9.50			3.62	4.49			2.93	6.63		

Table 2.2.10 Number of millable canes ('000/ha) at harvest

S. No.	Entries	Coimbatore	Akola	Kolhapur	Navsari	Padegaon	Perumallapalle	Pravara nagar	Pune	Sanke shwar	Thiruvalla	Mean
1	Co 10004	40.16	50.39	80.73	109.20	53.30	42.80	85.24	60.20	62.70	65.07	64.98
2	Co 10005	86.40	51.23	83.51	104.20	74.07	77.40	118.00	62.60	87.97	77.22	82.26
3	Co 10006	51.33	56.56	56.08	102.70	62.85	63.50	84.93	55.40	91.35	77.22	70.20
4	Co 10024	87.91	55.71	80.90	107.30	70.14	74.10	96.26	73.00	85.35	76.60	80.73
5	Co 10026	111.23	47.84	82.23	108.00	80.84	76.50	105.27	85.00	86.49	85.28	86.86
6	Co 10027	81.66	65.74	85.82	101.60	70.37	75.50	92.99	49.20	77.94	64.86	76.57
7	CoT 10366	72.11	58.95	57.47	100.60	59.32	75.80	82.09	60.40	94.45	69.10	73.03
8	CoT 10367	61.34	60.42	60.94	95.89	68.52	69.70	95.45	53.30	83.18	63.89	71.26
	Standards											
1	CoC 671	72.34	54.00	67.59	89.72	57.70	67.80	90.85	50.90	72.83	76.32	70.01
2	Co 94008	68.81	50.31	75.12	89.25	62.85	81.40	94.96	48.50	78.88	68.96	71.91
3	Co 85004	126.56	64.2	76.62	99.73	69.39	67.40	98.59	95.70	101.50	66.94	86.66
	SE	9.94	2.79	5.45	4.42	1.50	-	1.27	2.75	7.70	4.02	
	CD	3.35	8.23	16.50	13.05	4.42	7.70	3.77	3.74	22.72	11.42	
	CV	7.41	8.63	12.87	7.60	3.91	5.30	2.33	6.21	15.90	9.67	

Table 2.2.11 Stalk length (cm) at harvest

S. No.	Entries	Coimbatore	Akola	Kolhapur	Navsari	Padegaon	Perumallapalle	Pravara nagar	Pune	Sanke shwar	Thiruvalla	Mean
1	Co 10004	215.00	185.00	183.70	259.80	218.30	237.00	254.33	201.00	170.20	246.00	217.00
2	Co 10005	173.33	172.00	177.00	256.20	240.00	225.30	264.33	184.00	169.00	223.00	208.40
3	Co 10006	163.33	163.00	144.30	239.30	178.30	243.70	180.33	153.00	117.30	216.00	179.80
4	Co 10024	178.33	217.00	170.20	274.00	183.30	274.70	212.66	176.00	145.10	239.00	207.00
5	Co 10026	191.67	195.00	181.00	273.10	230.00	212.70	255.66	252.00	156.60	223.00	217.00
6	Co 10027	178.33	168.00	166.00	250.00	175.00	208.30	162.66	123.00	114.10	208.00	175.30
7	CoT 10366	185.00	188.00	160.70	239.30	185.00	277.00	199.33	163.00	143.80	212.00	195.30
8	CoT 10367	155.00	173.00	162.30	256.20	205.00	266.30	220.66	145.00	162.40	188.00	193.40
	Standards											
1	CoC 671	150.00	166.00	146.70	236.60	180.00	239.00	199.33	147.00	145.00	219.00	182.80
2	Co 94008	161.67	173.00	173.00	248.20	215.00	244.30	217.33	135.00	173.90	222.00	196.30
3	Co 85004	175.00	172.00	150.00	247.70	186.70	178.30	179.66	166.00	149.10	185.00	178.90
	SE	18.80	4.63	6.69	8.22	3.77	-	1.01	2.73	14.81	6.659	
	CD	6.33	13.67	20.23	24.24	11.11	9.60	3.00	8.42	43.68	18.93	
	CV	6.26	4.48	7.02	5.63	3.27	3.20	0.82	2.27	17.13	5.33	

Table 2.2.12 Stalk diameter (cm) at harvest

S. No.	Entries	Coimbatore	Akola	Kolhapur	Navsari	Padegaon	Perumalpal	Pravara nagar	Pune	Sanke shwar	Thiruvalla	Mean
1	Co 10004	3.05	3.00	2.31	2.47	3.00	2.80	2.45	3.19	2.55	2.68	2.75
2	Co 10005	2.63	2.49	2.16	2.57	2.90	2.40	2.29	2.78	2.21	2.26	2.47
3	Co 10006	2.62	2.35	1.93	2.61	2.63	2.30	2.37	2.46	2.37	2.58	2.42
4	Co 10024	2.97	2.79	2.44	2.72	3.00	2.70	2.43	2.69	2.47	2.57	2.68
5	Co 10026	2.76	2.45	2.09	2.75	2.90	2.60	2.57	3.08	2.46	2.55	2.62
6	Co 10027	2.89	2.98	2.24	2.58	3.03	2.80	2.45	3.01	2.76	2.72	2.75
7	CoT 10366	3.00	2.83	2.38	2.51	2.93	2.70	2.42	3.15	2.60	2.61	2.71
8	CoT 10367	2.85	2.87	2.27	2.62	2.90	2.70	2.38	2.95	2.78	2.47	2.68
	Standards											
1	CoC 671	2.93	2.77	2.32	2.71	2.73	2.40	2.25	2.84	2.64	2.77	2.64
2	Co 94008	2.86	2.81	2.48	2.65	2.80	2.20	2.43	3.04	2.84	2.49	2.66
3	Co 85004	2.58	2.72	2.07	2.47	2.53	2.10	2.24	2.47	2.46	2.31	2.40
	SE	0.26	0.05	0.11	0.04	0.05	-	0.06	0.03	0.08	0.08	
	CD	0.09	0.15	0.32	0.12	0.15	0.10	0.17	0.10	0.24	NS	
	CV	5.25	3.20	8.20	2.76	3.15	2.20	4.35	1.55	5.53	5.37	

Table 2.2.13 Single cane weight (kg) at harvest

S. No.	Entries	Coimbatore	Akola	Kolhapur	Navsari	Padegaon	Perumallapalle	Pravara nagar	Pune	Sanke shwar	Thiruvalla	Mean
1	Co 10004	1.29	1.20	0.98	1.15	1.38	1.40	1.40	1.46	1.28	1.53	1.31
2	Co 10005	1.07	0.80	0.71	1.21	1.12	1.10	1.14	1.01	0.81	1.19	1.02
3	Co 10006	0.88	0.80	0.65	1.15	1.05	1.20	1.02	0.81	0.56	1.37	0.95
4	Co 10024	1.14	1.47	0.89	1.32	1.20	1.30	1.40	0.94	0.81	1.35	1.18
5	Co 10026	1.15	1.00	0.69	1.25	1.30	1.10	1.19	1.38	0.91	1.45	1.14
6	Co 10027	1.05	1.27	0.69	1.12	1.29	1.30	1.28	0.77	0.77	1.62	1.12
7	CoT 10366	1.11	1.00	0.93	1.23	1.25	1.50	1.34	1.21	0.77	1.46	1.18
8	CoT 10367	1.07	1.20	0.97	1.14	1.39	1.60	1.41	1.08	1.03	1.22	1.21
	Standards											
1	CoC 671	1.16	1.00	0.99	1.31	1.06	1.10	1.32	1.18	0.83	1.56	1.15
2	Co 94008	0.90	1.00	1.03	1.20	1.05	1.30	1.07	1.03	1.09	1.29	1.10
3	Co 85004	0.81	0.80	0.65	1.00	0.94	1.10	0.90	0.79	0.65	1.05	0.87
	SE	0.14	0.05	0.04	0.05	0.04		0.01	0.03	0.09	0.06	
	CD	0.05	0.15	0.12	0.14	0.13	0.10	0.04	0.08	0.27	0.16	
	CV	7.88	8.33	8.42	7.03	6.55	3.40	2.33	3.37	18.47	7.15	

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

S. No.	Entries	Coimbatore	Akola#	Kolhapur#	Navsari#	Padegaon#	Perumallapalle#	Pravara nagar	Pune#	Sanke shwar	Thiruvalla#	Mean
1	Co 10004	42.82	53.16	90.39	128.60	56.71	70.00	128.05	104.00		68.75	82.55
2	Co 10005	87.15	65.97	90.45	124.70	66.90	114.10	136.32	130.00		79.93	99.51
3	Co 10006	49.31	75.08	65.68	121.70	58.80	73.70	118.42	119.00		79.44	84.55
4	Co 10024	85.59	88.12	84.20	133.50	62.04	108.50	126.61	142.00		75.00	100.60
5	Co 10026	105.15	63.04	89.35	131.20	76.85	112.40	138.50	151.00		85.83	106.00
6	Co 10027	85.13	91.20	93.81	119.10	66.44	132.40	121.98	146.00		66.67	102.60
7	CoT 10366	70.25	72.92	74.07	131.40	66.44	90.90	127.57	109.00		69.86	90.32
8	CoT 10367	65.10	77.39	66.26	132.80	72.45	87.00	123.00	110.00		66.87	89.03
	Standards											
1	CoC 671	73.73	56.33	79.98	116.40	66.20	94.73	130.82	112.00		77.57	89.73
2	Co 94008	70.20	53.86	86.17	112.80	69.91	111.60	124.22	101.00		73.61	89.23
3	Co 85004	109.26	93.13	88.95	129.00	77.78	96.90	142.67	148.00		68.33	106.00
	SE	7.50	7.68	6.72	4.60	4.12	-	0.89	4.07		3.58	
	CD	2.52	22.65	NS	13.58	12.16	11.60	2.62	12.60		10.17	
	CV	5.70	18.51	14.08	6.35	10.61	7.70	1.19	4.52		8.40	

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

S. No.	Entries	Coimbatore	Akola	Kolhapur	Navsari	Padegaon	Perumallapalle	Pravara nagar	Pune	Sanke shwar	Thiruvalla	Mean
1	Co 10004	45.20	47.15		125.60	64.81	66.90	99.35			76.87	75.12
2	Co 10005	83.45	59.65		121.90	115.50	103.00	102.98			83.89	95.76
3	Co 10006	76.45	77.78		118.00	90.51	58.97	96.14			81.39	85.61
4	Co 10024	91.26	84.10		124.10	112.00	92.70	94.35			80.55	97.01
5	Co 10026	98.09	73.77		125.70	113.40	103.90	111.13			92.71	102.70
6	Co 10027	91.67	96.84		114.00	119.90	112.00	95.68			76.94	101.00
7	CoT 10366	82.23	74.00		118.50	109.30	87.30	100.56			76.18	92.57
8	CoT 10367	73.03	74.31		125.20	90.05	84.40	101.60			75.42	89.15
	Standards											
1	CoC 671	85.30	66.98		113.30	76.16	84.80	105.12			82.01	87.67
2	Co 94008	67.71	52.39		109.70	74.07	105.00	102.86			77.43	84.17
3	Co 85004	98.77	81.10		119.20	109.50	90.20	102.50			71.80	96.15
	SE	12.23	7.35		3.54	5.11	-	1.18			3.98	
	CD	4.12	21.69		10.45	15.06	9.80	3.51			NS	
	CV	8.78	17.78		5.13	9.05	6.20	2.03			8.66	

2.2.16. Assessment of entries by monitoring team

Entry / Locations	Perumalapalle	Pugalur	Coimbatore	Thiruvalla	Mandya	Sankeshwar	Sameerwadi	Kohlapur
Co 10004	Poor	Trial is unfit for scoring due to water stress	Poor	Poor	Poor	Poor	Due to water-scarcity, the trial was not irrigated. Hence, it is unfit for scoring.	Poor
Co 10005	Poor		On-par	On-par	Poor	Poor		On-par
Co 10006	Poor		Poor	On-par	Poor	Poor		Poor
Co 10024	Better		Better	Better	Poor	Poor		On-par
Co 10026	Poor		On-par	Poor	Poor	Better	Poor	
Co 10027	On-par		Better	On-par	Poor	Poor	On-par	
CoT 10366	Better		Better	On-par	Poor	Poor	<i>The clones Co 10005, Co 10026 & CoT 10367 alone have survived under drought.</i>	Better
CoT 10367	On-par		On-par	On-par	Poor	On-par		On-par
Best standard	Co 94008		CoC 671	CoC 671	Co 94008	Co 85004		

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Entries	Navsari	VSI, Pune	Padegaon	Pravara nagar	Akola	Pawar kheda	Rudrur
Co 10004	On par	On par	Better	Poor	Poor	P	N
Co 10005	Better	On par	On par	Better	Better		O
Co10006	Poor	On par	Better	Better	Better		T
Co10024	Better	On par	On par	On par	On par	O	
Co 10026	Poor	On par	On par	On par	Better		C
Co 10027	On par	Poor	Poor	Better	On par		O
CoT10366	Poor	On par	Better	Better	On par	O	N
CoT10367	On par	On par	Better	Better	On par		D
Co 85004(C)	On par	Best	Poor	On par	Best		U
Co 94008(C)	Poor	On par	Best	Best	Better	R	C
CoC 671(C)	Best	Poor	Poor	Poor	Poor		T

Annexure: Performance of entries at Powerkheda

S. No.	Clone	CCS t/ha	Cane yield t/ha	Brix % (9 m)	Sucrose % (9 m)	Purity % (9 m)	CCS % (9 m)	NMC at 9 m ('000/ha)
1	Co 10004	12.59	53.98	22.40	19.25	85.92	13.13	54.15
2	Co 10005	12.24	94.50	22.48	19.33	85.95	13.19	105.94
3	Co 10006	12.11	52.56	21.72	18.57	85.48	12.63	52.68
4	Co 10024	12.98	84.37	23.35	20.20	86.46	13.82	88.52
5	Co 10026	12.95	75.71	23.19	20.04	86.39	13.71	78.84
6	Co 10027	14.12	71.41	24.74	21.58	87.25	14.83	71.63
7	CoT 10366	13.24	70.02	23.51	20.36	86.58	13.94	72.09
8	CoT 10367	13.46	80.23	23.96	20.80	86.83	14.26	79.16
9	CoC 671	13.86	97.64	24.74	21.59	87.25	14.84	104.62
10	Co 94008	12.91	75.40	23.14	19.98	86.35	13.67	78.06
11	Co 85004	13.06	93.36	23.59	20.44	86.62	14.00	95.96
	CD at 5 %	0.79	9.44	1.09	1.09	0.63	0.80	5.68
	CV	2.83	5.74	2.19	2.53	0.34	2.70	3.32

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S. No.	Clone	Stalk Length (m)	Stalk Diameter (cm)	Single cane weight (kg)	No. of tillers ('000/ha)	No. of tillers ('000/ha)
					120days	90 days
1	Co 10004	1.88	2.51	1.65	57.36	59.07
2	Co 10005	2.14	2.31	1.68	110.15	111.86
3	Co 10006	2.19	2.43	1.50	56.89	58.60
4	Co 10024	2.11	2.54	1.62	92.72	94.43
5	Co 10026	2.29	2.50	1.65	84.48	86.19
6	Co 10027	2.03	2.70	1.88	77.84	79.55
7	CoT 10366	2.83	2.64	1.68	76.73	78.44
8	CoT 10367	2.11	2.63	1.58	90.04	91.75
9	CoC 671	2.61	2.54	1.93	108.83	110.54
10	Co 94008	2.21	2.48	1.65	82.27	83.98
11	Co 85004	2.25	2.45	1.80	104.17	105.88
	CD at 5%	0.33	0.19	0.12	10.65	10.65
	CV	6.83	3.53	3.31	5.84	5.73

2.3 Advanced Varietal Trial – Early: Peninsular Zone

2.3 Mean performance of two plant and one ratoon crops (2015—2017)

Sixteen centers conducted Advanced Varietal Trial Early I Plant Crop during 2015-16 and 13 centers conducted AVT II Plant crop during 2016-17. Kawardha and Rudrur centres did not conduct any of the Advanced Varietal Trial. Basmathnagar reported that the trails were vitiated due to severe drought condition. AVT ratoon trial was conducted in only 10 centers in the zone. For estimation of pooled mean of plant crops, the trials which recorded lower cane yield compared to the respective state average and for ratoon trials the centers which recorded 15% lower than the respective state average were not considered. AVT I Plant and Ratoon trials at Akola, AVT II Plant at Pugalur, AVT Ratoon at Pune, AVT II Plant at Sameerwadi and AVT Ratoon at Thiruvalla were not considered. Mean performance of eight early entries in relation to zonal standards at 16 centers in terms of weighted average is presented in tables 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:

Five test entries viz., Co 10026 (13.85 t/ha), Co 10027 (13.60 t/ha) CoT 10367 (13.44 t/ha), Co 10005 (13.37 t/ha) and Co 10024 (13.27 t/ha) recorded higher sugar yield (t/ha) compared to the best standard CoC 671 (12.39 t/ha). The entry Co 10026 ranked first in the zone and has shown an improvement of 11.81% over the best standard CoC 671. It performed extremely well in all the locations except Kolhapur, Powarkheda and Pugalur.

2.3.2 Cane yield t/ha:

For cane yield, all the test entries except Co 10006 performed better than the best standard Co 85004 (92.48 t/ha). The entry Co 10026 was best in the zone with a cane yield of 109.01 t/ha followed by Co 10005 (105.29 t/ha). The entry Co 10026 has shown an improvement of 17.97 % in cane yield over the best standard Co 85004. It also performed extremely well in 12 centres except Akola, Kolhapur, Powarkheda and Pugalur.

2.3.3. CCS %:

None of the test entries performed better than the best standard CoC 671 (13.37%) for CCS. Among the entries, CoT 10367 recorded the highest CCS of 12.97%.

2.3.4. Sucrose %:

For juice sucrose also, none of the test entries performed better than the best standard CoC 671. The standard CoC 671 recorded a juice sucrose of 18.95 % and among the entries, CoT 10367 recorded a sucrose of 18.49% followed by Co 10027 (18.34%)

Overall performance: Based on the weighted average of two plant and one ratoon crop at 16 centres, the entry Co 10026 had shown 11.81% and 17.88% improvement over the best standard for sugar yield and cane yield respectively. None of the test entries was numerically superior to the standards for juice quality, hence no qualifying entry could be identified.

Table 2.3.1 Pooled Mean CCS t/ha at harvest

S	Entries	Coimbatore				Akola				Basmatnagar				Kolhapur			
		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
1	Co 10004	16.62	15.40	6.95	12.99	6.17	8.55	5.95	6.89	7.17			7.17	16.36	12.72	12.49	13.86
2	Co 10005	16.75	19.99	13.23	16.66	6.63	9.17	3.70	6.50	8.33			8.33	15.99	13.35	13.74	14.36
3	Co 10006	13.83	11.40	5.70	10.31	5.36	9.69	4.43	6.49	7.88			7.88	10.74	6.84	6.53	8.04
4	Co 10024	19.41	17.81	14.40	17.21	10.79	8.84	7.57	9.07	9.89			9.89	17.08	12.04	11.98	13.70
5	Co 10026	22.69	22.31	16.40	20.47	9.64	9.46	4.56	7.89	7.31			7.31	13.65	12.17	11.52	12.45
6	Co 10027	19.54	16.73	13.01	16.43	8.03	11.18	8.76	9.32	15.22			15.22	18.10	14.07	13.56	15.24
7	CoT 10366	14.70	16.19	10.80	13.90	8.72	9.24	5.79	7.92	7.06			7.06	9.54	8.77	8.85	9.05
8	CoT 10367	15.31	16.13	9.27	13.57	9.88	9.22	6.9	8.67	11.08			11.08	16.27	9.74	10.49	12.17
	Stds																
9	CoC 671	19.43	17.11	12.53	16.36	9.28	8.83	4.65	7.59	14.87			14.87	17.63	12.96	11.19	13.93
10	Co 94008	12.92	13.79	7.92	11.54	6.28	8.72	5.08	6.69	11.07			11.07	14.29	11.94	10.25	12.16
11	Co 85004	16.76	15.62	16.08	16.15	5.67	9.67	4.88	6.74	7.20			7.20	10.84	11.42	10.64	10.97
	GM	17.09	16.59	11.48	15.05	7.86	9.32	5.66	7.61	9.73			9.73	14.59	11.46	11.02	12.36

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Mandya				Navsari				Padegaon				Perumallapalle				Powarkheda			
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	AVT IP	AVT IIP	AVT Ratoon	Mean
8.68	14.28		11.48	13.75	14.96	12.97	13.89	12.24	11.88	9.82	11.31	9.35	9.60	10.06	9.67	7.06			7.06
8.80	13.73		11.27	12.30	15.33	11.97	13.20	13.69	11.67	10.76	12.04	15.83	10.50	10.24	12.19	13.29			13.29
11.06	11.84		11.45	12.48	13.62	11.18	12.43	12.09	9.87	8.96	10.31	5.93	13.30	11.16	10.13	6.74			6.74
10.27	13.06		11.67	15.42	15.68	11.55	14.22	14.15	11.93	11.59	12.56		12.90	8.29	10.60	11.94			11.94
10.87	13.20		12.04	14.36	14.27	13.44	14.02	17.09	16.66	14.7	16.15	13.73	13.40	7.79	11.64	10.67			10.67
9.43	12.49		10.96	13.11	14.26	12.22	13.20	15.52	14.27	11.91	13.90		15.60	13.37	14.49	10.71			10.71
9.87	12.38		11.13	15.78	14.14	11.26	13.73	13.39	11.87	9.31	11.52	11.85	16.50	10.58	12.98	9.85			9.85
9.77	11.63		10.70	15.59	13.15	10.35	13.03	14.65	16.17	13.13	14.65	19.60	20.40	16.25	18.75	10.55			10.55
8.90	9.75		9.33	14.34	12.03	10.98	12.45	13.28	9.63	8.21	10.37	8.17	11.50	10.75	10.14	15.03			15.03
9.26	11.13		10.20	13.92	12.36	9.82	12.03	12.50	9.74	7.81	10.02	8.28	8.10	12.87	9.75	10.37			10.37
9.63	10.94		10.29	14.51	12.96	11.00	12.82	13.97	9.43	8.62	10.67	11.83	14.20	14.56	13.53	13.28			13.28
9.69	12.22		10.95	14.14	13.89	11.52	13.18	13.87	12.10	10.44	12.14	11.62	13.27	11.45	12.11	10.86			10.86

Varietal Improvement Programme- AICRP (Sugarcane)
Principal Investigator's Report (2016-17)
Peninsular zone Pooled data of two plant and ratoon-Early

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
15.47	14.27	14.57	14.77	13.19	9.22		11.21	13.14	13.87	9.74	12.25	12.90	4.37		8.64
18.79	16.73	14.79	16.77	16.64	9.83		13.24	13.07	13.21	6.63	10.97	15.97	5.87		10.92
12.08	12.00	11.38	11.82	10.00	8.08		9.04	8.01	8.53	4.31	6.95	11.57	4.26		7.92
18.94	15.34	15.39	16.56	17.04	8.75		12.90	12.63	11.32	7.57	10.51	10.79	4.18		7.49
15.99	17.09	16.42	16.50	11.55	9.42		10.49	13.39	13.65	13.7	13.58	14.30	6.72		10.51
17.13	16.27	15.41	16.27	13.8	10.41		12.11	11.72	10.04	4.47	8.74	19.75	5.54		12.65
12.92	13.31	12.95	13.06	12.31	8.16		10.24	11.58	10.02	7.45	9.68	11.50	6.84		9.17
19.34	18.44	16.45	18.08	13.23	11.97		12.60	9.87	10.29	7.17	9.11	10.92	4.54		7.73
17.08	15.83	14.47	15.79	15.59	9.87		12.73	11.43	12.00	6.64	10.02	11.44	5.34		8.39
14.04	12.27	12.22	12.84	11.66	9.27		10.47	9.20	9.39	5.31	7.97	11.35	4.01		7.68
11.59	12.00	11.42	11.67	13.22	11.77		12.50	9.87	9.89	6.41	8.72	11.69	5.37		8.53
15.76	14.87	14.13	14.92	13.48	9.70		11.59	11.26	11.11	7.22	9.86	12.93	5.19		9.06

Sankeshwar				Sirugamani				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*	Mean	AVT IP	AVT IIP	AVT Ratoon		
9.33	9.55	10.29	9.72	17.70			17.70	5.12	10.60	7.50	7.74	12.35	12.33	11.02	12.06	
11.1	8.82	8.74	9.55	17.90			17.90	7.04	13.54	9.14	9.91	14.18	13.28	11.92	13.37	4
5.86	8.48	7.29	7.21	17.50			17.50	5.84	10.86	8.26	8.32	10.41	10.58	8.89	10.14	
10.84	11.70	8.29	10.28	17.40			17.40	5.49	13.50	7.84	8.94	14.29	13.10	11.64	13.27	5
12.49	11.77	10.21	11.49	16.20			16.20	8.72	14.57	11.17	11.49	13.88	14.41	12.93	13.85	1
8.37	9.18	7.44	8.33	15.20			15.20	5.30	12.92	8.05	8.76	14.43	13.36	12.42	13.60	2
8.65	7.69	8.76	8.37	16.40			16.40	5.28	13.36	7.24	8.63	11.81	12.13	10.36	11.61	
13.09	10.68	12.77	12.18	15.60			15.60	5.00	10.63	7.49	7.71	13.92	13.32	12.67	13.44	3
7.53	8.17	8.61	8.10	15.50			15.50	9.45	11.73	8.63	9.94	13.59	11.78	10.96	12.39	6
11.25	10.22	11.05	10.84	16.00			16.00	6.22	11.86	8.55	8.88	11.87	10.87	10.28	11.17	
8.00	10.02	10.04	9.35	16.10			16.10	4.68	12.48	8.67	8.61	12.04	11.69	11.77	11.86	
9.68	9.66	9.41	9.58	16.50			16.50	6.19	12.37	8.41	8.99	12.94	12.44	11.35		

*Trials were not included for calculating overall mean since the trial average for cane yield was lower than respective state average

Table 2.3.2 Pooled Mean Cane yield t/ha at harvest

S No	Entries	Coimbatore				Akola				Basmatnagar				Kolhapur			
		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
1	Co 10004	118.43	118.35	51.61	96.13	67.34	70.63	60.23	66.07	60.22			60.22	118.34	94.75	86.08	99.72
2	Co 10005	128.32	157.4	91.33	125.68	59.91	72.69	40.99	57.86	65.40			65.40	101.06	89.69	84.4	91.72
3	Co 10006	108.58	95.30	43.18	82.35	51.90	76.77	45.25	57.97	64.62			64.62	71.41	48.56	43.89	54.62
4	Co 10024	136.4	136.87	102.61	125.29	87.92	66.36	81.84	78.71	80.73			80.73	115.38	90.72	82.84	96.31
5	Co 10026	173.1	177.05	131.75	160.63	78.61	74.48	47.84	66.98	62.76			62.76	92.42	91.06	82.55	88.68
6	Co 10027	135.34	131.47	90.82	119.21	64.58	87.79	83.41	78.59	124.48			124.48	124.83	98.46	91.88	105.06
7	CoT 10366	119.61	137.35	81.23	112.73	74.91	74.57	58.95	69.48	62.07			62.07	70.91	70.5	67.95	69.79
8	CoT 10367	111.03	120.12	67.61	99.59	83.96	74.75	72.5	77.07	90.28			90.28	105.36	68.65	66.47	80.16
	Stds																
9	CoC 671	128.42	128.64	81.81	112.96	76.67	73.35	54.01	68.01	120.09			120.09	118.5	87.95	72.93	93.13
10	Co 94008	106.15	116.61	64.6	95.79	63.03	71.99	50.03	61.68	103.33			103.33	70.82	90.36	77.04	79.41
11	Co 85004	131.07	131.25	118.29	126.87	55.14	78.56	51.36	61.69	67.11			67.11	101.49	80.12	71.05	84.22
	GM	126.95	132.05	84.08	114.36	69.45	74.72	58.76	67.65	81.92			81.92	99.14	82.70	75.19	85.67

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Mandya				Navsari				Padegaon				Perumallapalle				Powarkheda			
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	AVT IP	AVT IIP	AVT Ratoon	Mean
76.16	78.54		77.35	106.57	119.10	111.82	112.50	91.20	93.82	73.54	86.19	76.22	71.60	76.40	74.74	54.48			54.48
73.96	115.25		94.61	100.18	109.68	107.48	105.78	97.34	95.20	82.66	91.73	118.94	91.90	85.70	98.85	102.00			102.00
96.44	75.17		85.81	94.63	101.44	105.75	100.61	83.85	77.55	65.67	75.69	50.02	98.80	77.57	75.46	54.06			54.06
91.96	94.97		93.47	115.00	122.20	109.80	115.67	107.50	95.50	84.16	95.72		103.50	74.80	89.15	87.21			87.21
99.53	94.33		96.93	110.92	108.29	114.72	111.31	119.40	125.53	105.39	116.77	119.41	109.50	83.90	104.27	78.89			78.89
85.31	95.62		90.47	107.87	104.65	105.26	105.93	103.10	108.11	90.85	100.69		111.40	101.50	106.45	72.91			72.91
97.51	94.52		96.02	121.11	105.94	103.82	110.29	96.70	99.65	73.82	90.06	101.92	153.60	120.80	125.44	71.52			71.52
84.84	96.21		90.53	118.79	104.12	98.70	107.20	92.13	119.56	95.19	102.29	157.35	142.10	110.00	136.48	74.89			74.89
79.22	82.63		80.93	108.24	93.84	91.66	97.91	90.34	76.67	61.17	76.06		80.5	77.6	79.05	100.8			100.80
80.67	92.15		86.41	115.64	94.48	89.35	99.82	89.18	82.82	65.72	79.24	69.62	68.5	103.9	80.67	76.9			76.90
78.88	88.41		83.65	109.63	93.84	97.16	100.21	95.02	78.00	65.15	79.39	91.84	104.2	99.7	98.58	96.61			96.61
85.86	91.74		88.80	109.87	105.58	103.23	106.23	96.89	96.19	78.48	90.52	98.17	103.83	91.99	97.99	79.12			79.12

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
113.42	111.35	107.67	110.81	127.19	75.86		101.53	108.3	103.92	84.57	98.93	10.50	45.93		75.47
140.7	128.67	123.94	131.10	152.8	81.42		117.11	112.6	98.87	59.94	90.47	146.00	58.8		102.40
86.24	91.74	88.61	88.86	103.99	66.95		85.47	66.92	72.26	42.18	60.45	98.00	44.44		71.22
137	136.01	117.39	130.13	166.70	70.77		118.74	99.89	83.47	66.47	83.28	100.00	41.85		70.93
123.76	123.48	114.86	120.70	109.54	81.53		95.54	109.8	105.65	114.35	109.93	118.00	72.69		95.35
117.98	118.65	115.82	117.48	146.58	88.77		117.68	91.09	79.87	37.15	69.37	160.00	58.24		109.12
97.28	87.6	96.01	93.63	126.27	75.00		100.64	106.4	82.96	72.38	87.25	111.00	72.5		91.75
139.9	132.95	129.63	134.16	130.03	97.79		113.91	80.12	77.61	54.67	70.80	99.00	45.46		72.23
116.41	112.07	112.99	113.82	127.89	82.58		105.24	89.32	84.12	57.26	76.90	90.00	53.15		71.58
105.28	101.74	103.81	103.61	122.21	77.71		99.96	82.47	76.34	48.14	68.98	98.00	40.74		69.37
83.59	87.96	86.60	86.05	124.41	95.02		109.72	78.65	71.49	52.06	67.40	101.00	54.54		77.77
114.69	112.38	108.85	111.97	130.69	81.10		105.89	93.23	85.39	62.65	80.42	111.45	53.61		82.53

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Sankeshwar				Sirugamani				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*	Mean	AVT IP	AVT IIP	AVT Ratoon		
78.52	93.22	83.00	84.91	135.70			135.70	40.97	80.28	55.28	58.84	97.84	94.14	84.30	93.61	6
89.88	84.39	73.00	82.42	140.40			140.40	57.36	107.50	68.68	77.85	112.11	104.66	92.64	105.29	2
53.4	71.78	60.33	61.84	138.10			138.10	55.62	86.53	64.44	68.86	83.59	81.45	69.29	79.72	
86.7	114.22	69.33	90.08	136.40			136.40	50.42	115.69	65.90	77.34	112.37	105.41	91.56	105.20	3
98.31	108.31	80.67	95.76	131.10			131.10	68.33	110.00	83.61	87.31	110.50	111.61	101.98	109.01	1
72.23	91.78	60.67	74.89	123.10			123.10	42.36	95.90	58.4	65.55	112.68	102.15	93.83	104.69	4
78	83.98	74.33	78.77	130.10			130.10	46.18	111.25	58.75	72.06	99.31	100.17	88.28	97.20	7
101.4	112.42	86.00	99.94	131.70			131.70	37.36	78.40	53.61	56.46	108.34	102.44	93.37	103.04	5
57.18	86.45	62.33	68.65	119.30			119.30	72.08	91.04	66.74	76.62	96.12	90.66	80.07	90.73	
86.94	110.11	89.00	95.35	125.80			125.80	56.46	95.35	67.15	72.99	95.22	90.95	84.77	91.47	
61.11	89.94	75.33	75.46	131.20			131.20	41.52	90.62	61.32	64.49	96.54	90.40	87.61	92.48	8
78.52	95.13	74.00	82.55	131.17			131.17	51.70	96.73	63.99	70.80	102.69	97.86	87.97		

*Trials were not included for calculating overall mean since the trial average for cane yield was lower than respective state average

Table 2.3.3 Pooled Mean CCS % at harvest

S No	Entries	Coimbatore				Akola				Basmath nagar				Kolhapur			
		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
1	Co 10004	14.04	12.99	13.51	13.51	9.17	12.11	9.82	10.37	11.9			11.90	13.34	13.08	14.52	13.65
2	Co 10005	13.05	12.70	14.48	13.41	11.10	12.59	9.04	10.91	12.74			12.74	15.02	13.86	16.28	15.05
3	Co 10006	12.74	11.94	13.24	12.64	10.31	12.66	9.81	10.93	12.20			12.20	13.77	13.10	14.85	13.91
4	Co 10024	14.26	13.00	14.06	13.77	12.26	13.27	9.19	11.57	12.25			12.25	13.26	12.83	14.46	13.52
5	Co 10026	13.10	12.62	12.46	12.73	12.34	12.69	9.47	11.50	11.65			11.65	14.17	13.03	13.93	13.71
6	Co 10027	14.45	12.71	14.35	13.84	12.60	12.76	10.44	11.93	12.24			12.24	14.04	13.50	14.76	14.10
7	CoT 10366	12.27	11.78	13.37	12.47	11.65	12.39	9.82	11.29	11.39			11.39	13.02	12.02	13.29	12.78
8	CoT 10367	13.75	13.43	13.70	13.63	11.74	12.30	9.51	11.18	12.27			12.27	14.36	13.76	15.80	14.64
	Stds																
9	CoC 671	15.16	13.30	15.34	14.60	12.11	12.06	8.62	10.93	12.38			12.38	14.40	13.90	15.35	14.55
10	Co 94008	12.15	11.75	12.28	12.06	10.08	12.05	10.17	10.77	10.75			10.75	14.19	12.63	13.31	13.38
11	Co 85004	12.76	11.92	13.61	12.76	10.28	12.31	9.50	10.70	10.74			10.74	13.96	13.78	15.03	14.26
	GM	13.43	12.52	13.67	13.21	11.24	12.51	9.58	11.11	11.86			11.86	13.96	13.24	14.69	13.96

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Mandya				Navsari				Padegaon				Perumallapalle				Powarkheda			
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	AVT IP	AVT IIP	AVT Ratoon	Mean
11.42	13.05		12.24	12.89	12.52	11.57	12.33	13.19	12.65	13.36	13.07	12.27	13.40	13.17	12.95	12.96			12.96
11.92	14.04		12.98	12.26	13.96	11.12	12.45	13.24	12.26	13.01	12.84	13.30	11.50	11.95	12.25	13.02			13.02
11.47	12.87		12.17	13.19	13.45	10.55	12.40	13.40	12.74	13.64	13.26	11.82	13.40	10.74	11.99	12.46			12.46
11.15	13.11		12.13	13.42	12.79	10.55	12.25	13.22	12.49	13.77	13.16		12.50	11.08	11.79	13.65			13.65
10.97	13.96		12.47	12.96	13.18	11.65	12.60	12.54	13.27	13.96	13.26	11.49	12.20	10.03	11.24	13.54			13.54
11.07	13.66		12.37	12.10	13.62	11.61	12.44	12.98	13.20	13.09	13.09		14.00	13.17	13.59	14.67			14.67
10.13	13.24		11.69	13.03	13.35	10.85	12.41	12.16	11.91	12.60	12.22	11.61	10.80	12.61	11.67	13.77			13.77
11.52	13.83		12.68	13.15	12.63	10.46	12.08	12.79	13.52	13.79	13.37	12.46	14.30	13.45	13.40	14.10			14.10
11.23	13.86		12.55	13.27	12.84	11.97	12.69	13.84	12.57	13.47	13.29	12.47	14.30	13.84	13.54	14.91			14.91
11.93	13.22		12.58	12.71	13.09	11.01	12.27	12.26	11.77	11.88	11.97	11.90	11.80	12.67	12.12	13.50			13.50
11.74	13.81		12.78	12.48	13.82	11.30	12.53	12.98	12.09	13.24	12.77	12.89	13.70	13.24	13.28	13.73			13.73
11.32	13.56		12.44	12.86	13.27	11.15	12.43	12.96	12.58	13.26	12.93	12.25	12.85	12.36	12.48	13.66			13.66

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
13.63	12.82	13.54	13.33	10.43	12.15		11.29	12.14	13.35	11.52	12.34	12.23	9.46		10.85
13.36	13.01	11.93	12.77	10.87	12.08		11.48	11.60	13.38	11.06	12.01	11.11	9.43		10.27
13.94	13.05	12.83	13.27	9.63	12.09		10.86	11.97	11.81	10.19	11.32	11.77	9.60		10.69
13.82	11.29	13.10	12.74	10.21	12.39		11.30	12.61	13.54	11.34	12.50	10.83	9.91		10.37
12.91	13.85	14.29	13.68	10.55	11.56		11.06	12.19	12.94	11.98	12.37	12.07	9.30		10.69
14.41	13.72	13.31	13.81	9.41	11.72		10.57	12.86	12.57	12.02	12.48	12.36	9.51		10.94
13.29	13.79	13.51	13.53	9.76	10.87		10.32	10.88	12.06	10.29	11.08	10.49	9.41		9.95
13.81	13.88	12.69	13.46	10.15	12.25		11.20	12.35	13.25	13.12	12.91	10.95	10.28		10.62
14.70	14.13	12.82	13.88	12.19	11.97		12.08	12.79	14.27	11.53	12.86	12.66	10.06		11.36
12.91	12.07	11.78	12.25	9.52	11.93		10.73	11.20	12.31	11.03	11.51	11.69	9.75		10.72
13.87	13.66	13.19	13.57	10.63	12.38		11.51	12.59	13.85	12.32	12.92	11.77	9.62		10.70
13.70	13.25	13.00	13.31	10.30	11.92		11.11	12.11	13.00	11.49	12.20	11.63	9.69		10.66

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Sankeshwar				Sirugamani				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*	Mean	AVT IP	AVT IIP	AVT Ratoon		
11.87	10.22	12.41	11.50	13.1			13.10	12.51	13.22	13.58	13.10	12.53	12.67	13.15	12.72	5
12.38	10.45	12.03	11.62	12.80			12.80	12.26	12.59	13.27	12.71	12.62	12.76	12.97	12.74	4
10.96	11.81	11.96	11.58	12.70			12.70	10.47	12.55	12.87	11.96	12.29	12.67	12.54	12.48	
12.52	10.25	11.81	11.53	12.70			12.70	11.12	11.69	11.93	11.58	12.61	12.43	12.69	12.56	
12.71	10.85	12.65	12.07	12.40			12.40	12.80	13.25	13.35	13.13	12.38	12.89	12.71	12.63	
11.58	10.01	12.26	11.28	12.40			12.40	12.48	13.46	13.76	13.23	12.66	13.02	13.22	12.91	
11.18	9.12	11.78	10.69	12.60			12.60	11.42	12.01	12.32	11.92	11.83	12.04	12.57	12.06	
12.92	9.50	14.75	12.39	11.80			11.80	13.38	13.59	13.96	13.64	12.60	13.09	13.52	12.97	2
13.15	11.14	13.58	12.62	13.00			13.00	13.10	12.86	12.96	12.97	13.30	13.20	13.77	13.37	1
12.88	9.29	12.41	11.53	12.70			12.70	10.99	12.45	12.76	12.07	12.16	12.04	12.19	12.13	
13.08	9.42	13.32	11.94	12.30			12.30	11.23	13.75	14.13	13.04	12.54	12.92	13.28	12.83	3
12.29	10.18	12.63	11.70	12.59			12.59	11.98	12.82	13.17	12.66	12.50	12.71	12.97		

*Trials were not included for calculating overall mean since the trial average for cane yield was lower than respective state average

Table 2.3.4 Pooled Mean Sucrose % at harvest

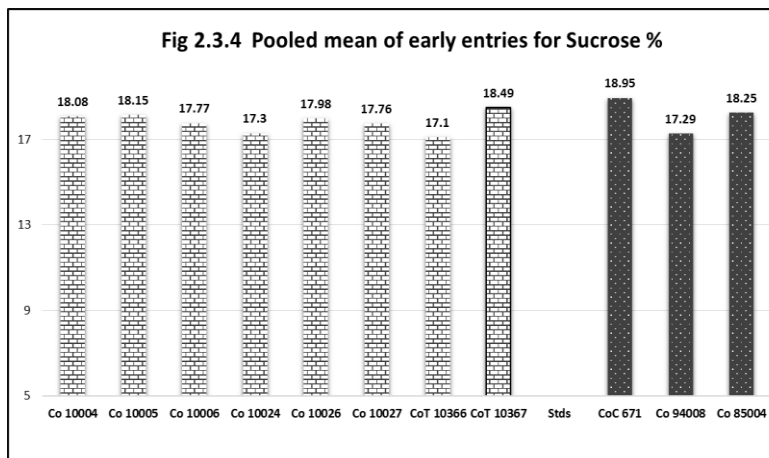
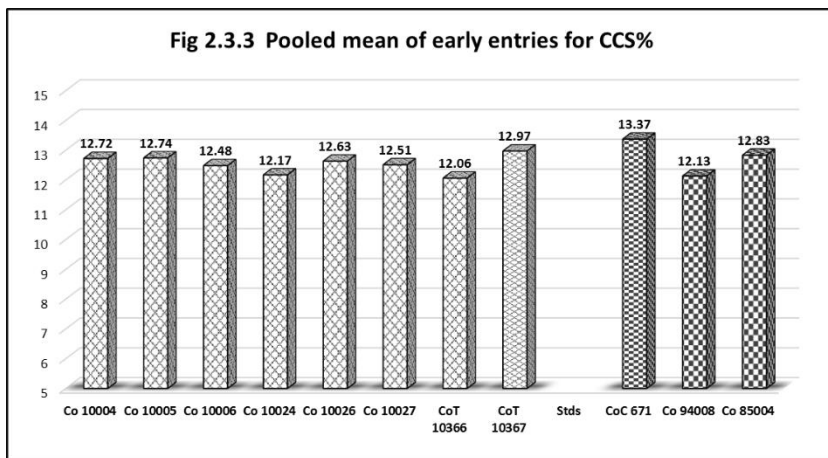
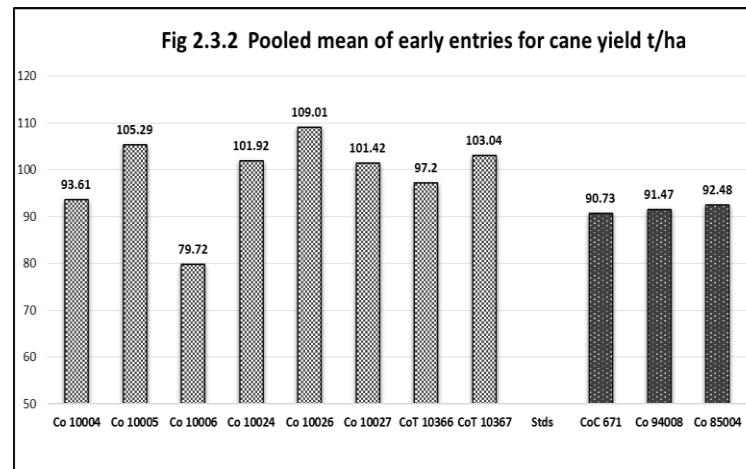
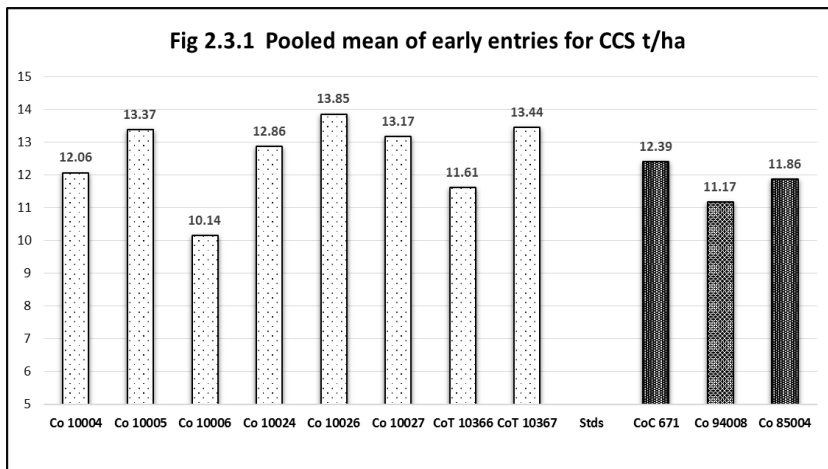
S No	Entries	Coimbatore				Akola				Basmatnagar				Kolhapur			
		AVT IP	AVT IIP	AVT Ratoon	Mean	AVT IP*	AVT IIP	AVT Ratoon*	Mean	AVT IP	AVT IIP	AVT Ratoon	Mean	AVT IP	AVT IIP	AVT Ratoon	Mean
1	Co 10004	19.81	18.54	19.19	19.18		17.61	15.52	16.57	16.93			16.93	18.50	18.31	20.22	19.01
2	Co 10005	18.60	18.30	19.99	18.96		17.65	14.26	15.96	18.41			18.41	20.67	19.50	22.47	20.88
3	Co 10006	18.11	17.15	18.89	18.05		18.05	14.98	16.52	17.60			17.60	19.02	18.52	20.73	19.42
4	Co 10024	20.12	18.46	19.87	19.48		18.56	14.42	16.49	17.56			17.56	18.51	18.01	20.22	18.91
5	Co 10026	18.60	18.01	17.96	18.19		17.79	14.87	16.33	17.10			17.10	19.55	18.30	19.55	19.13
6	Co 10027	20.35	18.12	20.28	19.58		17.08	15.70	16.75	17.57			17.57	19.33	19.05	20.69	19.69
7	CoT 10366	17.50	17.01	19.56	18.02		17.16	14.86	16.01	16.43			16.43	18.05	16.84	18.40	17.76
8	CoT 10367	19.48	19.06	20.05	19.53		17.97	14.94	16.46	17.48			17.48	20.03	19.40	21.96	20.46
	Stds																
9	CoC 671	21.30	19.07	21.09	20.49		17.63	14.32	15.98	17.58			17.58	19.97	19.69	21.47	20.38
10	Co 94008	17.37	17.05	17.65	17.36		17.42	15.24	16.33	15.42			15.42	19.61	17.73	18.65	18.66
11	Co 85004	18.23	17.12	19.42	18.26		17.98	15.00	16.49	15.60			15.60	19.25	19.43	21.05	19.91
	GM	19.04	17.99	19.45	18.83		17.78	14.92	16.35	17.06			17.06	19.32	18.62	20.49	19.48

Mandya				Navsari				Padegaon				Perumallapalle				Powarkheda			
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	AVT IP	AVT IIP	AVT Ratoon	Mean
16.38	18.37		17.38	18.07	18.19	16.37	17.54	18.50	17.62	18.60	18.24	17.77	18.40	18.40	18.19	19.02			19.02
17.00	19.72		18.36	17.40	19.51	16.01	17.64	18.70	17.33	18.34	18.12	19.15	15.80	17.00	17.32	19.10			19.10
16.52	18.15		17.34	18.84	19.34	15.39	17.86	18.63	17.86	18.98	18.49	17.24	18.30	15.40	16.98	18.34			18.34
15.95	18.39		17.17	18.96	18.69	15.27	17.64	18.58	17.56	19.2	18.45		16.90	15.70	16.30	19.97			19.97
15.79	19.64		17.72	18.45	18.84	16.73	18.01	17.95	18.56	19.43	18.65	16.70	16.60	14.50	15.93	19.81			19.81
15.98	19.26		17.62	18.19	19.29	16.64	18.04	18.21	18.54	18.44	18.40		19.10	18.20	18.65	21.35			21.35
14.69	18.6		16.65	18.81	18.86	15.72	17.80	17.21	16.66	17.67	17.18	16.86	15.60	13.30	15.25	20.13			20.13
16.52	19.37		17.95	18.61	18.55	15.46	17.54	17.98	18.9	19.47	18.78	17.93	19.40	18.07	18.47	20.57			20.57
16.14	19.49		17.82	18.69	18.67	16.86	18.07	19.2	17.63	19	18.61	17.98	19.50	19.30	18.93	21.69			21.69
16.92	18.73		17.83	17.99	18.82	16.18	17.66	17.41	16.66	17.02	17.03	17.25	15.80	17.30	16.78	19.75			19.75
16.69	19.36		18.03	18.22	19.26	16.35	17.94	18.35	17.12	18.49	17.99	18.58	18.50	18.10	18.39	20.07			20.07
16.23	19.01		17.62	18.38	18.91	16.09	17.79	18.25	17.68	18.60	18.18	17.72	17.63	16.84	17.40	19.98			19.98

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
19.61	18.24	19.06	18.97	15.1	17.39		16.25	16.94	18.65	16.63	17.41	17.65	14.24		15.95
19.28	18.58	17.44	18.43	15.78	17.44		16.61	16.43	18.7	16.11	17.08	16.25	14.31		15.28
19.97	18.24	18.34	18.85	13.94	17.41		15.68	16.62	16.72	14.92	16.09	16.91	14.24		15.58
19.7	16.25	18.34	18.10	14.81	17.69		16.25	17.46	18.91	16.26	17.54	15.81	14.66		15.24
18.65	19.56	20.26	19.49	15.31	16.69		16.00	17.04	18.07	17.06	17.39	17.28	14.03		15.66
20.68	19.32	18.43	19.48	13.77	16.92		15.35	17.93	17.65	17.17	17.58	17.83	14.2		16.02
19.23	19.19	18.98	19.13	14.06	15.69		14.88	15.28	16.9	15.03	15.74	15.72	13.93		14.83
19.94	19.21	18.39	19.18	14.68	17.63		16.16	17.25	18.52	18.35	18.04	16.06	15.14		15.60
21.05	19.79	18.26	19.70	17.42	17.25		17.34	17.98	19.93	17	18.30	18.01	14.94		16.48
18.62	16.73	16.9	17.42	13.96	17.18		15.57	15.81	17.3	15.67	16.26	17.11	14.46		15.79
20.06	18.98	18.59	19.21	15.38	17.87		16.63	17.61	19.36	17.7	18.22	17.13	14.33		15.73
19.71	18.55	18.45	18.91	14.93	17.20		16.06	16.94	18.25	16.54	17.24	16.89	14.41		15.65

Sankeshwar				Sirugamani				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*	Mean	AVT IP	AVT IIP	AVT Ratoon		
17.22	15.29	18.05	16.85	19.10			19.10	17.93	18.98	19.47	18.79	17.90	18.02	18.56	18.08	
17.95	15.57	17.91	17.14	18.20			18.20	17.57	18.01	18.99	18.19	18.07	18.06	18.45	18.15	5
16.13	17.33	17.61	17.02	17.80			17.80	15.00	18.00	18.45	17.15	17.55	17.97	17.91	17.77	
18.05	15.23	17.46	16.91	18.30			18.30	15.97	16.75	17.12	16.61	17.98	17.61	18.01	17.86	
18.23	16.10	18.67	17.67	17.50			17.50	18.38	18.98	19.13	18.83	17.71	18.22	18.16	17.98	
16.84	14.90	17.90	16.55	17.50			17.50	17.86	19.28	19.71	18.95	18.12	18.39	18.65	18.34	3
16.4	13.74	17.53	15.89	17.80			17.80	16.39	17.2	17.65	17.08	17.01	17.07	17.31	17.10	
18.62	14.35	21.24	18.07	17.80			17.80	19.19	19.49	19.99	19.56	18.07	18.57	19.23	18.49	2
18.81	16.44	19.86	18.37	18.40			18.40	18.82	18.39	18.54	18.58	18.87	18.75	19.41	18.95	1
18.25	14.05	18.24	16.85	17.90			17.90	15.75	17.8	18.24	17.26	17.38	17.10	17.42	17.29	
18.78	14.28	19.51	17.52	17.60			17.60	16.13	19.7	20.22	18.68	17.97	18.28	18.79	18.25	4
17.75	15.21	18.54	17.17	17.99			17.99	17.18	18.42	18.86	18.15	17.87	18.00	18.35		

*Trials were not included for calculating overall mean since the trial average for cane yield was lower than respective state average



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

Eight entries, Co 10004, Co 10005, Co 10006, Co 10024, Co 10026, Co 10027, CoT 10366 and CoT 10367 and three standards, CoC 671, Co 94008 and Co 85004 were evaluated during three crop cycles (I & II Plant crop and ratoon crop) at 16 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 1 to 3.

Results based on index of simultaneous selection of high CCS (t/ha) and stable genotypes revealed that three entries, Co 10024, Co 10005 and Co 10027 were at first, second and third rank, respectively. Such a ranking differed with the ranking based only on mean data of CCS(t/ha) presented in Table 1. Considering top three entries for high CCS (t/ha) and stable genotype, Co 10024, Co 10005 and Co 10027 were superior among the entries. These entries were better than the best standard Co 85004.

Results based on index of simultaneous selection for high cane yield (t/ha) and stable genotypes revealed that two entries Co 10024 and Co 10005 and standard Co 85004 were at first, second and third rank, respectively. Such a ranking differed with the ranking based only on mean data of cane yield (Table 2). Considering top two high yielding and stable genotypes, only Co 10024 and Co 10005 were superior among entries. These entries were also superior than the best standard Co 85004.

Results based on index of simultaneous selection for high sucrose (%) and stable genotypes revealed that three entries, Co 10004, Co 10026 and CoT 10367 were at first, second and third rank, respectively. Such a ranking differed with the ranking based only on mean data of sucrose content (Table 3). Considering top three high sucrose and stable genotypes, , Co 10004, Co 10026 and CoT 10367 were at first, second and third rank, respectively. However these entries were not numerically superior to CoC 671.

Co 10024 and Co 10005, 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, Co 85004. If we consider the values of sucrose (%), it's performance was slightly lower than the best standard CoC 671.

Table 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 10004	1.16	11.02	56.64	10	8	7
Co 10005	1.44	12.32	31.30	2	3	2
Co 10006	1.04	9.53	55.85	11	11	6
Co 10024	1.51	12.18	25.86	1	5	1
Co 10026	1.25	12.68	76.18	5	1	9
Co 10027	1.26	12.60	68.80	3	2	8
CoT 10366	1.23	10.79	40.21	6	9	5
CoT 10367	1.21	12.26	78.07	8	4	10
Standards						
CoC 671	1.17	11.91	84.41	9	6	11
Co 94008	1.23	10.53	37.36	7	10	3
Co 85004	1.26	11.07	39.54	4	7	4

Table 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 10004	1.17	87.10	2964.24	9	10	6
Co 10005	1.36	98.46	2272.01	2	3	4
Co 10006	1.14	76.62	2158.74	10	11	3
Co 10024	1.56	98.07	1366.91	1	4	1
Co 10026	1.24	101.43	4784.72	5	1	11
Co 10027	1.24	98.81	3967.93	4	2	9
CoT 10366	1.20	91.35	3266.15	7	6	7
CoT 10367	1.23	96.11	3659.91	6	5	8
Standards						
CoC 671	1.14	91.32	4543.29	11	7	10
Co 94008	1.19	87.46	2793.25	8	9	5
Co 85004	1.28	88.15	2057.15	3	8	2

Table 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 10004	1.36	17.84	4.87	1	6	1
Co 10005	1.23	17.86	7.78	6	5	9
Co 10006	1.22	17.42	7.29	9	9	6
Co 10024	1.23	17.56	7.35	7	8	8
Co 10026	1.29	17.71	5.97	2	7	2
Co 10027	1.26	18.07	7.23	5	3	5
CoT 10366	1.14	16.91	9.27	11	11	11
CoT 10367	1.29	18.23	6.64	3	2	3
Standards						
CoC 671	1.28	18.55	7.34	4	1	7
Co 94008	1.22	17.12	6.91	10	10	4
Co 85004	1.22	17.89	8.14	8	4	10

2.4. Advanced Varietal Trial I Plant – Early (2016-17)

Centers where trial was conducted (13)	Coimbatore, Akola, Kolhapur, Mandya, Navsari, Padegaon, Perumallapalle, Pravaranagar, Pugalur, Pune, Sameervadi, Sankeshwar, and Thiruvalla
Entries (5)	Co 11001, Co 11004, CoM 11081, Co 11082 and Co 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	2016-17
Crop duration	10 months

Results of the previous year: Thirteen early clones along with three checks have been evaluated at 17 centres during 2014- 15. None of the test entries performed better than the best standard CoC 671 (12.62 t/ha) for sugar yield at harvest. But the entries CoM 11083 and Co 11001 recorded CCS yield of 12.61 t/ha and 12.45 t/ha respectively. For cane yield, four entries viz., Co 11001 (107.20 t/ha), CoM 11083 (105.50 t/ha) and Co 11004 (97.30 t/ha) were recorded higher yield than the best check Co 94008 (97.10 t/ha). None of the test entries performed better than the best standard CoC 671 for CCS% and sucrose per cent.

Results of the current year: Five early clones were evaluated along with three standards at 13 centres during 2016-17. Basmathnagar, Kawardha, Powerkheda, Rudrur and Sirugamani centres did not conduct the trial. The test entry CoM 11082 (13.63 t/ha) was recorded higher sugar yield than the best standard CoC 671 (12.74 t/ha). It recorded more than 10% improvement in CCS yield over the best standard at seven locations and ranked as the first in the zone. Co 11001(12.50 t/ha) was the third best entry in the zone and showed significantly superior CCS yield over the best standard at three centres. 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). The entry CoM 11082 ranked first in the zone and it recorded more than 10% improvement in cane yield over the best standard at seven locations. Co 11001 ranked second in the zone and it also recorded more than 10% yield improvement over the best check at seven locations. None of the entries showed higher CCS % and sucrose per cent than the best standard CoC 671 (13.42% and 19.05% respectively) in this trial. The test entries Co 11004 and CoM 11082 ranked second and third positions respectively for CCS% (13.18% and 13.06% respectively) and sucrose per cent (18.89% and 18.75% respectively) in the zone. For cane parameters the best entry in this trial was CoM 11082 with 12.58% improvement over the best standard and it ranked as third in the zone for juice quality parameters but the values were numerically lesser than the best standard CoC 671. Among the test entries Co 11004 was the best entry for juice quality parameters, but inferior to CoC 671 and it recorded higher cane yield than the best standard CoC 671. None of the entry was identified as qualifying entry from this trial. The data are presented in the tables 2.4.1 to 2.4.20.

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Table 2.4.1 CCS t/ha at harvest

S. No.	Entries	Coimbatore	Akola	Kolhapur	Mandya	Navsari	Padegaon	Perumallapalle	Pravara nagar	Pugalur	Pune	Sameerwadi	Sanke shwar	Thiruvalla#	Mean	Rank
1	Co 11001	17.79	11.90	12.00	9.95	16.37*	9.81	16.15	18.95*	8.57	13.23	5.33	9.92	11.25*	12.50	3
2	Co 11004	16.76	9.64	10.50	12.21*	15.81	9.49	14.21	18.19	9.57	13.05	6.49	10.59	11.64*	12.21	4
3	CoM 11081	11.92	8.09	12.59	6.74	13.62	12.28	13.33	16.34	3.93	9.70	5.71	12.75	8.36	10.58	
4	CoM 11082	18.28	9.87	14.44	10.32	17.11*	16.80*	17.94	16.81	5.98	14.58	6.97	14.51	10.66	13.63	1
5	CoM 11084	12.72	10.62	13.89	10.96	15.01	12.10	12.08	16.91	7.79	11.91	3.93	9.00	11.02*	11.41	5
Standards																
1	CoC 671	18.56	9.84	12.59	10.84	14.14	10.59	17.00	17.15	10.95	12.81	5.97	12.38	8.31	12.74	2
2	Co 94008	14.52	9.20	12.35	10.84	13.62	9.53	17.11	13.60	8.04	9.24	5.09	10.46	9.43	11.13	
3	Co 85004	19.06	8.29	10.15	9.45	13.03	9.78	15.83	11.95	11.32	9.31	4.47	8.98	9.07	10.97	
	Grand mean	16.20	9.68	12.31	10.16	14.84	11.30	15.46	16.24	8.27	11.73	5.50	11.07	9.97		
	SE	1.15	0.91	0.88	-	0.73	0.67	-	0.59	0.72	0.96	1.00	1.22	0.45		
	CD	3.92	2.75	2.68	0.76	2.22	2.04	1.50	1.78	1.54	2.90	NS	3.69	1.29		
	CV	10.05	16.24	12.44	2.32	8.55	10.14	7.10	6.29	10.69	14.12	31.96	19.01	7.85		
Qualifying entries at each centre																
	1			CoM 11082	Co 11004	CoM 11082	CoM 11082		Co 11001		CoM 11082	CoM 11082	CoM 11082	Co 11004		
	2			CoM 11084		Co 11001	CoM 11081							Co 11001		
	3					Co 11004	CoM 11084							CoM 11084		

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

Qualifying entries: CoM 11082 (7), Co 11001 (3), Co 11004 (3), CoM 11084 (3), CoM 11081 (1)

Performance across locations: The test entry CoM 11082 (13.63 t/ha) recorded higher sugar yield than the best standard CoC 671 (12.74 t/ha) and ranked first in the zone. It recorded more than 10% improvement over the best standard at seven locations. Co 11001 (12.50 t/ha) ranked as third in the zone and it showed more than 10% improvement over the best check at three centres. The other qualifying entries are Co 11004 & CoM 11084 at three locations each and CoM 11081 at Padegaon centre.

Table 2.4.2 Cane yield t/ha at harvest

S. No.	Entries	Coimbatore	Akola	Kolhapur	Mandya#	Navsari#	Padegaon	Perumalpal	Pravara nagar	Pugalur	Pune	Sameerwadi	Sanke shwar	Thiruvalla	Mean	Rank
1	Co 11001	136.87	100.66*	85.82	105.20*	128.61*	97.80*	124.93	143.46*	72.97	103.61	61.85	84.49	82.64	103.86	2
2	Co 11004	118.35	78.55	71.21	112.30*	121.94*	80.73	111.43	134.04*	77.14	89.77	55.93	77.63	84.37	94.09	3
3	CoM 11081	89.01	63.19	88.41	69.82	118.24	96.80	104.43	121.17	32.35	68.32	53.89	81.88	64.24	82.29	
4	CoM 11082	133.88	84.51	98.72	116.25*	133.98*	126.22*	135.33	121.24	51.27	105.68	63.33	95.52	81.39	105.49	1
5	CoM 11084	97.22	85.55	97.80	114.60*	114.07	91.75	101.63	127.55	64.75	89.32	48.52	62.81	82.57	91.30	5
Standards																
1	CoC 671	125.03	77.87	86.22	84.50	106.76	85.77	119.57	120.74	96.64	87.36	50.46	83.65	63.68	93.71	4
2	Co 94008	115.58	72.51	89.66	93.25	101.39	78.23	145.30	105.70	69.79	72.89	51.39	85.19	77.78	90.07	
3	Co 85004	146.19	71.05	68.01	89.50	104.35	72.93	120.80	92.42	91.26	64.74	41.30	62.78	71.53	85.44	
	Grand mean	120.27	79.24	85.73	98.18	116.17	91.28	120.43	120.79	69.52	85.21	53.33	79.24	76.03		
	SE	7.91	5.94	5.24	-	4.74	3.85	-	2.25	5.30	6.31	6.78	8.90	3.51		
	CD	26.90	18.03	15.85	10.44	14.37	11.66	11.10	6.84	11.37	19.15	NS	26.99	9.98		
	CV	9.30	12.99	10.58	6.07	7.06	7.30	6.60	3.23	9.34	12.83	22.07	19.45	8.00		
Qualifying entries at each centre																
1			Co 11001	CoM 11082	CoM 11082	CoM 11082	CoM 11082		Co 11001		CoM 11082	CoM 11082	CoM 11082		CoM 11082	
2					CoM 11084	Co 11001	Co 11001		Co 11004		Co 11001	Co 11001			Co 11001	
3					Co 11004	Co 11004	CoM 11081									

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

Qualifying entries: Co 11001 (7), CoM 11082 (7), Co 11004 (3), CoM 11081 (2), CoM 11084 (1)

Performance across locations: Three entries viz., CoM 11082 (105.49 t/ha), Co 11001 (103.86 t/ha) and Co 11004 (94.09 t/ha) recorded higher cane yield than the best check CoC 671 (93.71 t/ha). The first ranked entry in the zone was CoM 11082 with 12.58% improvement over the best standard and recorded more than 10% yield improvement over the best standard at seven locations. Co 11001 and Co 11004 were at second and third positions respectively in the zone and had more than 10% improvement over the best check at seven and three centres respectively. Co 11001 showed 10.83% improvement in mean cane yield over the best check. The other qualifying entries were CoM 11081 at Padegaon and Navsari and CoM 11084 at Mandya.

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Table 2.4.3 CCS % at harvest

S. No.	Entries	Coimbatore	Akola	Kolhapur	Mandya	Navsari	Padegaon	Perumallapalle	Pravara nagar	Pugalur	Pune	Sameerwadi	Sanke shwar	Thiruvalla	Mean	Rank
1	Co 11001	12.96	11.86	11.97	12.61	12.72	10.04	12.93	13.21	11.73	12.74	8.44	11.76	13.61	11.91	
2	Co 11004	14.19	12.32	12.51	14.62*	12.93	13.03	12.75	13.58	12.41	14.51	11.72	13.63	13.77	13.18	2
3	CoM 11081	13.40	12.78	13.30	13.36	11.50	12.54	12.77	13.48	12.20	14.19	10.50	15.62	13.01	12.97	4
4	CoM 11082	13.66	11.71	12.16	13.91	12.77	13.71	13.26	13.87	11.69	13.80	11.00	15.20	13.11	13.06	3
5	CoM 11084	13.08	12.43	12.16	13.07	13.17	12.74	11.89	13.26	12.03	13.33	8.17	14.33	13.39	12.47	
Standards																
1	CoC 671	14.85	12.54	12.68	13.85	13.25	12.83	14.22	14.20	11.34	14.65	11.80	14.78	13.04	13.42	1
2	Co 94008	12.56	12.62	12.25	12.25	13.43	12.54	11.78	12.86	11.52	12.66	9.55	12.28	12.14	12.19	
3	Co 85004	13.04	11.78	13.39	13.71	12.49	12.76	13.10	13.21	12.41	14.39	10.87	14.30	12.65	12.95	5
	Grand mean	13.47	12.26	12.55	13.42	12.78	12.52	12.84	13.46	11.92	13.78	10.26	13.99	13.09		
	SE	0.19	0.46	0.15		0.24	0.35		0.42	0.38	0.22	0.71	0.40	0.29		
	CD	0.64	NS	0.45	0.63	0.73	1.06	0.50	1.30	0.82	0.65	2.15	1.20	0.82		
	CV	1.99	6.48	2.06	2.69	3.26	4.85	2.40	5.51	3.94	2.71	11.98	4.89	3.80		
Qualifying entries at each centre																
	1				Co 11004		CoM 11082						CoM 11081	Co 11004		
	2															
	3															

*Significant at 5% level

Qualifying entries: Co 11004 (2), CoM 11081 (1), CoM 11082 (1)

Performance across locations: None of the entries recorded higher CCS% than the best standard CoC 671 (13.42%). The test entries Co 11004 (13.18%) and CoM 11082 (13.06%) ranked second and third respectively in the zone. The entry Co 11004 showed more than 5% improvement over the best standard at two locations (Mandya & Thiruvalla) whereas the entries CoM 11081 & CoM 11082 were superior at Sankeshwar and Padegaon respectively.

Table 2.4.4 Sucrose% at harvest

S. No.	Entries	Coimbatore	Akola	Kolhapur	Mandya	Navsari	Padegaon	Perumallapalle	Pravaranaagar	Pugalur	Pune	Sameerwadi	Sanke shwar	Thiruvalla	Mean	Rank
1	Co 11001	18.17	17.38	17.18	18.22	18.37	14.84	17.40	18.85	16.76	17.93	12.80	17.41	19.49	17.29	
2	Co 11004	20.07	17.92	17.99	20.53*	18.49	18.43	17.20	19.42	17.76	20.19	17.13	19.77	19.71	18.89	2
3	CoM 11081	18.85	18.53	19.12	19.01	17.36	17.71	17.30	19.01	17.43	19.88	15.46	22.20*	18.60	18.49	5
4	CoM 11082	19.38	17.68	17.39	19.50	18.40	19.19	17.80	20.49	16.87	19.38	16.27	21.55	18.76	18.75	3
5	CoM 11084	18.53	17.88	17.45	18.82	18.63	18.05	16.30	18.94	17.26	18.59	12.46	20.16	19.19	17.86	
Standards																
1	CoC 671	20.92	18.47	18.20	19.49	18.99	18.24	19.20	20.21	16.32	20.37	17.12	20.90	18.69	19.05	1
2	Co 94008	17.98	17.81	17.54	17.64	18.88	17.71	16.30	18.20	16.64	17.81	14.25	17.64	17.35	17.33	
3	Co 85004	18.48	17.81	19.23	19.21	18.12	18.02	17.60	19.27	17.73	20.05	16.11	20.42	18.10	18.53	4
	Grand mean	19.05	17.94	18.01	19.05	18.41	17.77	17.39	19.30	17.10	19.28	15.20	20.01	18.74		
	SE	0.23	0.44	0.20	-	0.28	0.39	-	0.41	0.51	0.26	0.95	0.41	0.41		
	CD	0.77	NS	0.61	0.76	0.84	1.18	0.40	1.25	1.10	0.78	2.87	1.25	1.17		
	CV	1.69	4.28	1.93	2.28	2.61	3.79	1.20	3.72	3.70	2.32	10.81	3.58	3.80		
Qualifying entries at each centre																
	1				Co 11004		CoM 11082						CoM 11081	Co 11004		
	2															
	3															

*Significant at 5% level

Qualifying entries: Co 11004 (2), CoM 11081 (1), CoM11082 (1)

Performance across locations: None of the entries recorded higher juice sucrose per cent than the best standard CoC 671 (19.05%). Co 11004 (18.89%) ranked second in the zone and it had more than 5% improvement in sucrose per cent over the best standard at two centres, Mandya and Sankeshwar. Similarly CoM 11082 (18.75%) ranked third in the zone and it recorded more than 5% improvement in sucrose per cent over the best standard at Padegaon centre. The other entry which was showing more than 5% improvement over the best check was CoM 11081 at Sankeshwar centre.

Table 2.4.5 Brix % at harvest

S. No.	Entries	Coimbatore	Akola	Kolhapur	Mandya	Navsari	Padegaon	Perumalpal	Pravara nagar	Pugalur	Pune	Sameerwadi	Sanke shwar	Thiruvalla	Mean
1	Co 11001	19.20	20.23	19.12	20.50	20.74	17.54	17.80	21.38	18.48	19.72	15.88	20.68	21.60	19.45
2	Co 11004	21.66	20.53	20.12	21.67	20.46	19.87	17.70	20.35	19.66	21.65	19.80	22.51	21.83	20.60
3	CoM 11081	20.09	21.09	21.37	20.67	21.40	19.04	18.00	21.05	19.23	21.61	18.17	24.19	20.57	20.50
4	CoM 11082	21.05	21.78	19.22	20.50	20.66	20.21	18.43	22.38	19.02	21.19	19.27	23.35	20.77	20.60
5	CoM 11084	20.04	20.03	19.45	21.00	20.12	19.54	17.43	20.41	19.23	20.02	15.64	21.51	21.33	19.67
Standards															
1	CoC 671	22.38	21.67	20.29	20.67	21.13	19.87	19.80	22.11	18.27	21.80	19.54	22.51	20.73	20.83
2	Co 94008	19.90	19.13	19.45	19.67	20.08	19.04	17.80	18.81	18.76	19.56	17.17	19.68	19.17	19.09
3	Co 85004	20.03	21.98	21.45	20.17	20.66	19.37	17.93	20.55	19.57	21.59	19.14	22.51	20.00	20.38
	SE	0.24	0.49	0.23	-	0.23	0.24	-	0.58	0.50	0.22	0.90	0.36	0.46	
	CD	0.83	1.50	0.68	NS	0.69	0.74	0.60	1.76	1.07	0.66	2.73	1.09	1.31	
	CV	1.68	4.12	1.95	3.31	1.91	2.20	1.80	4.83	3.22	1.81	8.62	2.81	3.83	

Table 2.4.6 Purity % at harvest

S. No.	Entries	Coimbatore	Akola	Kolhapur	Mandya	Navsari	Padegaon	Perumalpal	Pravara nagar	Pugalur	Pune	Sameerwadi	Sanke shwar	Thiruvalla	Mean
1	Co 11001	92.01	85.97	89.86	88.52	88.58	84.60	97.76	88.13	90.66	90.90	80.21	84.28	89.50	88.54
2	Co 11004	92.66	87.98	89.43	94.30	90.37	92.64	97.19	91.30	90.35	93.28	86.37	87.83	89.56	91.02
3	CoM 11081	93.74	87.87	89.45	91.50	81.12	93.00	96.12	89.20	90.66	91.97	84.89	91.77	89.67	90.07
4	CoM 11082	92.07	81.33	90.50	94.65	89.02	94.95	96.58	91.46	88.69	91.43	84.42	92.28	89.55	90.53
5	CoM 11084	92.43	89.59	89.72	89.17	92.62	92.35	93.54	90.90	89.75	92.86	79.58	93.85	89.20	90.43
Standards															
1	CoC 671	93.46	85.22	89.70	93.82	89.93	91.71	96.98	91.42	89.27	93.29	87.69	92.82	89.36	91.13
2	Co 94008	90.35	93.15	90.17	89.17	94.04	93.06	91.58	94.10	88.67	91.73	82.59	89.71	89.68	90.62
3	Co 85004	92.29	81.00	89.70	94.75	87.70	93.01	98.14	90.83	90.59	92.87	84.14	90.75	89.68	90.42
	SE	0.25	2.80	0.43	-	0.95	1.46	-	1.03	0.49	0.56	1.33	1.86	0.13	
	CD	0.86	NS	NS	4.24	2.87	4.43	2.40	3.15	1.05	1.70	4.02	5.65	NS	
	CV	0.39	5.60	0.84	2.64	1.84	2.75	1.50	1.98	0.67	1.05	2.74	3.57	0.26	

Table 2.4.7 Pol% Cane at harvest

S. No.	Entries	Coimbatore	Akola	Kolhapur	Mandya	Navsari	Padegaon	Perumallapalle	Pravara nagar	Pugalur	Pune	Sameerwadi	Sanke shwar	Thiruvalla	Mean
1	Co 11001	14.02			12.38	14.00	11.30			13.79	13.66	9.34	13.50		13.26
2	Co 11004	15.09			12.92	14.09	13.78			14.59	15.03	12.51	14.51		14.49
3	CoM 11081	14.70			12.68	13.19	13.63			14.36	15.15	11.29	17.53		14.56
4	CoM 11082	14.64			11.99	14.04	14.49			13.92	14.70	11.88	15.81		14.35
5	CoM 11084	14.05			12.01	14.12	13.85			14.24	13.84	9.10	15.29		13.82
Standards															
1	CoC 671	15.81			12.65	14.48	13.63			13.47	15.29	12.50	15.79		14.68
2	Co 94008	13.22			11.17	14.38	13.27			13.72	13.20	10.40	13.62		13.42
3	Co 85004	13.87			12.11	13.71	13.44			14.58	14.89	11.76	14.90		14.12
	SE	0.18			-	0.20	0.27			0.43	0.19	0.69	0.34		
	CD	0.61			NS	0.61	0.83			0.93	0.59	2.10	1.04		
	CV	1.74			5.37	2.48	3.54			3.78	2.33	10.80	3.93		

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Table 2.4.8 Extraction % at harvest

S. No.	Entries	Coimbatore	Akola	Kolhapur	Mandya	Navsari	Padegaon	Perumallapalle	Pravara nagar	Pugalur	Pune	Sameerwadi	Sanke shwar	Thiruvalla	Mean
1	Co 11001	46.81			51.67	58.05	41.77		55.35		53.85		61.77	62.64	53.99
2	Co 11004	44.00			53.00	60.18	51.08		50.58		60.66		58.72	62.89	55.14
3	CoM 11081	47.11			57.67	56.08	51.27		52.95		52.98		62.39	62.34	55.35
4	CoM 11082	46.04			51.00	59.50	51.16		52.65		56.43		58.52	62.18	54.68
5	CoM 11084	40.42			59.67	57.19	51.37		47.87		58.64		54.80	63.28	54.15
Standards															
1	CoC 671	48.61			57.00	56.17	48.03		52.29		55.44		57.93	62.97	54.80
2	Co 94008	45.70			51.33	58.26	49.47		52.19		62.27		59.30	56.25	54.35
3	Co 85004	41.94			53.33	55.84	48.23		52.96		60.58		54.01	59.97	53.36
	SE	0.76			-	1.25	0.88		1.47		0.79		1.30	2.21	
	CD	2.60			4.95	NS	NS		4.46		2.40		3.97	NS	
	CV	2.40			5.21	3.77	2.91		4.89		2.38		3.88	6.13	

Table 2.4.9 Fibre % at harvest

S. No.	Entries	Coimbatore	Akola	Kolhapur	Mandya	Navsari	Padegaon	Perumallapalle	Pravara nagar	Pugalur	Pune	Sameerwadi	Sanke shwar	Thiruvalla	Mean
1	Co 11001	12.86			14.41	13.78	14.91			12.71	13.83		12.49		13.57
2	Co 11004	14.81			13.99	13.82	15.73			12.87	15.57		16.59		14.77
3	CoM 11081	12.05			13.41	14.01	14.42			12.63	13.74		11.00		13.04
4	CoM 11082	14.46			14.38	13.69	15.30			12.52	14.12		16.62		14.44
5	CoM 11084	14.16			13.93	14.21	14.52			12.50	15.54		14.16		14.15
Standards															
1	CoC 671	14.41			13.42	13.75	15.79			12.44	14.93		14.39		14.16
2	Co 94008	16.46			13.95	13.83	15.65			12.54	15.91		12.80		14.45
3	Co 85004	14.99			14.27	14.35	15.87			12.76	15.78		17.03		15.01
	SE	0.52			-	0.12	0.28			0.34	0.23		0.78		
	CD	1.78			NS	0.35	0.86			0.74	0.68		2.36		
	CV	5.17			5.14	1.45	3.21			3.35	2.62		9.36		

Table 2.4.10 Number of millable canes ('000/ha) at harvest

S. No.	Entries	Coimbatore	Akola	Kolhapur	Mandya	Navsari	Padegaon	Perumallapalle	Pravara nagar	Pugalur	Pune	Sameerwadi	Sanke shwar	Thiruvalla	Mean
1	Co 11001	97.11	57.95	84.09	96.75	107.59	86.34	98.43	110.46	118.01	85.77	83.90	71.15	77.99	90.43
2	Co 11004	95.14	52.47	79.75	96.26	113.79	83.10	80.40	107.01	114.40	77.81	63.89	63.35	71.11	84.50
3	CoM 11081	75.00	44.91	90.16	81.31	105.46	84.90	79.90	100.47	114.26	97.71	66.67	65.30	64.03	82.31
4	CoM 11082	74.19	43.75	93.23	98.80	110.18	94.68	76.10	103.97	74.50	70.64	68.33	62.93	70.14	80.11
5	CoM 11084	92.59	63.66	91.78	100.29	104.07	84.43	75.47	99.98	140.39	87.17	68.98	61.09	71.25	87.78
Standards															
1	CoC 671	72.69	52.16	72.69	80.53	94.53	83.33	83.87	87.85	109.39	68.87	84.26	61.39	75.35	78.99
2	Co 94008	75.35	52.08	74.25	83.96	94.16	79.22	102.33	95.99	112.87	62.34	51.67	63.04	75.76	78.69
3	Co 85004	107.41	65.43	82.87	93.29	97.87	99.02	107.87	99.33	149.01	96.25	68.70	60.27	79.86	92.86
	SE	4.82	2.58	5.78	-	3.91	1.67	-	1.50	8.80	4.18	9.50	6.29	3.33	
	CD	16.40	7.83	N.S.	14.61	11.85	5.06	9.70	4.56	18.87	12.68	NS	19.06	NS	
	CV	7.91	8.27	11.99	7.08	6.54	3.33	7.40	2.58	9.25	8.96	24.58	17.13	7.88	

Table 2.4.11 Stalk length (cm) at harvest

S. No.	Entries	Coimbatore	Akola	Kolhapur	Man dya	Nav sari	Padegaon	Perumallapalle	Pravara nagar	Pugalur	Pune	Sameer wadi	Sanke shwar	Thiruvalla	Mean
1	Co 11001	250.00	194.00	147.80	157.00	243.50	185.00	284.33	207.70	215.00	182.56	106.00	175.33	241.00	199.17
2	Co 11004	252.50	163.50	169.10	178.00	274.20	205.00	322.33	213.00	214.00	206.56	112.00	203.63	249.00	212.53
3	CoM 11081	217.50	159.00	177.30	153.00	230.70	188.33	283.67	216.70	200.00	145.44	90.00	217.67	212.00	191.64
4	CoM 11082	310.00	191.50	175.30	211.00	279.40	220.00	304.33	202.70	194.00	229.11	123.00	242.53	231.00	224.14
5	CoM 11084	225.00	158.50	162.20	201.00	255.40	190.00	296.33	182.00	215.00	195.78	111.00	191.33	268.00	203.97
Standards															
1	CoC 671	272.50	166.50	160.20	142.00	263.10	196.67	336.67	190.70	247.00	181.22	105.00	190.87	236.00	206.80
2	Co 94008	275.00	173.50	174.20	199.00	264.80	211.67	306.67	218.30	223.00	167.11	105.00	206.53	243.00	212.91
3	Co 85004	262.50	163.50	139.30	155.00	263.10	173.33	300.67	179.30	224.00	167.00	92.00	202.67	192.00	193.42
	SE	11.00	5.62	4.97	-	9.55	2.88	-	2.50	1.29	9.97	6.90	6.90	9.78	
	CD	37.42	17.04	15.04	55.00	28.98	8.73	15.70	7.59	27.00	30.24	NS	20.94	27.8	
	CV	6.03	5.68	5.28	18.01	6.38	2.54	2.90	2.15	7.35	9.37	11.33	5.87	7.24	

Table 2.4.12 Stalk diameter (cm) at harvest

S No.	Entries	Coimbatore	Akola	Kolhapur	Man dya	Nav sari	Padegaon	Perumallapalle	Pravara nagar	Pugalur	Pune	Sameer wadi	Sanke shwar	Thiruvalla	Mean
1	Co 11001	2.62	2.79	2.69	3.59	2.71	2.28	1.27	2.54	2.68	3.15	3.20	2.93	2.44	2.68
2	Co 11004	2.53	2.85	2.31	3.39	2.78	2.25	1.37	2.23	2.62	2.97	2.90	2.75	2.70	2.59
3	CoM 11081	2.57	2.78	2.58	2.93	2.62	2.39	1.30	2.32	2.71	2.73	2.80	2.64	2.61	2.54
4	CoM 11082	3.13	3.09	2.37	3.45	2.74	2.36	1.80	2.34	2.63	3.34	2.90	2.75	2.55	2.73
5	CoM 11084	2.11	2.56	2.36	3.13	2.60	1.86	1.33	2.29	2.27	2.95	2.70	2.53	2.81	2.42
Standards															
1	CoC 671	2.80	3.03	2.65	3.25	2.70	2.33	-	2.25	2.83	3.28	2.80	2.93	2.61	2.79
2	Co 94008	2.58	2.76	2.90	3.39	2.61	2.39	1.43	2.49	2.76	2.88	3.00	2.84	2.70	2.67
3	Co 85004	2.59	2.65	2.23	3.01	2.58	1.80	1.13	2.42	2.31	2.36	2.50	2.45	2.33	2.34
	SE	0.19	0.08	0.05	-	0.04	0.04	-	0.03	0.10	0.08	8.12	0.08	0.12	
	CD	NS	0.24	0.14	0.56	0.13	0.13	0.10	0.11	0.22	0.24	NS	0.24	NS	
	CV	10.27	4.96	3.22	9.76	2.69	3.47	2.40	2.78	4.81	4.68	0.13	4.96	8.17	

Table 2.4.13 Single cane weight (kg) at harvest

S. No.	Entries	Coimbatore	Akola	Kolhapur	Mandya	Navsari	Padegaon	Perumallapalle	Pravara nagar	Pugalur	Pune	Sameerwadi	Sanke shwar	Thiruvalla	Mean
1	Co 11001	1.27	1.75	0.90	1.09	1.23	1.13	1.27	1.35	1.13	1.33	0.73	1.27	1.39	1.22
2	Co 11004	1.22	1.50	0.82	1.17	1.25	0.97	1.37	1.32	1.03	1.27	0.67	1.22	1.58	1.18
3	CoM 11081	1.09	1.42	1.00	0.86	1.15	1.14	1.30	1.37	1.03	0.77	0.45	1.30	1.39	1.10
4	CoM 11082	1.83	1.92	1.02	1.18	1.33	1.33	1.80	1.39	1.00	1.61	0.77	1.50	1.32	1.38
5	CoM 11084	0.88	1.33	0.94	1.14	1.08	1.09	1.33	1.29	0.97	1.14	0.60	1.07	1.57	1.11
Standards															
1	CoC 671	1.75	1.50	0.96	1.05	1.27	1.03	-	1.35	1.40	1.31	0.60	1.41	1.47	1.26
2	Co 94008	1.43	1.42	1.08	1.11	1.18	0.99	1.43	1.20	1.20	1.24	0.74	1.36	1.30	1.21
3	Co 85004	1.14	1.08	0.63	0.96	1.15	0.74	1.13	1.12	0.83	0.76	0.45	0.97	1.05	0.92
	SE	0.03	0.12	0.04	-	0.04	0.03	-	0.02	0.05	0.04	0.07	0.08	0.76	
	CD	0.11	0.37	0.13	0.14	0.14	0.10	0.10	0.06	0.11	0.11	0.23	0.24	2.17	
	CV	3.43	14.36	8.32	7.26	6.46	5.38	4.10	3.00	5.87	5.19	20.69	11.06	9.57	

Table 2.4.14 Brix % at 8 months

S. No.	Entries	Coimbatore	Akola	Kolhapur	Mandya	Navsari	Padegaon	Perumallapalle	Pravara nagar	Pugalur	Pune	Sameerwadi	Sanke shwar	Thiruvalla	Mean
1	Co 11001	19.79	16.28		18.83	18.97	15.50	16.60	18.69	13.63		13.50	13.35	16.50	16.51
2	Co 11004	21.24	18.99		20.00	18.51	16.00	16.70	19.83	16.62		17.18	14.15	16.53	17.80
3	CoM 11081	20.75	19.05		19.67	18.75	17.50	17.40	20.53	16.98		15.36	15.32	16.07	17.94
4	CoM 11082	20.55	18.96		19.50	18.33	17.33	16.80	19.99	15.92		15.69	15.49	16.67	17.75
5	CoM 11084	19.68	17.85		18.83	19.27	16.17	16.60	20.03	16.95		14.76	14.22	15.73	17.28
Standards															
1	CoC 671	20.91	18.95		19.67	18.26	17.33	16.10	19.29	16.08		16.66	14.22	16.23	17.61
2	Co 94008	19.59	17.05		19.00	19.26	15.33	14.50	19.46	16.27		14.96	12.99	15.07	16.68
3	Co 85004	20.75	17.92		19.00	18.59	16.33	16.90	18.36	16.86		15.19	13.99	15.80	17.24
	SE	0.31	0.48		-	0.23	0.35	-	0.92	0.48		0.71	0.57	0.40	
	CD	1.04	1.45		NS	0.70	1.07	0.60	2.81	1.03		NS	1.73	NS	
	CV	2.12	4.57		4.97	2.13	3.73	2.20	8.23	3.62		7.98	6.94	4.30	

Table 2.4.15 Sucrose % at 8 months

S. No.	Entries	Coimbatore	Akola	Kolhapur	Mandya	Navsari	Padegaon	Perumallapalle	Pravaranaagar	Pugalur	Pune	Sameerwadi	Sanke shwar	Thiruvalla	Mean
1	Co 11001	17.84			17.29	16.90	12.85	16.30	17.46	11.52		10.63	8.88	14.86	14.45
2	Co 11004	19.53			18.26	16.54	13.66	15.70	19.14	14.53		14.84	9.93	14.84	15.70
3	CoM 11081	19.14			18.20	17.31	15.16	16.00	18.17	15.27		12.81	11.62	14.48	15.82
4	CoM 11082	18.31			17.73	16.89	14.91	15.80	18.24	13.29		13.14	11.55	14.93	15.48
5	CoM 11084	17.71			17.37	17.38	13.59	15.30	18.01	14.86		11.93	9.78	14.16	15.01
Standards															
1	CoC 671	19.08			18.12	16.00	14.74	15.30	18.11	13.93		14.35	10.61	14.71	15.50
2	Co 94008	17.42			17.20	17.35	12.32	13.80	18.21	14.20		12.15	8.74	13.62	14.50
3	Co 85004	18.73			17.44	16.72	13.65	16.40	17.29	15.03		12.47	10.36	14.33	15.24
	SE	0.33			-	0.28	0.42	-	0.76	0.38		0.87	0.45	0.33	
	CD	1.13			NS	0.84	1.27	0.40	2.30	0.82		NS	1.36	NS	
	CV	2.55			6.27	2.84	5.21	1.50	7.28	3.36		11.79	7.61	3.97	

Table 2.4.16 Purity % at 8 months

S. No.	Entries	Coimbatore	Akola	Kolhapur	Mandya	Navsari	Padegaon	Perumallapalle	Pravaranaagar	Pugalur	Pune	Sameerwadi	Sanke shwar	Thiruvalla	Mean
1	Co 11001	90.15	98.48		92.60	89.10	82.96	98.20	93.41	84.59		78.74	66.61	89.08	87.63
2	Co 11004	91.23	93.59		92.01	89.38	85.32	94.02	93.37	87.45		86.31	70.54	88.83	88.37
3	CoM 11081	92.22	95.03		93.24	92.29	86.58	91.96	88.49	89.91		83.35	75.70	89.13	88.90
4	CoM 11082	89.06	86.00		91.58	92.15	86.01	94.05	91.39	83.49		83.70	74.57	88.62	87.33
5	CoM 11084	90.02	96.51		92.85	90.19	84.07	92.16	92.06	87.65		71.61	68.78	88.99	86.81
Standards															
1	CoC 671	91.24	87.13		92.82	87.66	85.02	95.03	93.80	86.59		86.06	74.61	89.64	88.15
2	Co 94008	88.93	97.59		91.27	90.07	80.27	95.21	93.83	87.24		80.84	67.33	89.35	87.45
3	Co 85004	90.26	96.19		92.57	89.95	83.58	97.05	93.58	89.11		82.11	74.03	89.69	88.92
	SE	0.69	1.96		-	0.85	1.12	-	1.91	0.61		1.92	2.26	0.26	
	CD	NS	5.95		NS	2.57	3.40	4.00	5.81	1.31		NS	6.86	NS	
	CV	1.09	3.62		2.15	1.63	2.30	2.40	3.59	0.87		3.99	5.48	0.51	

Table 2.4.17 CCS % at 8 months

S. No.	Entries	Coimbatore	Akola	Kolhapur	Mandya	Navsari	Padegaon	Perumallapalle	Pravara nagar	Pugalur	Pune	Sameerwadi	Sanke shwar	Thiruvalla	Mean
1	Co 11001	12.45	11.63		12.21	11.74	8.61	12.14	12.38	7.80		6.92	5.18	10.37	10.13
2	Co 11004	13.76	12.63		12.87	11.51	9.28	11.48	13.56	10.00		10.15	6.02	10.34	11.05
3	CoM 11081	13.50	12.94		12.90	12.22	10.38	11.58	12.58	10.65		8.60	7.41	10.10	11.17
4	CoM 11082	12.71	11.10		12.47	11.91	10.18	11.55	12.80	8.94		8.85	7.29	10.39	10.75
5	CoM 11084	12.36	12.40		12.29	12.14	9.17	11.09	12.89	10.24		7.88	5.84	9.87	10.56
Standards															
1	CoC 671	13.39	11.32		12.82	11.03	10.00	12.32	12.88	9.54		9.80	6.69	10.30	10.92
2	Co 94008	12.08	12.02		12.08	12.11	8.11	10.14	12.92	9.76		8.05	5.14	9.52	10.18
3	Co 85004	13.08	12.37		12.32	11.67	9.19	12.15	12.28	10.43		8.31	6.51	10.04	10.76
	SE	0.26	0.27		-	0.23	0.33	-	0.52	0.28		0.68	0.36	0.22	
	CD	0.89	0.83		NS	0.70	1.01	0.40	1.59	0.60		NS	1.09	NS	
	CV	2.86	3.91		6.97	3.39	6.16	2.10	7.11	3.57		13.83	9.95	3.82	

Table 2.4.18 Number of shoots ('000/ha) at 8 months

S. No.	Entries	Coimbatore	Akola	Kolhapur	Mandya	Navsari	Padegaon	Perumallapalle	Pravara nagar	Pugalur	Pune	Sameerwadi	Sanke shwar	Thiruvalla	Mean
1	Co 11001	95.55	61.65		108.56	132.40	92.01	102.93	119.40	129.60	89.97	75.54	53.18	81.81	95.22
2	Co 11004	99.77	54.40		109.57	129.70	84.55	82.43	118.30	123.40	81.18	73.54	47.84	69.23	89.49
3	CoM 11081	79.28	47.38		106.83	117.90	88.19	83.87	107.20	124.10	100.90	49.38	68.79	67.99	86.82
4	CoM 11082	78.42	46.68		114.65	126.20	92.65	76.57	111.50	87.43	74.29	66.98	44.56	82.08	83.50
5	CoM 11084	94.91	68.21		107.76	115.80	103.24	98.87	105.10	158.50	90.34	75.54	69.81	80.00	97.33
Standards															
1	CoC 671	79.86	57.41		101.36	109.30	85.36	86.43	95.58	123.60	71.38	80.79	56.06	80.42	85.63
2	Co 94008	75.29	54.24		100.86	106.10	84.14	104.57	102.70	126.20	65.56	54.01	57.90	84.65	84.69
3	Co 85004	109.38	72.45		113.14	110.30	97.34	111.83	129.00	162.80	99.35	67.67	90.96	86.67	104.24
	SE	2.21	3.14		-	5.64	2.68	-	1.56	9.26	4.00	7.34	3.15	3.681	
	CD	7.52	9.54		15.07	17.12	8.13	7.50	4.73	19.86	12.12	NS	9.57	10.46	
	CV	3.51	9.42		6.19	8.25	5.10	5.30	2.43	8.76	8.23	18.72	8.94	8.06	

Table 2.4.19 Number of tillers ('000/ha) at 120 days

S. No.	Entries	Coimbatore	Akola	Kolhapur	Mandya	Navsari	Padegaon	Perumallapalle	Pravaranaagar	Pugalur	Pune	Sameerwadi	Sanke shwar	Thiruvalla	Mean
1	Co 11001	107.41	73.92	86.75	120.25	149.60	98.84	123.47	127.50	145.70	174.19	115.80	58.21	82.85	112.65
2	Co 11004	96.07	74.00	81.83	121.26	148.70	93.98	109.80	125.40	147.20	121.10	123.60	60.06	71.94	105.76
3	CoM 11081	99.77	73.15	94.44	118.52	138.70	97.69	109.80	117.80	151.90	191.04	116.20	78.95	71.59	112.27
4	CoM 11082	81.49	55.17	97.63	126.34	143.90	99.07	81.80	125.50	105.40	113.28	106.70	64.16	85.41	98.91
5	CoM 11084	111.46	87.96	98.03	119.45	136.60	123.84	119.30	113.70	169.90	211.30	137.40	65.09	82.29	121.25
Standards															
1	CoC 671	83.45	75.31	75.75	113.05	129.10	94.21	158.27	132.60	138.40	128.47	132.80	71.46	80.97	108.76
2	Co 94008	86.00	76.47	84.90	112.53	126.70	87.50	124.87	130.60	146.40	122.16	102.90	50.00	86.59	102.89
3	Co 85004	115.17	94.14	95.66	117.73	129.80	129.63	165.60	138.60	184.30	162.22	120.00	93.12	90.35	125.87
	SE	5.48	6.11	5.10	-	5.38	5.22	-	1.57	11.82	5.94	10.45	11.52	3.61	
	CD	18.64	18.53	NS	10.83	16.31	15.83	8.30	4.78	25.37	18.01	NS	34.95	10.26	
	CV	7.94	13.88	9.89	4.05	6.75	8.77	5.80	2.16	9.74	6.72	15.16	29.51	7.67	

Table 2.4.20 Germination % at 30 days

S. No.	Entries	Coimbatore	Akola	Kolhapur	Mandya	Navsari	Padegaon	Perumallapalle	Pravaranaagar	Pugalur	Pune	Sameerwadi	Sanke shwar	Thiruvalla	Mean
1	Co 11001	55.67	37.38	44.03	46.96	47.49	52.43	47.73	58.08	77.92	57.69	59.00	32.04	61.28	52.13
2	Co 11004	55.21	35.18	44.00	47.01	49.04	48.26	33.87	52.40	89.72	51.10	42.00	33.43	48.78	48.46
3	CoM 11081	54.17	39.58	45.60	32.26	43.86	42.71	32.17	56.92	71.81	52.56	62.00	41.99	51.83	48.27
4	CoM 11082	52.55	35.54	40.74	43.58	47.13	39.58	33.17	55.75	68.61	43.72	34.00	17.93	59.67	44.00
5	CoM 11084	73.38	43.99	47.22	43.57	40.74	56.94	42.17	57.63	90.00	53.30	65.00	50.20	55.50	55.36
Standards															
1	CoC 671	67.71	41.73	31.94	38.48	43.34	52.78	47.97	60.20	75.42	49.59	55.00	30.65	56.50	50.10
2	Co 94008	66.67	47.56	38.60	40.91	43.34	56.60	68.80	42.75	79.44	52.40	75.00	35.51	60.22	54.45
3	Co 85004	73.44	48.04	40.97	41.32	44.89	56.25	70.20	45.65	90.42	53.47	50.00	49.04	71.06	56.52
	SE	3.41	2.90	3.29	-	1.57	3.21		1.96	4.93	1.64	6.58	2.97	2.27	
	CD	11.61	8.80	N.S.	NS	4.78	9.74	2.10	5.94	10.59	4.98	19.95	9.01	6.45	
	CV	7.74	12.22	13.67	15.80	6.06	10.97	2.60	6.32	7.52	5.50	20.59	14.16	6.76	

2.4.21. Assessment of entries by monitoring team

Entry / Locations	Perumalapalle	Pugalur	Coimbatore	Thiruvalla	Mandya	Sankeshwar	Sameerwadi	Kohlapur
Co 11001	On-par	Poor	On-par	Better	On-par	On-par	Better	Poor
Co 11004	On-par	On-par	Better	On-par	Better	On-par	Better	On-par
CoM 11081	Poor	On-par	On-par	On-par	Poor	On-par	On-par	Poor
CoM 11082	Poor	Poor	Better	On-par	Better	On-par	Better	On-par
CoM 11084	On-par	Poor	Poor	Better	Better	Poor	Better	On-par
Best Standard	Co 94008	CoC 671	Co 94008, CoC 671	Co 85004	Co 94008	CoC 671	Co 94008	Co 94008

Varietal Improvement Programme- AICRP (Sugarcane)
Principal Investigator's Report (2016-17)
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Entries	Navsari	VSI, Pune	Padegaon	Pravara nagar	Akola	Pawar kheda	Rudrur
Co 11001	On par	On par	On par	Better	On par	On par	N
Co 11004	On par	On par	On par	On par	Better	Better	O
CoM 11081	Better	Better	On par	Better	Better	On par	T
CoM 11082	On par	On par	On par	On par	On par	On par	
CoM 11084	On par	On par	On par	On par	On par	Better	C
Co 85004(C)	Better	Poor	Better	Better	Better	Better	O
Co 94008(C)	Better	Better	Best	Best	Best	Best	N
CoC 671(C)	Best	Best	On par	Better	Better	Better	D

Annexure : Performance entries at Powerkheda

S. No.	Clone	CCS t/ha	Cane yield t/ha	Brix % (10 m)	Sucrose % (10m)	Purity % (10m)	CCS % (10m)	NMC at 10m ('000/ha)
1	Co 11001	12.95	103.60	21.55	18.40	85.36	12.51	92.53
2	Co 11004	14.06	107.67	22.30	19.14	85.85	13.05	95.60
3	CoM 11081	10.88	88.99	21.17	18.01	85.10	12.23	81.04
4	CoM 11082	11.70	93.22	21.60	18.44	85.39	12.54	84.34
5	CoM 11084	13.85	108.69	21.88	18.72	85.58	12.75	96.44
6	CoC 671	14.79	107.22	23.31	20.16	86.47	13.79	95.28
7	Co 94008	14.90	117.97	21.72	18.56	85.47	12.63	103.86
8	Co 85004	15.58	121.14	22.03	18.88	85.68	12.86	106.30
	CD at 5%	1.22	9.00	0.20	0.20	0.14	0.15	7.21
	CV	4.20	3.98	0.43	0.51	0.07	0.54	3.59

Varietal Improvement Programme- AICRP (Sugarcane)
Principal Investigator's Report (2016-17)
Peninsular zone AVT I Plant- Early

S. No.	Clone	Stalk Length (m)	Stalk Diameter (cm)	Single cane weight (kg)	Brix % (8 m)	Sucrose % (8 m)	Purity % (8 m)	CCS % (8 m)	No. of shoots ('000/ha)	No. of tillers ('000/ha)	Germination % (30 days)
									240 days	120 days	
1	Co 11001	2.50	2.61	1.56	20.96	17.81	84.95	12.08	97.76	216.10	55.77
2	Co 11004	2.77	2.40	1.49	21.71	18.55	85.46	12.62	100.61	214.57	59.63
3	CoM 11081	2.62	2.43	0.91	20.58	17.42	84.66	11.80	86.35	190.34	57.39
4	CoM 11082	2.65	2.62	1.70	20.51	17.35	84.62	11.75	89.64	199.06	56.03
5	CoM 11084	2.90	2.18	1.02	21.29	18.13	85.18	12.32	101.75	229.74	59.28
6	CoC 671	2.70	2.31	1.58	22.72	19.57	86.11	13.36	100.69	207.17	59.06
7	Co 94008	2.73	2.34	1.48	20.63	17.47	84.71	11.83	108.97	150.12	59.60
8	Co 85004	2.91	2.42	1.32	21.83	18.67	85.55	12.71	111.61	242.91	56.48
	CD at 5%	0.21	0.16	0.14	0.78	0.78	0.54	0.57	7.12	36.03	2.56
	CV	3.63	3.24	4.71	1.72	2.02	0.30	2.18	3.35	8.16	2.07

2.5. Initial Varietal Trial– Early (2016-17)

Centers where trial was conducted (14)	Coimbatore, Akola, Kawardha, Kolhapur, Mandya, Navsari, Padegaon, Perumallapalle, Pravaranagar, Pune, Rudrur, Sameervadi, Sankeshwar and Thiruvalla
Entries (8)	1.Co 13002 (Co 86011 x CoT 8201) 2. Co 13003 (Co 86011 x CoT 8201) 3. Co 13004 (Co 86002 x Co 775) 4. CoN 13071 (CoC 96003 GC) 5. CoN 13072 (Co 86032 GC) 6. CoSnk 13101 (ISH 100 PC) 7. CoSnk 13102 (ISH 100 PC) 8. MS 13081 (CoM 0265 x MS 0602)
Standards (3)	CoC 671, Co 94008 and Co 85004
Design	RBD
Replications	Two
Plot size	6m x 6 rows x1.2m (Gross) 5m x 4rows x1.2m (Net)
Seed rate	12 buds per meter
Planting time	2016- 17
Crop duration	10 months

Results of the previous year: The entries were under multiplication.

Results of the current year: In this trial, eight entries and three standards were evaluated at 14 locations during 2016-17. Basmathnagar, Powarkheda, Pugalur and Sirugamani centres did not conduct the trial. All the test entries except CoSnk 13101 (10.92 t/ha) did record higher sugar yield than the best standard CoC 671 (10.95 t/ha). The entry MS 13081 (13.95 t/ha) was ranked first in the zone and it recorded more than 10% yield improvement over the best standard at 10 locations. The entries Co 13002 (11.82 t/ha) and CoN 13072 (11.95 t/ha) ranked as second and third respectively in the zone and were qualifying entries at four locations each. In case of cane yield, except CoSnk 13101 all the test entries yielded higher than the best standard CoC 671 (84.77 t/ha). The test entries MS 13081 (111.93 t/ha), CoN 13071 (92.45 t/ha) and Co 13002 (90.11 t/ha) were ranked as first, second and third respectively in the zone. MS 13081 had more than 10% yield improvement over the best standard at 12 locations. For CCS% at harvest, the test entries Co 13002 (13.18%) and CoSnk 13101 (12.94%) were ranked as first and second respectively in the zone and performed better than the best check CoC 671 (12.88%). Co 13002 showed more than 5% improvement over the best check at three locations. For sucrose per cent at harvest only the entry Co 13002 (18.15%) performed better than the best standard CoC 671 (17.84%) and it ranked first in the zone. It recorded more than 5% improvement over the best check at four locations. The entry CoSnk 13101 (17.79%) was ranked as third in the zone. For cane parameters MS 13081 was the best entry in this trial with 27.42% improvement in sugar yield and 32.04% cane yield improvement over the best standard in the zone, but the CCS% and sucrose per cent were 12.63% and 17.34% respectively, lesser than the best standard CoC 671. Co 13002 was the best entry for juice quality parameters and it was numerically superior to the best standard CoC 671 for sugar and cane yield also. No qualifying entries were reported from this trial. The details are given in tables 2.5.1 to 2.5.20.

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Table 2.5.1 CCS t/ha at harvest

S. No.	Entries	Coimbatore	Akola	Kawar dha	Kolhapur	Mandya	Navsari	Padegaon#	Perumalpal	Pravara nagar	Pune	Rudhura	Sameerwadi	Sanke shwar	Thiruvalla	Mean	Rank
1	Co 13002	15.35	7.44		9.70	10.84	12.76	13.41*	16.08	15.76	10.67	17.53*	7.02*	9.38	7.78	11.82	2
2	Co 13003	15.49	5.30		10.76	8.64	14.04	11.54	18.94*	15.01	13.06	12.88	2.33	10.29	8.74	11.31	4
3	Co 13004	14.48	6.97		9.09	10.99	16.60	13.05*	12.36	17.00*	9.27	13.18	2.76	14.32*	6.83	11.30	5
4	CoN13071	14.71	12.98		8.73	12.41	14.66	11.35	18.69*	15.10	7.91	11.71	1.77	7.72	7.46	11.17	
5	CoN 13072	13.75	12.63		13.89	9.11	17.86*	12.91*	15.61	14.53	10.24	11.36	1.27	6.49	7.87	11.35	3
6	CoSnk 13101	13.73	5.78		13.31	12.27	14.09	9.87	16.34	16.39*	9.14	12.13	2.19	9.12	7.59	10.92	
7	CoSnk 13102	10.69	7.08		9.97	12.17	13.25	11.08	14.49	15.29	7.80	10.03	1.06	13.04*	6.33	10.17	
8	MS 13081	16.09	12.74		16.91*	13.20	15.12	16.99*	17.47*	16.60*	13.17	10.05	8.59*	14.48*	9.97*	13.95	1
Standards																	
1	CoC 671	12.74	10.67		12.48	10.58	13.93	10.71	13.86	14.53	11.71	11.50	4.18	7.91	7.61	10.95	
2	Co 94008	13.06	7.03		11.42	11.02	13.55	8.46	14.67	14.44	6.77	11.50	3.49	8.67	8.75	10.22	
3	Co 85004	13.46	6.03		7.58	12.68	13.65	9.61	15.59	12.15	8.05	11.29	2.67	10.65	8.18	10.12	
	Grand mean	13.96	8.60		11.26	11.26	14.50	11.73	15.83	15.16	9.80	12.10	3.39	10.19	7.92		
	SE	0.92	0.84		0.70	-	0.91	0.68	-	0.57	0.56	1.73	0.45	0.74	0.35		
	CD	2.72	2.49		2.11	NS	2.69	2.01	1.70	1.68	1.64	3.64	1.33	2.19	1.01		
	CV	11.40	17.38		10.75	15.87	10.91	10.12	6.50	6.52	9.98	17.54	23.04	12.64	7.752		
Qualifying entries at each centre																	
	1	MS 13081	CoN 13071		MS 13081		CoN 13072	MS 13081	Co 13003	Co 13004	MS 13081	Co 13002	MS 13081	MS 13081	MS 13081	MS 13081	
	2	Co 13003	MS 13081		CoN 13072		Co 13004	Co 13002	CoN 13071	MS 13081	Co 13003	Co 13004	Co 13002	Co 13004			
	3	Co 13002	CoN 13072					Co 13004	MS 13081	CoSnk 13101		Co 13003		CoSnk 13102			

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

Qualifying entries: MS 13081 (10), Co 13004 (5), Co 13002 (4), Co 13003 (4), CoN 13072 (4), CoN 13071 (2), CoSnk 13101 (1), CoSnk 13102 (1)

Performance across locations: Except CoSnk 13101 and CoSnk 13102 all the other test entries recorded higher sugar yield than the better check CoC 671 (10.95 t/ha). MS 13081 (13.95 t/ha) ranked first in the zone with 27.42% improvement in CCS yield over the best standard and recorded more than 10% improvement in CCS yield over the best standard at 10 locations. The entries Co 13002 (11.82 t/ha) and CoN 13072 (11.35 t/ha) were ranked second and third positions respectively in the zone and had more than 10% improvement over the best check at four locations each. The entry Co 13004 showed more than 10% improvement over the best check at five centres, similarly Co 13003 at four locations, CoN 13071 at two locations and CoSnk 13101 and CoSnk 13102 at one location each.

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Table 2.5.2 Cane yield t/ha at harvest

S. No.	Entries	Coimbatore	Akola	Kawar dha	Kolhapur	Man dya#	Nav sari#	Padegaon#	Perumallapalle	Pravara nagar	Pune	Rud rur	Sameer wadi	Sanke shwar	Thiruvalla	Mean	Rank
1	Co 13002	112.48	55.07	102.23	72.24	76.93	98.07	101.53*	128.90	113.81	77.41	131.84	66.97*	67.37	56.76	90.11	3
2	Co 13003	118.20	50.52	93.76	85.67	70.37	117.24	93.06	138.10	111.55	96.76	116.17	24.86	81.56	63.52	90.10	4
3	Co 13004	115.40	47.15	93.81	67.26	82.64	128.90*	100.42*	110.67	118.90	71.61	110.87	27.50	120.50*	54.17	89.27	
4	CoN13071	117.78	80.36	110.73	73.52	112.30*	115.01	88.43	147.60*	111.91	69.48	109.73	25.00	73.23	59.17	92.45	2
5	CoN 13072	106.98	87.83	84.86	104.57*	74.00	127.24*	95.18	126.10	114.44	80.74	117.15	14.31	62.61	61.76	89.84	5
6	CoSnk 13101	99.82	42.21	67.69	97.18	115.80*	100.57	78.98	116.07	114.82	69.34	109.47	25.00	65.31	55.93	82.73	
7	CoSnk 13102	89.07	51.89	88.58	76.40	112.57*	109.04	100.48*	119.73	114.79	58.66	112.46	14.03	117.00*	50.56	86.81	
8	MS 13081	124.17*	94.75	116.47	120.59*	114.70*	116.13	127.36*	145.70*	123.65*	97.66	113.31	78.61*	118.20*	75.74	111.93	1
Standards																	
1	CoC 671	85.53	68.17	102.44	87.68	85.05	101.82	82.67	97.77	102.43	86.61	118.04	38.89	71.55	58.15	84.77	
2	Co 94008	99.85	60.92	85.90	88.39	84.38	101.26	71.49	108.57	106.65	62.90	119.71	36.11	89.44	70.18	84.70	
3	Co 85004	105.10	78.36	78.21	54.36	92.35	102.24	77.35	130.00	88.17	58.77	130.58	27.50	91.28	64.72	84.21	
	Grand mean	106.76	65.20	93.15	84.35	92.83	110.68	92.45	124.47	111.01	75.45	117.21	34.43	87.10	60.97		
	SE	6.31	5.62	-	4.89	-	6.07	5.78	-	3.00	4.24	9.97	3.11	6.15	2.931		
	CD	18.92	16.59	16.01	14.81	8.88	17.91	17.04	13.40	8.87	12.52	NS	9.77	18.14	8.331		
	CV	10.34	14.94	10.42	10.05	5.62	9.50	10.82	7.40	4.69	9.86	10.42	16.66	12.23	8.326		
Qualifying at each centre																	
1		MS 13081	MS 13081	MS 13081	MS 13081	CoSnk 13101	Co 13004	MS 13081	CoN 13071	MS 13081	MS 13081		MS 13081	Co 13004		MS 13081	
2		Co 13003	CoN 13072		CoN 13072	MS 13081	CoN 13072	Co 13002	MS 13081	Co 13004	Co 13003		Co 13002	MS 13081			
3		CoN 13071				CoSnk 13102	Co 13003	CoSnk 13102						CoSnk 13102			

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

Qualifying entries: MS 13081 (12), Co 13003 (4), Co 13004 (4), CoN13071 (4), CoN 13072 (4), CoSnk 13102 (3), Co 13002 (2), CoSnk 13101 (1)

Performance across locations: Except CoSnk 13101 all the test entries performed better than the best standard CoC 671 (84.77 t/ha) in the zone. MS 13081 (111.93 t/ha) ranked first in the zone with 32.04% cane yield improvement over the best standard and it had more than 10% yield improvement over the best check at 12 centres. CoN 13071 (92.45 t/ha) and Co 13002 (90.11 t/ha) ranked as second and third respectively in the zone and were superior at four & two locations respectively. Co 13003, Co 13004 and CoN 13071 had more than 10% yield improvement over the best standard at four locations each. CoSnk 13102, Co 13002 and CoSnk 13101 had more than 10% improvement over the best check at three, two and one locations respectively.

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Table 2.5.3 CCS % at harvest

S. No.	Entries	Coimbatore	Akola	Kawardha	Kolhapur	Mandya	Navsari	Padegaon	Perumallapalle	Pravara nagar	Pune	Rudrur#	Sameerwadi	Sanke shwar	Thiruvalla	Mean	Rank
1	Co 13002	13.69	12.34		13.41	14.13	13.02	13.25*	12.48	13.84	13.80	13.15*	10.63	13.91*	13.71	13.18	1
2	Co 13003	13.07	11.96		12.54	12.23	11.98	12.39	13.71	13.49	13.48	11.13	9.42	12.58	13.76	12.44	
3	Co 13004	12.67	13.11		13.52	13.33	12.83	12.99	11.17	14.29	12.96	11.71	10.08	11.86	12.59	12.55	5
4	CoN13071	12.49	13.64		11.91	13.36	12.75	12.86	12.66	13.49	11.40	10.57	7.35	10.65	12.64	11.98	
5	CoN 13072	12.70	13.09		13.27	12.33	14.02	13.55*	12.38	12.68	12.67	9.68	8.75	10.33	12.74	12.17	
6	CoSnk 13101	13.80	13.06		13.70	12.31	14.00	12.48	14.08	14.25	13.19	11.04	8.73	13.93*	13.61	12.94	2
7	CoSnk 13102	12.04	12.83		13.04	12.39	12.18	11.05	12.10	13.36	13.29	8.93	7.39	11.15	12.55	11.72	
8	MS 13081	13.00	13.15		14.03	13.36	13.03	13.34*	12.00	13.43	13.47	8.90	11.00	12.31	13.19	12.63	4
Standards																	
1	CoC 671	14.98	13.03		14.22	13.03	13.69	12.21	14.17	14.19	13.52	9.73	10.58	11.05	13.10	12.88	3
2	Co 94008	13.09	12.88		12.88	13.07	13.41	11.85	13.51	13.51	10.77	9.50	9.61	9.73	12.45	12.02	
3	Co 85004	12.77	11.95		13.96	13.72	13.33	12.41	11.99	13.83	13.70	8.67	9.80	11.74	12.64	12.35	
	Grand mean	13.12	12.82		13.32	13.02	13.11	12.58	12.75	13.67	12.93	10.28	9.39	11.75	13.00	12.44	
	SE	0.37	0.47		0.24	-	0.36	0.27	-	0.35	0.12	0.84	0.89	0.43	0.31		
	CD	0.78	NS		0.73	1.07	1.05	0.79	0.20	1.05	0.35	1.76	NS	1.26	0.88		
	CV	3.47	6.37		3.13	4.84	4.69	3.68	1.00	4.53	1.59	9.99	16.44	6.28	4.12		
Qualifying entries at each centre																	
	1							CoN 13072				Co 13002		CoSnk 13101	Co 13003		
	2							MS 13081				Co 13004		Co 13002			
	3							Co 13002				Co 13003		Co 13003			

*Significant at 5% level

Qualifying entries: Co 13002 (3), Co 13003 (3), CoSnk 13101 (2), Co 13004 (1), CoN 13071 (1), CoN 13072 (1), MS 13081 (1)

Performance across locations: The entries Co 13002 (13.18%) and CoSnk 13101 (12.94%) recorded higher CCS than the best check CoC 671 (12.88%) in the zone. Co 13002 was the first ranked entry in the zone and it recorded more than 5% improvement over the best standard at three centres. The second ranked entry in the zone CoSnk 13101 showed more than 5% improvement in CCS% over the best check at two locations,; Rudrur and Sankeshwar. The other entries showing superiority over the best check were Co 13003 at three locations, Co 13004 & CoN 13071 at Rudrur and CoN 13072 & MS 13081 at Padegaon.

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Table 2.5.4 Sucrose% at harvest

S. No.	Entries	Coimbatore	Akola	Kawardha	Kolhapur	Mandya	Navsari	Padegaon	Perumalpal	Pravara nagar	Pune	Rudrur#	Sameerwadi	Sanakeswar	Thiruvalla	Mean	Rank
1	Co 13002	19.37	18.25	11.80	18.34	19.77	18.60	18.80*	17.40	19.01	19.22	18.80*	15.64	19.52*	19.64	18.15	1
2	Co 13003	18.66	17.82	12.05	17.06	17.58	18.13	17.71	18.82	18.70	18.92	16.56	14.11	17.60	19.72	17.39	4
3	Co 13004	17.89	18.67	10.01	18.35	18.80	18.38	18.40	15.53	20.11	18.15	16.85*	14.93	16.91	18.01	17.21	
4	CoN13071	17.82	19.12	10.38	16.06	18.83	18.32	18.23	17.30	18.15	16.04	15.46	11.54	15.14	18.08	16.46	
5	CoN 13072	18.12	18.66	10.11	18.02	17.58	20.23	19.04*	16.90	17.93	18.02	14.50	13.37	14.78	18.25	16.82	
6	CoSnk 13101	19.49	18.77	11.15	18.72	17.51	19.92	17.57	19.10	19.99	18.36	16.40	13.13	19.40*	19.49	17.79	3
7	CoSnk 13102	17.29	18.27	10.67	17.71	17.79	17.62	16.40	16.59	19.30	18.50	13.85	11.55	15.88	17.95	16.38	
8	MS 13081	18.37	18.60	10.96	19.12	18.88	18.48	18.79*	16.51	18.59	18.81	13.43	15.97	17.34	18.90	17.34	5
Standards																	
1	CoC 671	21.00	18.77	11.19	19.42	18.55	19.69	17.55	19.40	19.99	19.05	14.92	15.66	15.83	18.76	17.84	2
2	Co 94008	18.57	18.64	10.50	17.49	18.50	19.42	16.77	18.50	18.92	15.30	14.68	14.58	14.25	17.80	16.71	
3	Co 85004	18.10	17.73	10.82	19.08	19.33	19.25	17.75	16.56	19.34	19.10	13.60	14.48	16.69	18.10	17.14	
Grand mean		18.61	18.48	10.88	18.12	18.47	18.91	17.91	17.51	19.09	18.13	15.37	14.09	16.67	18.61		
SE		0.26	0.47	-	0.33	-	0.48	0.24	-	0.55	0.14	0.834	1.15	0.49	0.45		
CD		1.45	NS	-	1.00	1.30	1.42	0.70	0.20	1.62	0.40	1.75	NS	1.43	1.28		
CV		3.47	4.39	-	3.16	4.12	4.41	2.29	0.80	4.99	1.30	6.64	14.18	5.05	4.18		
Qualifying entries at each centre																	
1				Co 13003				CoN 13072				Co 13002		Co 13002	Co 13003		
2				Co 13002				Co 13002				Co 13004		CoSnk 13101			
3								MS 13081				Co 13003		Co 13003			

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

Qualifying entries: Co 13002 (4), Co 13003 (4), Co 13004 (1), CoN 13072 (1), CoSnk 13101 (2), MS 13081 (1)

Performance across locations: The test entry Co 13002 (18.15%) recorded higher sucrose per cent than the best standard CoC 671 (17.84%) and ranked first in the zone. This entry showed more than 5% improvement in sucrose per cent over the best standard at four centres. CoSnk 13101 (17.79%) ranked as third in the zone and it recorded more than 5% improvement in sucrose over the best check at Rudrur and Sankeshwar centres. The other superior entries were Co 13003 at four locations and Co 13004, CoN 13072 and MS 13081 at one location each.

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Table 2.5.5 Brix % at harvest

S. No.	Entries	Coimbatore	Akola	Kawar dha	Kolhapur	Mandya	Navsari	Padegaon	Perumallapalle	Pravara nagar	Pune	Rudrur	Sameerwadi	Sanke shwar	Thiruvalla	Mean
1	Co 13002	20.91	21.62	21.04	19.5	20.83	20.54	20.41	19.32	19.12	20.64	20.80	18.36	20.71	21.77	20.40
2	Co 13003	20.55	21.39	21.02	17.89	19.67	20.46	19.58	20.16	19.26	20.66	19.77	17.13	18.54	21.90	19.86
3	Co 13004	19.25	20.46	18.88	19.17	20.17	20.41	19.91	17.12	21.42	19.72	18.83	17.73	18.54	19.93	19.40
4	CoN13071	19.59	20.20	19.73	16.50	20.17	20.48	19.75	18.36	18.02	17.62	17.87	15.23	16.54	19.97	18.57
5	CoN 13072	19.93	20.49	18.47	18.84	19.33	22.81	20.25	17.90	19.22	20.26	17.57	16.82	16.37	20.23	19.18
6	CoSnk 13101	20.96	20.97	20.78	19.84	19.17	21.76	18.75	19.90	21.16	19.78	19.57	16.06	20.21	21.60	20.04
7	CoSnk 13102	19.27	20.02	20.63	18.50	19.83	19.94	19.08	17.72	19.46	19.91	17.83	15.09	17.37	19.83	18.89
8	MS 13081	19.79	20.07	20.43	20.17	20.33	20.07	20.08	17.80	19.06	20.33	16.50	18.22	18.54	20.97	19.45
Standards																
1	CoC 671	22.19	21.06	20.72	20.55	20.33	22.02	19.58	20.66	21.36	20.98	18.87	18.65	17.54	20.80	20.38
2	Co 94008	20.16	21.15	19.33	18.27	20.00	22.08	18.91	19.72	19.96	17.14	18.80	16.92	16.54	19.67	19.19
3	Co 85004	19.64	21.13	20.43	20.22	20.67	21.76	19.41	17.99	20.26	20.63	17.87	17.12	18.21	20.07	19.67
	SE	0.35	0.62	-	0.37	-	0.50	0.25	-	0.92	0.13	0.66	1.03	0.32	0.52	
	CD	1.02	NS		1.12	NS	1.48	0.74	0.50	2.72	0.36	1.38	NS	0.95	1.47	
	CV	3.00	5.13		3.38	3.94	4.07	2.22	1.70	8.05	1.07	4.34	10.48	3.07	4.34	

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Table 2.5.6 Purity % at harvest

S. No.	Entries	Coimbatore	Akola	Kawardha	Kolhapur	Mandya	Navsari	Padegaon	Perumallapalle	Pravara nagar	Pune	Rudrur	Sameerwadi	Sanke shwar	Thiruvalla	Mean
1	Co 13002	92.68	84.66	80.57	94.06	95.17	90.57	92.12	90.07	96.73	93.12	90.47	84.97	94.29	89.47	90.64
2	Co 13003	90.80	83.27	80.79	95.45	89.61	80.72	90.49	93.34	95.49	91.58	84.10	82.28	94.94	89.30	88.73
3	Co 13004	92.94	91.39	79.33	95.74	93.31	90.08	92.39	90.71	93.87	92.04	89.13	84.29	91.19	89.56	90.43
4	CoN13071	90.99	94.86	79.49	97.30	93.52	89.43	92.29	94.23	94.04	91.01	86.29	75.52	91.51	89.73	90.02
5	CoN 13072	90.86	91.19	79.33	95.68	91.04	88.72	94.07	94.43	90.08	88.97	82.25	79.51	90.28	89.39	88.99
6	CoSnk 13101	93.00	89.78	79.72	94.35	91.49	91.52	93.71	95.99	94.50	92.83	83.63	81.39	96.03	89.49	90.53
7	CoSnk 13102	89.74	91.69	80.98	95.71	89.73	88.32	83.96	93.65	95.85	92.90	77.57	76.11	91.4	89.67	88.38
8	MS 13081	92.84	92.76	80.25	94.81	92.88	92.07	93.61	92.76	95.37	92.52	81.26	87.49	93.48	89.39	90.82
	Standards															
1	CoC 671	94.62	89.29	80.24	94.48	91.34	89.41	89.62	93.90	93.65	90.77	79.07	84.82	90.23	89.39	89.35
2	Co 94008	92.11	88.17	79.47	95.77	92.56	88.01	88.69	93.82	92.49	89.26	77.99	84.13	86.06	89.69	88.44
3	Co 85004	92.18	84.06	80.21	94.35	93.57	88.44	91.43	92.06	92.31	92.58	76.12	84.34	91.60	89.38	88.76
	SE	1.62	3.09	-	0.45	-	0.67	1.30	-	0.85	0.51	4.63	2.23	1.76	0.22	
	CD	2.55	NS		1.35	NS	1.98	3.82	1.80	2.51	1.50	NS	6.58	5.20	NS	
	CV	1.21	6.01		0.81	3.00	1.31	2.46	1.10	1.57	0.96	6.87	4.70	3.32	0.42	

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Table 2.5.7 Pol% Cane at harvest

S. No.	Entries	Coimbatore	Mandya	Navsari	Padegaon	Pune	Sameerwadi	Sanke shwar	Mean
1	Co 13002	17.53	14.95	14.04	16.52	14.65	11.42	14.82	15.27
2	Co 13003	17.59	13.36	13.75	15.07	14.01	10.31	13.11	14.38
3	Co 13004	17.50	14.39	13.87	15.94	13.49	10.90	12.87	14.70
4	CoN13071	17.06	14.17	13.76	15.37	11.88	8.43	11.44	13.90
5	CoN 13072	16.33	13.37	15.36	14.98	13.36	9.76	11.10	14.11
6	CoSnk 13101	18.53	13.26	14.98	15.47	13.86	9.59	14.77	14.90
7	CoSnk 13102	16.99	13.59	13.38	16.01	14.06	8.43	12.77	14.19
8	MS 13081	15.84	14.46	14.00	16.09	14.41	11.66	13.26	14.79
Standards									
1	CoC 671	19.28	14.07	14.90	15.81	14.40	11.43	12.00	15.08
2	Co 94008	16.70	14.21	14.70	13.86	11.43	10.40	10.75	13.84
3	Co 85004	16.11	14.78	14.57	15.68	14.12	10.57	12.49	14.51
	SE	-	-	0.35	0.31	0.11	0.85	0.34	
	CD	-	0.96	1.05	0.91	0.33	NS	4.70	
	CV	-	4.00	4.29	3.43	1.42	14.36	1.02	

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Table 2.5.8 Extraction % at harvest

S. No.	Entries	Coimbatore	Akola	Kawardha	Kolhapur	Mandya	Navsari	Padegaon	Perumalpal	Pravara nagar	Pune	Rudrur	Sameerwadi	Sanke shwar	Thiruvalla	Mean
1	Co 13002	49.16		61.35		50.90	55.16	50.58		56.49	51.16			52.14	59.93	54.10
2	Co 13003	52.67		62.93		55.00	57.17	50.98		55.29	60.54			55.27	63.45	57.03
3	Co 13004	51.20		56.10		53.30	61.25	51.51		55.61	60.93			56.24	63.74	56.65
4	CoN13071	49.55		56.52		52.30	54.85	52.69		56.66	61.96			49.10	60.77	54.93
5	CoN 13072	55.03		58.36		55.10	55.07	51.96		57.75	60.91			55.14	62.08	56.82
6	CoSnk 13101	50.28		59.07		55.00	53.49	52.55		54.64	58.03			45.24	59.40	54.19
7	CoSnk 13102	55.05		55.11		55.00	60.43	54.19		57.23	56.29			56.28	65.64	57.25
8	MS 13081	55.15		57.46		53.30	53.17	53.12		58.24	53.64			55.76	63.34	55.91
Standards																
1	CoC 671	52.01		57.39		53.20	55.66	51.87		52.34	56.67			50.38	60.66	54.46
2	Co 94008	49.70		58.70		54.10	56.41	49.89		55.58	57.01			55.87	61.29	55.39
3	Co 85004	46.34		56.53		52.40	59.05	50.16		57.54	60.39			53.42	64.22	55.56
	SE	1.43		-		-	2.00	1.21		1.22	1.10			1.26	1.53	
	CD	4.24		-		2.56	NS	NS		3.60	3.25			4.09	4.34	
	CV	4.80		-		2.80	5.90	4.05		3.77	3.29			3.70	4.25	

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Table 2.5.9 Fibre % at harvest

S. No.	Entries	Coimbatore	Mandya	Navsari	Padegaon	Pune	Sanke shwar	Mean
1	Co 13002	12.97	14.40	14.51	12.57	13.80	14.10	13.73
2	Co 13003	16.38	14.00	14.17	14.84	15.93	15.52	15.14
3	Co 13004	14.70	13.50	14.54	14.69	15.67	13.85	14.49
4	CoN13071	11.98	14.70	14.92	13.01	15.95	14.49	14.18
5	CoN 13072	12.89	13.90	14.10	14.93	15.84	14.88	14.42
6	CoSnk 13101	13.71	14.30	14.79	14.74	14.54	13.86	14.32
7	CoSnk 13102	11.65	13.60	14.03	12.23	14.01	14.25	13.30
8	MS 13081	11.36	13.40	14.23	14.04	13.37	13.50	13.32
Standards								
1	CoC 671	14.02	14.20	14.36	14.34	14.40	14.16	14.25
2	Co 94008	16.77	13.20	14.31	14.89	15.25	14.51	14.82
3	Co 85004	14.73	13.50	14.30	13.38	16.07	15.09	14.51
	SE	-	-	0.16	0.38	0.25	0.51	
	CD	-	NS	0.49	1.13	0.73	6.18	
	CV	-	4.00	1.98	4.76	2.86	1.51	

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Table 2.5.10 Number of millable canes ('000/ha) at harvest

S. No.	Entries	Coimbatore	Akola	Kawar dha	Kolhapur	Mandya	Navsari	Padegaon	Perumallapalle	Pravara nagar	Pune	Rudrur	Sameerwadi	Sanke shwar	Thiruvalla	Mean
1	Co 13002	75.46	44.06		65.97	78.30	92.36	87.50	108.50	97.68	70.06	116.09	87.22	71.35	57.87	80.96
2	Co 13003	72.11	38.35		83.26	62.30	109.44	75.46	88.67	93.51	67.53	113.13	41.39	69.09	68.43	75.59
3	Co 13004	66.67	33.18		59.95	58.70	115.41	78.16	89.86	96.75	60.80	117.39	39.58	85.93	43.89	72.79
4	CoN13071	74.88	48.07		87.50	87.00	105.41	76.31	104.50	92.12	61.49	107.75	62.92	68.79	58.06	79.60
5	CoN 13072	73.96	45.91		92.21	52.80	114.16	76.62	100.41	92.94	68.82	117.80	25.69	61.50	57.50	75.41
6	CoSnk 13101	72.11	42.21		91.20	84.40	92.22	71.14	97.23	93.51	64.79	101.09	32.36	81.72	54.63	75.28
7	CoSnk 13102	54.75	41.51		70.99	82.60	98.75	81.71	80.10	89.82	57.72	101.41	23.61	76.49	41.39	69.30
8	MS 13081	68.52	47.38		89.66	80.20	102.22	74.92	85.59	101.66	67.90	100.63	60.69	57.6	59.91	76.68
	Standards															
1	CoC 671	57.29	42.98		84.34	79.20	99.17	68.29	81.78	91.82	66.04	112.12	59.44	77.10	46.30	74.30
2	Co 94008	66.78	45.52		78.55	76.70	94.72	64.35	91.63	89.35	56.48	105.54	43.47	68.79	56.29	72.17
3	Co 85004	78.82	48.92		79.24	67.40	88.75	71.45	107.30	89.34	70.61	112.65	67.36	58.83	55.28	76.61
	SE	3.79	2.27		1.91	-	4.88	1.85	-	1.45	3.22	10.10	3.73	2.84	2.74	
	CD	7.97	6.70		5.79	7.19	14.39	5.45	8.90	4.28	9.52	NS	9.95	8.39	7.78	
	CV	6.70	9.05		4.13	5.74	8.35	4.26	6.30	2.69	8.65	11.25	11.82	6.97	8.70	

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Table 2.5.11 Stalk length (cm) at harvest

S. No.	Entries	Coimbatore	Akola	Kawar dha	Kolhapur	Mandya	Navsari	Padegaon	Perumalpal	Pravara nagar	Pune	Rudhura	Sameerwadi	Sanke shwar	Thiruvalla	Mean
1	Co 13002	220.00	207.00		159.17	180.00	265.83	170.00	283.33	216.00	145.45	241.67	92.00	151.90	186.00	193.72
2	Co 13003	251.70	210.00		205.83	185.00	245.87	200.00	299.00	190.66	247.00	245.00	90.00	190.30	221.00	213.95
3	Co 13004	250.00	234.30		195.42	207.00	270.52	210.00	306.00	214.33	203.33	281.67	101.00	181.50	225.00	221.55
4	CoN13071	230.00	227.30		185.42	188.00	282.85	198.33	297.67	189.66	215.11	253.33	66.00	166.90	214.00	208.81
5	CoN 13072	240.00	234.30		200.92	193.00	282.26	200.00	295.33	202.66	227.55	256.67	95.00	169.30	207.00	215.70
6	CoSnk 13101	230.00	202.70		191.67	202.00	254.68	155.00	283.67	185.66	200.11	195.00	72.00	161.70	211.00	195.78
7	CoSnk 13102	231.70	190.00		192.17	222.00	235.90	181.67	303.33	177.66	168.22	231.67	80.00	182.30	211.00	200.59
8	MS 13081	258.30	186.00		202.67	193.00	264.65	211.67	351.20	186.00	226.66	227.67	136.00	211.70	225.00	221.58
	Standards															
1	CoC 671	211.70	212.00		169.67	176.00	258.20	185.00	252.00	180.66	200.89	240.00	84.00	161.70	194.00	194.30
2	Co 94008	230.00	221.70		204.67	191.00	234.14	180.00	311.67	156.00	194.67	241.67	92.00	174.00	214.00	203.50
3	Co 85004	215.00	206.00		159.52	191.00	241.18	145.00	312.33	176.00	159.11	234.33	83.00	183.00	218.00	194.11
	SE	10.90	9.59		7.68	-	11.21	3.51	-	3.45	8.37	16.70	6.56	8.76	6.06	
	CD	24.50	28.28		23.24	22.00	33.07	10.36	16.10	10.18	24.69	35.08	19.36	8.62	17.22	
	CV	8.10	7.83		7.08	6.55	7.53	3.28	3.30	3.16	7.29	8.49	12.61	25.83	4.96	

Table 2.5.12 Stalk diameter (cm) at harvest

S. No.	Entries	Coimbatore	Akola	Kawar dha	Kolhapur	Mandya	Navsari	Padegaon	Perumallapalle	Pravara nagar	Pune	Rudrur	Sameerwadi	Sanke shwar	Thiruvalla	Mean
1	Co 13002	2.53	2.59	2.80	2.16	2.72	2.60	2.23	2.73	2.17	2.79	2.33	2.80	2.86	2.75	2.58
2	Co 13003	2.64	2.78	2.97	2.37	2.67	2.69	2.28	2.70	2.56	3.30	2.57	2.90	2.71	2.79	2.71
3	Co 13004	3.15	2.95	2.79	2.71	2.51	2.59	2.52	3.00	2.50	3.04	2.60	3.00	3.15	2.74	2.80
4	CoN13071	2.81	2.89	2.90	2.08	2.64	2.70	2.44	2.80	2.23	3.12	2.40	2.80	2.78	2.78	2.67
5	CoN 13072	3.27	2.79	3.09	2.27	2.75	2.62	2.23	2.77	2.28	2.79	2.50	3.00	2.72	2.71	2.70
6	CoSnk 13101	2.80	2.69	2.97	2.35	2.76	2.62	2.47	2.73	2.57	3.25	2.83	3.10	2.49	2.69	2.74
7	CoSnk 13102	3.32	3.02	3.33	2.98	2.58	2.61	2.86	3.17	2.35	3.25	2.47	3.70	3.46	3.07	3.01
8	MS 13081	3.18	3.02	3.36	3.15	2.64	2.47	2.94	3.53	2.59	3.31	3.03	3.50	3.20	3.13	3.08
	Standards															
1	CoC 671	3.00	2.89	3.09	2.28	2.79	2.57	2.47	2.70	2.48	3.13	2.80	2.70	2.77	2.73	2.74
2	Co 94008	2.73	2.91	3.02	2.25	2.81	2.71	2.84	2.60	2.37	3.34	2.90	3.10	3.07	2.78	2.82
3	Co 85004	2.40	2.59	2.64	1.68	2.09	2.72	1.96	2.50	2.41	2.35	3.03	2.80	3.13	2.65	2.50
	SE	0.12	0.08	-	0.06	-	0.05	0.08	-	0.04	0.09	0.19	0.11	0.09	0.11	
	CD	0.37	0.23	0.17	0.17	0.35	0.14	0.24	0.10	0.11	0.27	0.39	0.31	0.27	NS	
	CV	7.37	4.74	3.54	4.14	7.82	3.16	5.62	2.40	2.90	3.19	8.57	6.03	5.41	6.63	

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Table 2.5.13 Single cane weight (kg) at harvest

S. No.	Entries	Coimbatore	Akola	Kawardha	Kolhapur	Man dya	Nav sari	Padegaon	Perumallapalle	Pravaranaagar	Pune	Rudrur	Sameerwadi	Sanke shwar	Thiruvalla	Mean
1	Co 13002	1.05	1.25	1.61	1.03	0.98	1.08	1.16	1.20	1.37	1.25	1.50	0.58	0.99	1.09	1.15
2	Co 13003	1.33	1.33	1.88	1.03	1.13	1.12	1.23	1.50	1.34	1.57	1.43	0.57	1.23	1.23	1.28
3	Co 13004	1.59	1.42	1.84	1.10	1.41	1.31	1.28	1.30	1.33	1.37	1.50	0.69	1.49	1.35	1.36
4	CoN13071	1.27	1.67	1.71	0.84	1.29	1.18	1.16	1.40	1.29	1.32	1.57	0.43	1.10	1.33	1.25
5	CoN 13072	1.63	1.92	1.79	1.14	1.40	1.35	1.24	1.27	1.29	1.35	1.50	0.66	1.07	1.26	1.35
6	CoSnk 13101	1.26	1.00	1.69	1.07	1.37	1.14	1.11	1.20	1.29	1.27	1.53	0.49	0.84	1.09	1.17
7	CoSnk 13102	1.66	1.25	2.13	1.08	1.36	1.06	1.23	1.37	1.31	1.17	1.60	0.81	1.66	1.57	1.38
8	MS 13081	1.93	2.00	2.00	1.34	1.43	1.35	1.70	1.50	1.38	1.60	1.50	1.28	1.82	1.62	1.60
Standards																
1	CoC 671	1.37	1.58	2.06	1.11	1.07	1.09	1.21	1.17	1.24	1.38	1.57	0.49	0.96	1.29	1.26
2	Co 94008	1.22	1.33	1.93	1.12	1.10	1.10	1.11	1.17	1.33	1.31	1.57	0.66	1.35	1.15	1.25
3	Co 85004	0.95	1.58	1.49	0.58	1.37	1.24	1.08	1.20	1.09	0.97	1.60	0.43	1.61	1.23	1.17
	SE	0.12	0.08	-	0.08	-	0.04	0.06	-	0.02	0.03	0.15	0.08	0.10	0.75	
	CD	0.26	0.24	0.25	0.26	0.18	0.13	0.19	0.10	0.06	0.08	NS	0.25	0.28	2.14	
	CV	10.74	9.68	8.15	14.07	8.39	6.39	8.89	4.40	2.75	3.92	12.15	22.39	12.98	10.10	

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Table 2.5.14 Brix % at 8 months

S. No.	Entries	Coimbatore	Akola	Kawardha	Kolhapur	Mandya	Navsari	Padegaon	Perumallapalle	Pravaranaagar	Pune	Rudrur	Sameerwadi	Sanke shwar	Thiruvalla	Mean
1	Co 13002	21.76	18.41			20.67	18.66	17.67	16.63	17.88		18.73	17.65	14.49	17.23	18.16
2	Co 13003	20.41	17.01			19.67	19.31	16.00	16.76	19.31		17.70	16.58	12.39	17.17	17.48
3	Co 13004	19.46	16.32			19.50	17.80	15.50	14.49	18.50		17.33	17.52	11.49	14.90	16.62
4	CoN13071	20.03	16.76			20.00	18.00	14.00	15.73	19.41		16.47	13.63	10.33	14.73	16.28
5	CoN 13072	18.86	15.74			19.33	18.00	13.67	14.73	17.78		16.50	13.59	10.30	15.90	15.85
6	CoSnk 13101	20.48	19.51			19.00	18.23	14.83	17.43	19.18		16.80	15.01	11.89	15.27	17.06
7	CoSnk 13102	17.60	16.52			17.67	17.86	14.00	14.78	18.78		16.00	15.26	10.83	15.73	15.91
8	MS 13081	19.87	17.89			19.67	17.79	16.67	15.53	18.81		15.60	14.32	11.03	15.67	16.62
	Standards															
1	CoC 671	22.31	18.01			20.67	18.39	17.17	17.29	18.05		17.30	16.12	10.66	16.83	17.53
2	Co 94008	19.82	16.52			18.67	17.97	14.50	16.04	17.45		16.73	15.65	10.23	15.67	16.30
3	Co 85004	19.96	16.84			19.33	18.45	15.33	16.63	18.48		16.73	15.32	12.36	14.97	16.76
	SE	0.21	0.51			-	0.22	0.36	-	0.37		0.41	0.68		0.47	
	CD	0.61	1.52			1.25	0.64	1.06	0.70	1.09		0.87	2.02		1.33	
	CV	1.78	5.17			3.76	2.05	4.06	2.50	3.48		2.99	7.65		5.12	

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Table 2.5.15 Sucrose % at 8 months

S. No.	Entries	Coimbatore	Akola	Kawar dha	Kolhapur	Mandya	Navsari	Padegaon	Perumallapalle	Pravaranaagar	Pune	Rudrur	Sameerwadi	Sanke shwar	Thiruvalla	Mean
1	Co 13002	19.86				19.33	16.87	15.13	14.90	17.84		13.71	15.46	10.90	15.38	15.94
2	Co 13003	18.34				18.36	18.01	13.17	14.10	18.07		12.96	14.11	8.42	15.29	15.08
3	Co 13004	17.16				18.05	16.33	12.34	10.19	18.39		13.30	15.40	7.54	13.48	14.22
4	CoN13071	17.74				18.74	17.03	10.84	13.42	17.90		13.27	10.74	5.58	13.31	13.86
5	CoN 13072	16.18				17.98	17.05	9.93	14.39	17.31		13.19	10.30	4.75	14.00	13.55
6	CoSnk 13101	18.50				17.77	17.53	12.17	15.30	17.03		12.85	12.58	8.24	13.79	14.58
7	CoSnk 13102	15.27				15.27	16.53	10.79	14.59	18.14		12.56	12.55	6.32	14.15	13.62
8	MS 13081	17.87				18.44	16.38	14.78	13.77	19.06		12.58	12.71	6.99	14.16	14.67
	Standards															
1	CoC 671	20.32				19.41	17.13	14.82	15.52	18.13		13.47	14.83	6.91	15.08	15.56
2	Co 94008	17.50				17.23	17.02	11.46	14.36	16.66		12.69	12.92	6.09	14.17	14.01
3	Co 85004	17.99				17.98	17.72	12.54	14.83	18.33		13.09	12.49	8.25	13.54	14.68
	SE					-	0.32	0.51	-	0.40		0.74	0.87	0.45	0.42	
	CD	0.60				1.34	0.94	1.49	0.60	1.19		NS	2.56	1.32	1.20	
	CV	1.97				4.37	3.23	7.00	2.10	3.91		6.93	11.5	10.64	5.13	

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Table 2.5.16 Purity % at 8 months

S. No.	Entries	Coimbatore	Akola	Kawar dha	Kolhapur	Mandya	Navsari	Padegaon	Perumallapalle	Pravaranaagar	Pune	Rudrur	Sameerwadi	Sanke shwar	Thiruvalla	Mean
1	Co 13002	91.25	84.81			94.68	90.42	85.62	89.60	85.76		72.99	87.54	75.20	88.30	86.02
2	Co 13003	89.82	94.08			94.56	93.28	82.22	84.12	85.23		73.11	85.06	68.13	88.16	85.25
3	Co 13004	87.53	94.31			93.79	91.73	79.52	70.33	90.39		76.49	87.90	65.50	89.38	84.26
4	CoN13071	88.60	87.85			94.88	94.65	77.08	85.29	91.34		80.95	78.73	53.94	89.26	83.87
5	CoN 13072	85.76	94.87			94.17	94.73	72.58	99.04	93.73		80.08	75.62	45.61	89.53	84.16
6	CoSnk 13101	65.32	79.01			94.74	96.16	82.14	87.79	87.09		76.32	83.59	70.44	89.26	82.90
7	CoSnk 13102	86.72	91.75			87.65	92.60	76.84	98.70	88.46		78.41	81.64	58.02	88.95	84.52
8	MS 13081	89.97	87.44			94.98	92.15	88.48	88.68	89.19		80.72	83.47	63.40	89.38	86.17
Standards																
1	CoC 671	91.08	84.92			95.07	93.22	86.30	89.76	85.99		77.86	86.27	64.77	88.66	85.81
2	Co 94008	88.28	92.27			93.51	94.69	78.94	89.76	95.69		78.32	82.85	59.59	89.44	85.76
3	Co 85004	90.12	90.30			94.22	96.01	81.63	89.18	93.01		77.97	82.78	66.75	89.40	86.49
	SE	0.29	2.89			-	1.53	2.15	-	1.21		5.79	1.88	3.67	0.27	
	CD	0.61	8.51			1.30	NS	6.35	2.80	3.59		NS	5.56	10.82	0.76	
	CV	1.78	5.60			0.81	2.84	4.60	1.90	2.35		9.14	3.92	10.11	0.52	

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Table 2.5.17 CCS % at 8 months

S. No.	Entries	Coimbatore	Akola	Kawardha	Kolhapur	Mandya	Navsari	Padegaon	Perumallapalle	Pravaranaagar	Pune	Rudrur	Sameerwadi	Sanke shwar	Thiruvalla	Mean
1	Co 13002	13.94	10.58			13.80	11.79	10.31	10.66	12.30		8.53	10.64	6.91	10.68	10.92
2	Co 13003	12.78	11.38			13.10	12.77	8.79	9.78	11.81		8.07	9.58	4.99	10.62	10.33
3	Co 13004	11.86	10.96			12.83	11.49	8.08	6.35	13.55		8.52	10.62	4.35	9.43	9.82
4	CoN13071	12.28	10.15			13.39	12.16	6.99	9.37	12.72		8.75	7.00	2.69	9.30	9.53
5	CoN 13072	11.02	10.56			12.80	12.17	6.16	11.15	12.64		8.65	6.56	1.85	10.07	9.42
6	CoSnk 13101	12.92	10.06			12.68	12.60	8.11	10.84	12.09		8.21	8.47	4.95	9.64	10.05
7	CoSnk 13102	10.46	10.60			10.52	11.68	6.94	11.14	13.27		8.16	8.37	3.29	9.87	9.48
8	MS 13081	12.47	10.75			13.18	11.55	10.24	9.80	13.16		8.29	8.81	3.93	9.90	10.19
	Standards															
1	CoC 671	14.26	10.35			13.87	12.14	10.14	11.11	12.71		8.70	10.46	3.95	10.50	10.74
2	Co 94008	12.09	10.70			12.23	12.15	7.48	12.54	12.17		8.07	8.63	3.24	9.91	9.93
3	Co 85004	12.55	10.61			12.81	12.73	8.34	10.58	13.20		8.48	8.28	4.83	9.47	10.17
	SE	0.16	0.29			-	0.29	0.44	-	0.56		0.79	0.73	0.39	0.30	
	CD	0.48	NS			1.01	0.87	1.30	0.30	1.67		NS	2.15	1.17	0.84	
	CV	2.24	4.72			4.64	4.20	9.16	2.20	7.73		11.57	14.27	16.73	5.16	

Table 2.5.18 Number of shoots ('000/ha) at 8 months

S. No.	Entries	Coimbatore	Akola	Kawardha	Kolhapur	Mandya	Navsari	Padegaon	Perumallapalle	Pravara nagar	Pune	Rudrur	Sameerwadi	Sanke shwar	Thiruvalla	Mean
1	Co 13002	83.33	47.84			82.40	117.63	91.59	127.35	105.02	73.35	117.20	58.33	86.96	64.17	87.93
2	Co 13003	87.15	40.51			88.00	131.44	79.94	95.92	97.99	71.18	99.00	36.88	79.05	76.67	81.98
3	Co 13004	67.01	35.34			97.60	135.65	85.34	92.79	107.64	64.05	97.97	28.39	51.64	50.09	76.13
4	CoN13071	80.90	50.08			106.90	118.02	81.48	110.07	103.00	64.74	93.23	50.39	80.70	66.30	83.82
5	CoN 13072	87.85	46.68			80.90	130.16	83.64	119.73	106.25	72.10	86.97	44.52	86.14	73.89	84.90
6	CoSnk 13101	69.79	43.36			119.60	119.93	76.62	105.02	103.93	68.02	80.93	22.92	62.52	71.39	78.67
7	CoSnk 13102	54.86	44.68			108.70	120.57	85.49	86.57	104.46	61.15	80.03	19.83	58.42	49.45	72.85
8	MS 13081	75.00	55.25			106.20	127.47	76.77	102.16	108.07	71.40	84.00	46.84	70.43	66.67	82.52
	Standards															
1	CoC 671	59.72	45.83			105.10	126.96	71.06	84.83	85.56	69.35	95.33	43.06	86.45	58.15	77.62
2	Co 94008	63.89	48.30			96.20	119.29	68.29	101.53	94.12	60.24	83.93	25.46	66.32	61.11	74.06
3	Co 85004	81.60	52.62			98.50	113.41	88.58	113.15	92.87	73.82	103.70	50.62	62.83	63.42	82.93
	SE	3.66	2.21			-	4.55	1.64	-	2.27	3.23	10.31	5.52	6.91	2.99	
	CD	10.88	6.52			8.66	13.41	4.85	10.70	6.70	9.52	21.65	16.27	20.37	8.51	
	CV	8.34	8.25			5.13	6.37	3.52	7.20	3.90	8.29	13.58	24.60	16.62	8.13	

Table 2.5.19 Number of tillers ('000/ha) at 120 days

S. No.	Entries	Coimbatore	Akola	Kawar dha	Kolhapur	Mandya	Navsari	Padegaon	Perumallapalle	Pravara nagar	Pune	Rudrur	Sameerwadi	Sanke shwar	Thiruvalla	Mean
1	Co 13002	95.37	60.11		110.80	107.70	160.70	120.60	149.94	108.37	128.17	87.25	117.4	116.40	63.15	109.69
2	Co 13003	92.25	53.24		118.13	110.40	182.07	125.00	122.65	106.68	131.86	77.70	76.67	101.00	68.80	105.11
3	Co 13004	82.29	45.76		93.60	106.80	190.85	127.31	115.22	112.54	131.09	78.40	64.35	64.78	45.18	96.78
4	CoN13071	94.79	59.18		123.30	132.50	162.82	105.79	130.81	108.81	89.41	76.31	107.30	122.00	61.76	105.75
5	CoN 13072	98.84	57.64		131.79	106.50	188.58	128.24	151.24	109.29	218.06	70.76	96.37	146.10	66.76	120.78
6	CoSnk 13101	82.75	53.94		123.07	127.00	172.07	109.26	141.77	109.21	115.06	45.37	61.57	103.80	60.37	100.40
7	CoSnk 13102	78.24	53.78		100.23	123.10	173.43	104.86	115.43	107.11	91.05	40.43	73.15	98.77	44.91	92.65
8	MS 13081	87.15	65.97		128.55	115.40	170.10	113.66	127.35	111.70	154.70	66.74	108.00	113.60	60.28	109.47
	Standards															
1	CoC 671	73.03	51.39		101.93	116.70	177.22	115.51	103.82	88.33	120.76	71.30	87.35	119.60	55.37	98.64
2	Co 94008	79.51	54.78		114.74	102.60	159.79	93.06	120.11	96.81	87.03	69.44	67.21	81.83	61.67	91.43
3	Co 85004	92.01	62.27		113.66	106.90	158.73	142.59	138.24	97.01	141.59	80.63	90.51	105.10	62.41	107.05
	SE	4.10	40.63		9.93	-	6.41	6.47	-	2.21	4.15	10.79	9.79	8.09	2.67	
	CD	12.19	34.10		NS	8.39	18.92	19.07	11.70	6.53	12.27	22.66	28.89	23.87	7.59	
	CV	8.18	8.25		15.02	4.32	6.44	9.58	7.80	3.65	5.62	19.01	19.64	13.14	7.82	

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Table 2.5.20 Germination % at 30 days

S. No.	Entries	Coimbatore	Akola	Kawar dha	Kolhapur	Mandya	Navsari	Padegaon	Perumalalle	Pravara nagar	Pune	Rudrur	Sameerwadi	Sanke shwar	Thiruvalla	Mean
1	Co 13002	64.69	40.63		47.07	59.11	40.00	44.44	62.10	53.40	49.15	50.17	63.00	41.99	50.00	51.21
2	Co 13003	50.31	43.02		51.54	49.33	44.74	48.96	58.65	48.40	37.42	57.92	43.00	38.29	60.59	48.63
3	Co 13004	48.65	40.87		39.58	45.46	46.03	52.43	48.22	52.31	40.43	42.42	37.00	32.27	38.37	43.39
4	CoN13071	57.92	41.43		55.71	61.52	40.93	51.74	58.80	50.81	40.74	32.00	60.00	39.33	48.45	49.18
5	CoN 13072	69.27	41.67		67.21	49.88	45.35	48.61	67.24	54.44	62.34	36.75	66.00	46.61	58.44	54.91
6	CoSnk 13101	60.83	42.06		51.77	51.74	41.34	51.74	70.30	49.96	57.56	32.12	47.00	51.93	54.44	50.98
7	CoSnk 13102	39.58	40.87		45.06	62.96	38.96	47.57	55.43	47.93	42.45	33.68	39.00	41.99	36.59	44.01
8	MS 13081	62.40	44.76		59.34	47.40	41.98	52.43	57.35	48.38	55.79	48.08	47.00	34.35	50.44	49.98
	Standards															
1	CoC 671	42.71	40.78		46.30	43.60	43.56	42.01	53.82	46.61	51.69	42.42	61.00	42.80	42.52	46.14
2	Co 94008	56.77	40.79		51.85	50.56	41.58	41.67	58.11	45.28	54.24	37.58	53.00	46.38	48.67	48.19
3	Co 85004	73.02	46.75		50.62	48.19	42.24	39.93	53.97	47.42	49.37	41.58	55.00	31.69	56.00	48.91
	SE	2.73	1.43		4.73	-	1.45	1.24	-	2.52	1.67	6.66	17.17	5.80	2.30	
	CD	8.10	4.21		14.32	NS	4.27	3.67	6.00	7.44	4.93	13.98	15.20	17.10	6.54	
	CV	8.30	5.87		15.92	14.21	5.91	4.54	4.80	8.82	5.88	19.72	5.15	24.68	8.05	

2.5.21. Assessment of entries by monitoring team

Entry / Locations	Perumalapalle	Pugalur	Coimbatore	Thiruvalla	Mandya	Sankeshwar	Sameerwadi	Kohlapur
Co 13002	On-par	On-par	On-par	Poor	On-par	On-par	On-par	On-par
Co 13003	On-par	On-par	Better	Better	On-par	Better	Poor	Better
Co 13004	On-par	On-par	Better	On-par	On-par	On-par	Better	Poor
CoN 13071	On-par	On-par	On-par	On-par	Better	On-par	Poor	On-par
CoN 13072	Better	Better	Better	On-par	On-par	Better	On-par	On-par
CoSnk 13101	On-par	On-par	Better	Poor	Better	Poor	Poor	On-par
CoSnk 13102	On-par	On-par	Better	Poor	Better	Better	Poor	Poor
MS 13081	On-par	Poor	Better	Better	Better	Better	Better	Poor
Best standard	Co 94008	Co 94008	Co 94008	Co 94008	CoC 671	CoC 671	CoC 671	Co 85004

Table 1: Initial Varietal Trials (Early)

Entries	Navsari	VSI, Pune	Padegaon	Pravara nagar	Akola	Pawar kheda	Rudrur
Co 13002	Better	On par	Better	On par	On par	P	On par
Co 13003	On par	On par	On par	On par	On par		On par
Co 13004	On par	On par	Better	On par	Better		Better
CoN 13071	Better	Better	On par	On par	On par	O	Better
CoN 13072	On par	On par	On par	On par	On par		On par
CoSnk13101	On par	On par	Better	On par	On par		On par
CoSnk13102	On par	Poor	Poor	Poor	Better	O	On par
MS 13081	On par	On par	On par	On par	On par		On par
Co 85004(C)	Best	Better	Better	Best	Best		Best
Co 94008(C)	On par	Best	Better	Better	Better	R	Better
CoC 671(C)	Better	Poor	Best	Better	Better		Better

2.6. Advanced Varietal Trial II Plant – Midlate (2016-17)

Centers where trial was conducted (13)	Coimbatore, Akola, Kolhapur, Mandya, Navsari, Padegoan, Perumallapalle, Pravaranagar, Pugalur, Pune, Sameerwadi, Sankeshwar and Thiruvalla
Entries (11)	Co 09009, Co 10015, Co 10017, Co 10031, Co 10033, CoM 10083, CoT 10368, CoT 10369, CoVC 10061, PI 10131 and PI 10132
Standards (2)	Co 86032 and Co 99004
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
Year of start	2016-17
Crop duration	12 months

Results of the previous year: Eleven midlate entries were evaluated along with two standards (Co 86032 and Co 99004) at 16 locations during 2015-16. Two entries Co 10033 and Co10015 had recorded 15.03 t/ha and 14.74 t/ha of sugar yield as well as 115.24 t/ha and 110.24 t/ha of cane yield respectively and found superior over the best standard Co 86032 (14.31 of CCS t/ha and 104.74 t/ha of cane yield) respectively. The two entries Co10033 and Co 10015 ranked top three at eight locations each for commercial sugar and cane yield in the zone. For CCS % two entries viz., PI10132 (13.88) and PI 10131(13.75) were found superior and recorded higher CCS % than best standard Co 86032 (13.47). The entries PI 10131and PI 10132 ranked top three at nine and seven locations respectively. The highest sucrose % was observed in PI 10132 (19.71) and PI 10131 (19.61) and found superior to the best standard Co 86032 (19.30). The entry PI 10131 and PI 10132 ranked top three in ten and six locations respectively. Co 10033 was better than standard for cane parameters, whereas PI 10131 for juice traits.

Results of the current year: Eleven test entries and two standards (Co 86032 and Co 99004) were evaluated at 13 locations. Two test entries viz., Co 10033 (14.77 t/ha) and CoT 10369 (14.30 t/ha) had recorded 13.96 % and 10.33 % of higher sugar yield as compared to best standard Co 86032 (12.96 t/ha). The entry Co 10033 recorded more than 10 % improvement for CCS t/ha over the best standard at six locations in the zone. For cane yield, one entry Co 10033 (114.25 t/ha) had recorded 12.77 % of cane yield over the best standard Co 86032 (101.31 t/ha) across the zone. Other test entries viz., Co 10015 (102.80 t/ha) and CoT 10369 (102.24 t/ha) had recorded numerically higher cane yield than the best standard of the zone. The entry Co 10033 recorded more than 10 % improvement for cane yield over the best standard at five locations. In case of CCS %, none of the test entries evaluated had recorded 5 % improvement for CCS % over the best standard Co 99004 (13.29) across the zone, however four entries viz., CoT 10369 (13.88%), Co 10031 (13.46%), PI 10131(13.42%) and PI 10132 (13.42%) recorded numerically higher CCS % over the best standard of the zone. The entry PI 10131 had recorded more than 5 % improvement over the best standard at four locations. For sucrose %, none of the test entry had recorded 5 % improvement for sucrose % over the best standard Co 99004 (19.17%) across the zone, however four entries CoT 10369 (19.52%), PI 10131(19.33%), Co 10031 (19.30) and PI 10132 (19.30) had recorded numerically higher sucrose % than the best standard of the zone. None of the test entries were identified as qualifying entry across the zone. The data are presented in table 2.6.1 to 2.6.20.

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Table 2.6.1 CCS t/ha at harvest

S No	Entries	Coimbatore	Akola #	Kolhapur	Man dya #	Nav sari #	Padegaon	Perumalappalle #	Pravaranagar	Pugalur	Pune	Sameerwadi	Sanke shwar	Thiruvalla	Mean	Rank
1	Co 09009	17.10	8.06	11.10	14.62	15.95	13.89	16.74	19.32	10.42	10.34	7.98	10.08	11.73	12.87	
2	Co 10015	17.50	10.20	11.10	16.49	17.26*	14.08	11.45	19.37	8.93	18.92*	12.39	7.85	10.92	13.57	3
3	Co 10017	21.06	8.62	1.62	15.89	-	14.58	8.67	15.29	5.15	9.44	5.83	-	6.65	10.25	
4	Co 10031	12.09	13.16*	10.53	13.18	14.94	18.05*	12.75	17.33	8.81	10.12	7.13	5.50	9.48	11.77	
5	Co 10033	19.83*	13.33*	10.38	16.41	15.87	18.44*	19.99*	17.69	9.59	18.57*	10.71	10.76	10.44	14.77	1
6	CoM 10083	15.68	12.15	13.62	14.39	-	10.08	8.10	17.95	11.23	10.40	5.44	6.05	8.68	11.15	
7	CoT 10368	11.98	10.57	7.78	16.16	16.35*	10.90	14.40*	17.09	6.81	10.85	6.58	12.51	6.24	11.40	
8	CoT 10369	15.70	10.89	14.83	16.40	16.96*	18.10*	22.51*	14.71	7.21	18.42*	6.34	12.50	11.36	14.30	2
9	CoVC 10061	12.05	11.81	7.74	17.38	15.44	13.14	10.66	15.91	7.67	16.17	8.56	14.92	11.30	12.52	
10	PI 10131	17.63	9.68	13.74	15.07	15.11	12.74	13.08*	16.43	8.07	15.89	6.52	13.55	7.44	12.69	
11	PI 10132	15.89	8.29	9.72	15.05	14.26	20.24*	15.26*	17.59	6.20	11.12	7.38	16.75*	7.60	12.72	
Standards																
1	Co 86032	15.38	10.42	14.31	14.79	13.50	14.91	6.46	18.31	8.02	16.08	13.16	14.10	9.10	12.96	
2	Co 99004	16.86	9.11	8.39	14.33	12.95	13.40	10.15	16.95	11.98	11.92	7.53	11.24	12.19	12.08	
	GM	15.26	10.48	10.37	15.40	15.33	14.81	13.09	17.23	8.47	13.71	8.12	11.32	9.47		
	SE	8.90	0.82	0.70	-	0.78	0.47	-	0.4	0.6	0.44	1.55	0.63	0.66		
	CD	2.83	2.52	2.12	3.17	2.41	1.44	1.80	1.26	1.32	1.27	NS	1.94	1.89		
	CV	7.99	11.04	9.54	9.44	7.15	4.47	6.90	3.36	7.19	5.20	27.08	7.64	9.96		
Qualifying Entries at each location																
	1	Co 10017	Co 10033		CoVC 10061	Co 10015	Co 10033	CoT 10369			Co 10015		PI 10132		Co 10033	
	2	Co 10033	Co 10031		Co 10015	CoT 10369	CoT 10369	Co 10033			Co 10033				CoT 10369	
	3		CoM 10083		Co 10033	CoT 10368	Co 10031	Co 09009			CoT 10369					

* Significant with best standard variety at 5% level. # Only top three entries were listed.

Qualifying Entries: Co 09009 (2), Co 10015 (4), Co 10017 (1), Co 10031 (3), Co 10033 (6), CoM 10083 (1), CoT 10368 (1), CoT 10369 (4), CoVC 10061 (2), PI 10131 (2) and PI 10132 (2).

Performance across locations: Two test entries viz., Co 10033 (14.77 t/ha) and CoT 10369 (14.30 t/ha) had recorded 13.96 % and 10.33 % of higher sugar yield as compared to best standard Co 86032 (12.96 t/ha). The entry Co 10033 recorded more than 10 % improvement for CCS t/ha over the best standard Co 86032 at six locations in the zone, which was followed by Co 10015 and CoT 10369 at four locations. The other test entries Co 09009, CoVC 10061, PI 10131 and PI 10132 recorded 10 % improvement at two locations each, whereas Co 10017, CoM 10083 and CoT 10369 at one location each over the best standard.

Varietal Improvement Programme- AICRP (Sugarcane)
Principal Investigator's Report (2016-17)
Peninsular zone AVT II Plant- Midlate

Table 2.6.2 Cane yield t/ha at harvest

S No	Entries	Coimbatore	Akola #	Kolhapur	Mandya	Navsari	Padegaon #	Perumallapalle #	Pravaranagar	Pugalur	Pune	Sameerwadi	Sanke shwar	Thiruvalla	Mean	Rank
1	Co 09009	142.51	70.83	78.24	115.36	112.31	103.86	137.10*	136.79	79.42	78.32	60.42	83.00	83.65*	98.60	
2	Co 10015	133.78	84.26	75.50	115.19	129.25*	102.85	117.35*	135.25	66.14	141.71*	98.89	51.00	85.21*	102.80	2
3	Co 10017	163.96	68.45	13.31	114.24	-	102.48	78.75	109.72	42.97	73.29	40.97	-	48.23	77.85	
4	Co 10031	95.53	111.44*	71.28	101.22	109.71	120.25*	100.55	110.01	71.44	76.84	56.67	36.50	69.06	86.96	
5	Co 10033	153.55	103.33	81.24	123.78*	107.72	134.63*	140.10*	139.86	81.42	151.46*	104.03	82.50	81.67	114.25	1
6	CoM 10083	123.62	103.73	94.85	109.11	-	76.55	95.05	135.36	88.02	82.15	40.56	42.50	67.50	88.25	
7	CoT 10368	103.62	90.23	52.10	117.80	116.69	78.14	123.40*	122.94	59.98	100.17	53.47	94.50	47.60	89.28	
8	CoT 10369	114.59	84.95	101.87	119.79	122.08	122.94*	153.10*	99.79	56.25	136.51*	48.19	89.00	80.10	102.24	3
9	CoVC 10061	105.53	100.60	58.36	121.27	111.71	92.49	98.40	108.26	62.76	121.77	66.39	106.50	87.19*	95.48	
10	PI 10131	126.04	83.08	97.24	114.84	117.49	95.28	113.35*	118.09	61.80	115.91	46.39	89.00	53.75	94.79	
11	PI 10132	120.34	69.68	71.44	117.88	109.52	136.83*	130.00*	119.69	47.22	84.12	54.58	109.50	56.04	94.37	
Standards																
1	Co 86032	120.87	83.63	98.14	113.11	108.12	108.43	82.35	145.25	61.54	118.94	101.67	105.00	70.00	101.31	
2	Co 99004	131.11	79.07	57.36	101.30	96.16	93.39	92.35	115.70	92.01	86.03	54.72	85.50	98.75	91.03	
	GM	125.77	87.18	73.15	114.22	112.80	105.24	112.45	122.82	67.00	105.17	63.61	81.21	71.44		
	SE	5.39	7.05	4.89	-	4.94	3.67	-	0.70	4.76	3.39	12.07	4.87	4.40		
	CD	15.34	21.73	14.79	9.44	15.23	11.31	16.10	2.16	10.39	9.80	37.20	15.00	12.51		
	CV	5.53	11.44	9.45	3.79	6.16	4.93	7.50	0.80	7.16	5.28	26.83	8.24	8.71		
Qualifying Entries at each location																
	1	Co 10017	Co 10031			Co 10015	PI 10132	CoT 10369			Co 10033					
	2	Co 10033	CoM 10083			CoT 10369	Co 10033	Co 10033			Co 10015					
	3		Co 10033				CoT 10369	Co 09009			CoT 10369					

* Significant with best standard variety at 5% level. . # Only top three entries were listed.

Qualifying Entries: Co 09009 (1), Co 10015 (3), Co 10017 (1), Co 10031 (2), Co 10033 (5), CoM 10083 (1), CoT 10368 (1), CoT 10369 (4) CoVC 10061 (1), PI 10131(1) and PI 10132 (2).

Performance across locations: One entry Co 10033 (114.25 t/ha) had recorded 12.77 % of cane yield over the best standard Co 86032 (101.31 t/ha) across the zone. Other test entries viz., Co 10015 (102.80 t/ha) and CoT 10369 (102.24 t/ha) had recorded numerically higher cane yield than the best standard Co 86032. The entry Co 10033 recorded more than 10 % improvement for cane yield over the best standard at five locations followed by CoT 10369 (4), Co 10015 (3), Co 10031(2) and PI 10132 (2). The other test entries such as Co 09009, Co 10017, CoM 10083, CoT 10368, CoVC 110061 and PI 10132 each at one location over the best standard.

Varietal Improvement Programme- AICRP (Sugarcane)
Principal Investigator's Report (2016-17)
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Table 2.6.3 CCS % at harvest

S No	Entries	Coimbatore	Akola	Kolhapur	Mandya	Navsari	Padegaon	Perumallapalle #	Pravara nagar	Pugalur	Pune	Sameerwadi	Sanke shwar #	Thiruvalla #	Mean	Rank
1	Co 09009	12.00	11.39	14.19	12.60	14.18*	13.37	12.21*	14.14	13.13	13.20	13.21	12.18	14.02*	13.06	
2	Co 10015	13.08	12.11	14.71	14.29	13.35	13.69	9.75	14.33	13.51	13.35	12.52	15.33*	12.81	13.29	
3	Co 10017	12.86	12.61	12.16	13.90	-	14.23	11.01	13.94	11.98	12.89	14.18	-	13.78*	13.05	
4	Co 10031	12.55	11.81	14.78	13.01	13.62	15.01	12.68*	14.69	12.29	13.17	12.58	15.05	13.73	13.46	2
5	Co 10033	12.91	12.91	12.80	13.26	14.74*	13.72	14.27*	12.64	11.77	12.38	10.27	13.02	12.78	12.88	
6	CoM 10083	12.68	11.66	14.36	13.20	-	13.17	8.52	13.28	12.75	12.82	13.41	14.24	12.85	11.76	
7	CoT 10368	11.58	11.71	14.94	13.72	14.00	13.95	11.67	13.91	11.41	10.82	12.24	13.25	13.12	12.79	
8	CoT 10369	13.71	12.74	14.55	13.68	13.90	14.73	14.70*	14.74	12.84	13.50	13.17	14.06	14.18*	13.88	1
9	CoVC 10061	11.44	11.74	13.27	14.33	13.82	14.22	10.83	14.70	12.23	13.30	12.85	14.08	12.96	13.06	
10	PI 10131	13.98	11.66	14.13	13.14	12.87	13.36	11.54	13.90	13.07	13.71	14.03	15.23*	13.84*	13.42	3
11	PI 10132	13.20	11.94	13.60	12.77	13.02	14.79	11.73*	14.70	13.16	13.23	13.48	15.30*	13.57	13.42	4
Standards																
1	Co 86032	12.74	12.51	14.56	13.09	12.47	13.76	7.85	12.62	13.05	13.52	12.94	13.43	13.00	12.73	
2	Co 99004	12.83	11.55	14.63	14.15	13.46	14.35	10.98	14.66	13.02	13.86	13.78	13.16	12.34	13.29	
	GM	12.74	12.03	14.05	13.47	13.58	14.03	11.36	14.02	12.63	13.06	12.97	14.03	13.31		
	SE	0.47	0.37	0.28	-	0.20	0.23	-	0.34	0.27	0.17	0.19	0.54	0.27		
	CD	NS	NS	0.85	NS	0.62	0.72	0.70	1.06	0.60	0.49	0.58	1.66	0.77		
	CV	5.27	4.39	2.83	7.44	2.10	2.36	3.20	3.49	2.18	2.26	2.05	5.43	2.90		
Qualifying Entries at each location																
	1	PI 10131				Co 10033		CoT 10369					Co 10015	CoT 10369		
	2	CoT 10369				Co 09009		Co 10033					PI 10132	Co 09009		
	3							Co 10031					PI 10131	PI 10131		

* Significant with best standard variety at 5% level. # Only top three entries were listed.

Qualifying Entries: Co 09009 (2), Co 10015 (1), Co 10017 (1), Co 10031 (3), Co 10033 (2), CoM 10083 (1), CoT 10368 (1), CoT 10369 (3), PI 10131(4) and PI 10132 (2).

Performance across locations: None of the test entries evaluated had recorded 5% improvement for CCS% over the best standard Co 99004 (13.29%) across the zone, however four entries viz., CoT 10369 (13.88%), Co 10031 (13.46%), PI 10131(13.42%) and PI 10132 (13.42%) recorded numerically higher CCS% over the best standard of the zone. The entry PI 10131 had recorded more than 5% improvement over the best standard at four locations, which was closely followed by Co 10031(3), PI 10132(3) and Co 09009 (2). The other test entries which had recorded 5% improvement over standard were Co 10015, Co 10017, CoM 10083 and CoT 10368 at one location each.

Varietal Improvement Programme- AICRP (Sugarcane)

Principal Investigator's Report (2016-17)

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Table 2.6.4 Sucrose % at harvest

S No	Entries	Coimbatore	Akola	Kolhapur	Mandya	Navsari	Padegaon	Perumallapalle #	Pravara nagar	Pugalur	Pune	Sameerwadi	Sanke shwar #	Thiruvalla #	Mean	Rank
1	Co 09009	17.21	-	20.04	17.99	20.12	18.84	17.40*	19.95	18.85	18.48	19.17	18.09	20.08*	18.85	
2	Co 10015	18.66	-	20.62	20.14	18.90	19.16	14.80	20.20	19.35	18.73	18.04	21.96*	18.32	19.07	
3	Co 10017	18.32	-	17.04	19.68	-	19.97	16.20	19.79	17.58	18.38	20.25	-	19.75*	18.70	
4	Co 10031	17.84	-	20.75	18.46	19.45	21.02	17.70*	20.66	17.97	18.55	18.24	21.26*	19.65	19.30	3
5	Co 10033	18.44	-	17.96	18.70	20.88*	19.18	17.90*	17.92	17.24	17.72	15.18	18.77	18.32	18.18	
6	CoM 10083	17.97	-	20.27	18.78	-	18.50	13.40	18.99	18.43	18.08	19.37	20.32	18.42	18.41	
7	CoT 10368	16.55	-	21.13	19.36	20.28*	19.63	16.80*	19.69	16.51	15.36	17.79	19.06	18.77	18.41	
8	CoT 10369	19.52	-	20.53	19.26	19.93	20.53	16.80*	20.84	18.45	18.87	18.95	20.28	20.30*	19.52	1
9	CoVC 10061	16.69	-	18.70	19.96	19.78	20.03	15.80	20.61	17.83	18.80	18.61	20.38	18.54	18.81	
10	PI 10131	19.81	-	19.97	18.87	18.48	18.83	16.30	19.55	18.91	19.28	20.24	21.86*	19.86*	19.33	2
11	PI 10132	18.80	-	19.39	18.22	18.75	20.73	16.40	20.78	18.95	18.81	19.44	21.86*	19.42	19.30	3
Standards																
1	Co 86032	18.04	-	20.54	18.48	18.45	19.08	13.30	18.12	18.68	18.92	18.71	19.10	18.65	18.34	
2	Co 99004	18.34	-	20.68	19.93	19.61	20.16	16.00	20.60	18.84	19.33	19.84	19.05	17.65	19.17	
	GM	18.17		19.82	19.06	19.51	19.67	16.06	19.82	18.28	18.41	18.76	20.17	19.06		
	SE	0.63	-	0.35	-	0.21	0.32	-	0.45	0.37	0.21	0.27	0.58	0.38		
	CD	NS	-	1.06	NS	0.64	0.97	0.40	1.38	0.82	0.61	0.83	1.78	1.09		
	CV	4.88	-	2.50	6.43	1.50	2.27	1.20	3.21	2.06	1.99	2.04	4.06	2.84		
Qualifying Entries at each location																
	1	PI 10131				Co 10033		Co 10033					Co 10015	CoT 10369		
	2	CoT 10369						Co 10031					PI 10131	Co 09009		
	3							Co 09009					PI 10132	PI 10131		

* Significant with best standard variety at 5% level. # Only top three entries were listed.

Qualifying Entries: Co 09009 (2), Co 10015 (1), Co 10017 (1), Co 10031 (3), Co 10033 (2), CoM 10083 (1), CoT 10368 (1), CoT 10369 (4), CoVC 10061 (1), PI 10131 (3) and PI 10132 (1)

Performance across locations: None of the test entry recorded 5 % improvement for sucrose % over the best standard Co 99004 (19.17) across the zone, however four entries CoT 10369 (19.52), PI 10131 (19.33), Co 10031 (19.30) and PI 10132 (19.30) had recorded numerically higher sucrose % than the best standard of the zone. The entry CoT 10369 recorded more than 5 % improvement over the best standard at four locations, which was closely followed by Co 10031(3) and PI 10131(3). The other test entries which had more than 5 % improvement over the best standard was Co 09009 (2), Co 10033 (2), Co 10015 (1), Co 10017 (1), CoM 10083 (1), CoT 10368 (1), CoVC 10061(1) and PI 10132(1).

Varietal Improvement Programme- AICRP (Sugarcane)
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Table 2.6.5 Brix % at harvest

S No	Entries	Coimbatore	Akola	Kolhapur	Man dya	Nav sari	Padegaon	Perumallapalle	Pravaranagar	Pugalur	Pune	Sameerwadi	Sanke shwar	Thiruvalla	Mean
1	Co 09009	19.14	19.98	21.51	19.75	21.85	20.15	20.20	21.41	20.99	20.09	21.87	21.59	22.25	20.83
2	Co 10015	20.51	20.03	21.76	21.50	20.43	20.15	19.30	21.61	21.47	20.46	20.26	24.35	20.25	20.93
3	Co 10017	20.08	19.28	18.01	21.25	-	21.15	20.00	21.51	20.50	20.80	22.32	-	21.90	20.62
4	Co 10031	19.46	21.53	22.01	20.00	21.43	22.15	19.70	21.51	20.81	20.42	20.76	22.85	21.75	21.11
5	Co 10033	20.33	20.88	19.01	20.00	22.62	20.15	18.50	19.41	20.01	20.19	17.95	21.09	20.35	20.04
6	CoM 10083	19.49	20.25	21.76	20.50	-	19.65	18.50	19.32	20.83	19.98	21.85	22.34	20.45	18.84
7	CoT 10368	18.25	20.83	22.76	20.75	23.05	20.90	19.90	21.26	18.70	17.21	20.35	21.34	20.75	20.47
8	CoT 10369	21.35	21.63	22.01	20.50	22.17	21.40	18.80	22.46	20.61	20.44	21.22	22.84	22.50	21.38
9	CoVC 10061	19.22	21.58	20.01	20.75	21.90	21.40	19.20	21.76	20.51	20.88	21.13	23.10	20.50	20.92
10	PI 10131	21.44	22.28	21.51	21.00	20.63	20.15	18.60	20.86	21.43	21.15	22.78	24.35	22.10	21.41
11	PI 10132	20.57	21.83	21.26	20.00	21.05	21.90	18.30	22.36	21.26	21.14	21.88	24.10	21.50	21.32
Standards															
1	Co 86032	19.49	21.98	22.01	19.75	21.90	19.65	20.40	20.21	20.67	20.55	21.16	20.84	20.75	20.72
2	Co 99004	20.22	21.53	22.26	21.25	22.55	21.40	19.40	21.86	21.32	20.81	22.26	21.59	19.50	21.23
	GM	19.97	21.05	21.22	20.54	21.78	20.78	19.29	21.20	20.70	20.32	21.21	22.53	21.12	
	SE	0.62	0.97	0.30	-	0.34	0.36	-	0.41	0.39	0.23	0.32	0.30	0.41	
	CD	NS	NS	0.91	NS	1.06	1.11	1.10	1.27	0.86	0.67	0.98	0.92	1.17	
	CV	4.38	6.53	2.00	5.05	2.23	2.45	2.60	2.75	1.91	1.97	2.13	1.87	2.75	

Varietal Improvement Programme- AICRP (Sugarcane)
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Table 2.6.6 Purity % at harvest

S No	Entries	Coimbatore	Akola	Kolhapur	Mandya	Navsari	Padegaon	Perumallapalle	Pravaranagar	Pugalur	Pune	Sameerwadi	Sanke shwar	Thiruvalla	Mean
1	Co 09009	89.94	84.54	93.15	90.60	92.09	93.53	86.16	93.17	89.78	91.99	87.69	83.71	89.52	89.68
2	Co 10015	90.96	88.56	94.74	93.50	92.56	95.06	76.70	93.43	90.12	91.53	89.04	90.16	89.67	90.46
3	Co 10017	91.24	92.93	94.59	92.40	-	94.38	81.02	91.99	85.73	88.39	90.73	-	89.41	90.26
4	Co 10031	91.59	82.28	94.28	93.30	90.78	94.87	81.02	94.99	86.35	90.83	87.86	93.07	89.58	90.06
5	Co 10033	91.19	89.13	94.47	93.30	92.36	95.18	96.50	94.53	86.13	87.79	84.60	88.99	89.23	91.03
6	CoM 10083	92.24	84.89	93.15	91.30	-	94.12	72.43	92.91	88.48	90.49	88.65	90.96	89.29	89.08
7	CoT 10368	90.66	83.64	92.82	93.10	88.02	93.91	84.43	92.58	88.25	89.32	87.46	89.32	89.66	89.47
8	CoT 10369	91.43	86.23	93.24	93.70	89.89	95.92	89.36	92.80	89.52	92.33	89.30	88.79	89.51	90.92
9	CoVC 10061	86.79	81.83	93.44	96.10	90.30	93.57	82.29	94.70	86.93	90.04	88.05	88.18	89.65	89.37
10	PI 10131	92.40	79.77	92.85	90.00	89.56	93.45	87.64	94.79	88.25	91.15	88.84	89.77	89.14	89.82
11	PI 10132	91.37	82.22	91.18	90.90	89.08	94.64	89.63	92.94	89.14	88.99	88.85	90.69	89.58	89.94
Standards															
1	Co 86032	92.56	84.46	93.31	93.20	84.24	97.06	65.20	89.76	90.35	92.07	88.40	91.65	89.08	88.56
2	Co 99004	90.68	81.04	92.88	93.60	87.02	94.19	82.49	94.20	88.35	92.86	89.15	88.23	89.68	89.57
	GM	91.00	84.73	93.39	92.69	89.63	94.61	82.68	93.29	88.26	90.60	88.36	89.46	89.46	
	SE	1.57	3.69	0.77	-	1.44	0.80	-	1.44	0.53	0.60	0.34	2.05	0.24	
	CD	NS	NS	N.S.	NS	NS	2.47	3.90	4.46	1.16	1.91	1.04	6.33	NS	
	CV	1.57	6.15	1.16	3.44	2.27	1.20	2.00	2.19	0.6	1.26	0.54	3.25	0.38	

Varietal Improvement Programme- AICRP (Sugarcane)
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Peninsular zone AVT II Plant- Midlate

Table 2.6.7 Pol % Cane at harvest

S No	Entries	Coimbatore	Akola	Kolhapur	Mandya	Navsari	Padegaon	Perumallapalle	Pravaranagar	Pugalur	Pune	Sameerwadi	Sanke shwar	Thiruvalla	Mean
1	Co 09009	13.23	16.85	-	18.00	15.29	14.49	-	-	15.46	14.30	14.00	13.59	-	15.02
2	Co 10015	13.98	17.57	-	20.10	14.38	14.41	-	-	15.88	14.71	13.17	16.58	-	15.64
3	Co 10017	13.87	17.85	-	19.70	-	15.14	-	-	14.41	13.63	14.78	-	-	15.63
4	Co 10031	13.61	17.71	-	18.50	14.82	16.19	-	-	14.77	14.27	13.32	15.88	-	15.45
5	Co 10033	14.46	18.60	-	18.70	15.67	14.77	-	-	14.12	12.38	11.09	13.83	-	14.85
6	CoM 10083	13.78	17.20	-	18.80	-	14.47	-	-	15.06	10.65	14.14	15.26	-	14.92
7	CoT 10368	12.63	17.41	-	19.40	15.27	14.65	-	-	13.50	14.52	12.99	14.10	-	14.94
8	CoT 10369	15.21	18.65	-	19.30	14.98	15.93	-	-	15.13	12.19	13.84	15.54	-	15.64
9	CoVC 10061	13.24	17.66	-	20.00	15.14	15.39	-	-	14.61	13.27	13.59	15.49	-	15.38
10	PI 10131	15.51	17.77	-	18.90	14.12	14.79	-	-	15.59	14.05	14.78	16.22	-	15.75
11	PI 10132	14.51	17.93	-	18.20	14.31	15.85	-	-	15.48	14.89	14.19	16.15	-	15.72
Standards															
1	Co 86032	13.91	18.53	-	18.50	13.98	14.85	-	-	15.39	14.06	13.66	14.50	-	15.26
2	Co 99004	14.10	17.45	-	19.90	14.83	15.35	-	-	15.43	13.95	14.49	14.18	-	15.52
	GM	14.00	17.78		19.08	14.80	15.10			14.99	13.61	13.70	15.11		
	SE	0.188	0.40	-	-	0.14	0.26	-	-	0.30	0.23	0.20	0.49	-	
	CD	0.36	NS	-	NS	0.44	0.81	-	-	0.66	0.68	0.61	1.49	-	
	CV	1.18	3.15	-	6.40	1.36	2.46	-	-	2.05	3.00	2.04	4.53	-	

Varietal Improvement Programme- AICRP (Sugarcane)
Principal Investigator's Report (2016-17)
Peninsular zone AVT II Plant- Midlate

Table 2.6.8 Extraction % at harvest

S No	Entries	Coimbatore	Akola	Kolhapur	Mandya	Navsari	Padegaon	Perumallapalle	Pravara nagar	Pugalur	Pune	Sameerwadi	Sanke shwar	Thiruvalla	Mean
1	Co 09009	49.54	-	-	54.50	58.07	51.06	-	55.48	-	61.40	-	60.76	59.50	56.29
2	Co 10015	46.23	-	-	52.00	61.70	50.93	-	56.59	-	62.58	-	53.72	61.97	55.72
3	Co 10017	46.22	-	-	53.00	-	51.15	-	58.83	-	54.41	-	-	60.69	54.05
4	Co 10031	48.79	-	-	55.50	59.86	51.56	-	50.94	-	61.96	-	58.01	61.98	56.08
5	Co 10033	45.06	-	-	53.50	57.67	53.08	-	52.46	-	49.72	-	55.85	61.55	53.61
6	CoM 10083	48.36	-	-	54.50	-	52.28	-	49.15	-	49.48	-	56.39	61.23	53.06
7	CoT 10368	42.75	-	-	54.00	61.63	51.54	-	51.93	-	61.36	-	55.86	62.49	55.20
8	CoT 10369	51.24	-	-	52.50	59.71	53.10	-	54.43	-	46.59	-	63.73	59.41	55.09
9	CoVC 10061	48.49	-	-	52.00	58.10	55.14	-	53.80	-	53.01	-	57.14	59.77	54.68
10	PI 10131	54.15	-	-	54.00	58.77	51.66	-	57.89	-	59.04	-	60.77	59.99	57.03
11	PI 10132	47.09	-	-	55.50	57.68	53.98	-	58.34	-	62.94	-	60.06	60.65	57.03
Standards															
1	Co 86032	47.04	-	-	54.0	59.66	50.54	-	59.86	-	58.76	-	60.86	60.50	56.40
2	Co 99004	48.62	-	-	52.5	59.17	51.45	-	56.05	-	58.95	-	58.33	60.96	55.75
	GM	47.97			53.65	59.27	52.11		55.06		56.94		58.46	60.82	
	SE	1.11	-	-	-	1.76	0.80	-	1.05	-	119.16	-	1.07	1.74	
	CD	3.46	-	-	NS	NS	2.45	-	3.23	-	128.64	-	3.30	NS	
	CV	3.28	-	-	4.50	4.20	2.16	-	2.69	-	1.74	-	2.59	4.06	

Varietal Improvement Programme- AICRP (Sugarcane)
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Peninsular zone AVT II Plant- Midlate

Table 2.6.9 Fibre % at harvest

S No	Entries	Coimbatore	Akola	Kolhapur	Man dya	Nav sari	Padegaon	Perumallapalle	Pravaranagar	Pugalur	Pune	Sameerwadi	Sanke shwar	Thiruvalla	Mean
1	Co 09009	13.13	-	-	14.10	13.97	14.42	-	-	12.99	13.99	-	14.83	-	13.92
2	Co 10015	15.09	-	-	14.10	13.91	15.48	-	-	12.91	14.10	-	14.48	-	14.30
3	Co 10017	14.29	-	-	13.60	-	15.09	-	-	13.03	14.04	-	-	-	14.01
4	Co 10031	13.72	-	-	13.00	13.78	14.36	-	-	12.82	14.05	-	15.28	-	13.86
5	Co 10033	11.57	-	-	14.50	14.96	14.36	-	-	13.05	13.66	-	16.30	-	14.06
6	CoM 10083	13.31	-	-	14.10	-	13.60	-	-	13.30	14.24	-	14.90	-	11.92
7	CoT 10368	13.66	-	-	13.80	14.71	15.87	-	-	13.18	11.60	-	16.03	-	14.12
8	CoT 10369	12.08	-	-	14.10	14.82	13.98	-	-	13.01	14.68	-	13.42	-	13.73
9	CoVC 10061	10.66	-	-	13.60	13.46	14.47	-	-	13.05	14.42	-	14.00	-	13.38
10	PI 10131	11.68	-	-	13.80	13.57	13.39	-	-	12.58	14.64	-	15.78	-	13.63
11	PI 10132	12.80	-	-	13.00	13.67	14.71	-	-	13.34	14.13	-	16.12	-	13.97
Standards															
1	Co 86032	12.87	-	-	13.10	14.25	13.83	-	-	12.60	14.37	-	14.10	-	13.59
2	Co 99004	13.10	-	-	13.10	14.40	14.93	-	-	13.09	14.70	-	15.56	-	14.13
	GM	12.92			13.68	14.14	14.50			13.00	14.05		15.07		
	SE	0.65	-	-	-	0.29	0.27	-	-	0.24	16.86	-	0.38	-	
	CD	2.05	-	-	NS	0.90	0.83	-	-	0.53	15.65	-	1.18	-	
	CV	7.20	-	-	4.0	2.88	2.62	-	-	1.89	1.91	-	3.61	-	

Varietal Improvement Programme- AICRP (Sugarcane)
Principal Investigator's Report (2016-17)
Peninsular zone AVT II Plant- Midlate

Table 2.6.10 Number of millable canes ('000/ha) at harvest

S No	Entries	Coimbatore	Akola	Kolhapur	Man dya	Nav sari	Padegaon	Perumallapalle	Pravaranagar	Pugalur	Pune	Sameerwadi	Sanke shwar	Thiruvalla	Mean
1	Co 09009	88.63	59.03	83.16	90.45	110.89	92.88	102.25	115.93	94.66	75.53	85.42	66.93	97.92	89.51
2	Co 10015	96.96	52.66	89.84	97.57	123.71	83.42	103.70	112.69	106.13	95.78	101.81	62.94	106.04	94.87
3	Co 10017	84.03	62.38	58.33	74.13	-	77.26	62.95	100.47	80.90	71.55	54.58	-	64.48	71.91
4	Co 10031	74.22	65.28	70.75	82.99	110.60	83.59	58.80	106.97	75.48	67.20	66.67	67.96	58.23	76.06
5	Co 10033	80.30	64.58	92.45	104.25	110.01	91.15	88.30	115.86	93.62	82.54	83.33	65.09	75.94	88.26
6	CoM 10083	81.34	68.98	77.26	81.60	-	79.51	70.95	98.66	98.41	74.67	61.81	44.90	59.59	74.81
7	CoT 10368	85.50	69.10	68.06	71.09	105.74	69.44	81.15	103.52	99.45	72.25	69.03	62.53	65.63	78.65
8	CoT 10369	75.35	56.60	87.07	82.55	117.23	83.85	88.10	102.21	89.66	86.33	65.83	67.55	81.88	83.40
9	CoVC 10061	90.89	59.38	75.95	83.33	110.45	83.51	74.20	97.75	120.30	87.19	76.39	70.83	96.77	86.69
10	PI 10131	76.39	64.00	81.08	88.37	109.57	80.90	92.15	87.43	70.47	69.69	55.97	67.96	59.27	77.17
11	PI 10132	65.54	49.77	78.56	94.70	105.15	83.33	84.40	87.29	66.30	67.83	45.97	42.54	51.15	70.96
Standards															
1	Co 86032	87.50	64.47	86.63	83.85	126.81	84.03	65.05	111.80	93.83	89.61	115.28	78.52	80.73	89.85
2	Co 99004	72.57	63.19	64.84	77.86	100.58	73.09	75.30	86.07	80.48	65.48	71.39	57.09	105.94	76.45
	GM	81.48	61.49	78.00	85.60	111.89	82.00	80.56	102.05	89.98	77.36	73.34	62.90	77.20	
	SE	3.16	2.75	5.54	-	4.44	2.03	-	1.12	7.40	14.15	7.22	3.62	4.83	
	CD	9.83	8.49	16.76	NS	13.69	6.25	8.50	3.45	16.12	12.16	22.26	11.16	13.75	
	CV	5.47	6.33	10.04	13.15	5.58	3.50	6.30	1.55	8.23	5.80	13.93	8.11	8.86	

Varietal Improvement Programme- AICRP (Sugarcane)
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Peninsular zone AVT II Plant- Midlate

Table 2.6.11 Stalk length (cm) at harvest

S No	Entries	Coimbatore	Akola	Kolhapur	Mandya	Navsari	Padgaon	Perumallapalle	Pravarana gar	Pugalur	Pune	Sameerwadi	Sanke shwar	Thiruvalla	Mean
1	Co 09009	257	213	195	192	262	193	399	217	225	148	124	174	221	216.86
2	Co 10015	275	253	228	210	300	263	405	224	270	258	157	213	225	252.31
3	Co 10017	295	249	125	260	-	233	356	223	215	187	131	-	226	227.18
4	Co 10031	180	208	192	224	273	215	275	262	176	166	113	158	251	207.15
5	Co 10033	305	309	215	243	259	293	344	257	255	251	200	225	213	259.08
6	CoM 10083	270	244	214	206	-	228	271	205	195	166	127	147	253	210.39
7	CoT 10368	260	240	209	192	249	220	365	217	244	249	153	227	238	235.60
8	CoT 10369	255	203	197	205	278	210	361	159	225	186	123	194	228	217.11
9	CoVC 10061	210	188	137	212	275	170	303	169	223	192	147	202	195	201.74
10	PI 10131	243	178	199	191	268	178	329	155	244	199	122	180	219	207.91
11	PI 10132	293	247	132	223	312	298	350	276	206	196	158	244	239	244.07
Standards															
1	Co 86032	225	223	206	189	243	248	337	277	234	197	153	239	241	231.63
2	Co 99004	303	241	240	207	265	233	333	169	246	189	173	217	215	232.96
	GM	259.23	230.19	191.46	211.85	271.35	229.04	340.45	215.96	2.28	199	144.69	201.47	228	
	SE	9.87	4.90	5.93	-	12.23	4.84	-	3.19	0.20	-	16.07	9.49	10.70	
	CD	30.57	15.11	17.95	NS	37.67	14.90	17.60	9.85	0.43	-	NS	29.25	NS	
	CV	5.35	3.01	4.38	16.25	6.40	2.99	2.30	2.09	8.84	-	15.96	6.60	6.70	

Varietal Improvement Programme- AICRP (Sugarcane)
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Peninsular zone AVT II Plant- Midlate

Table 2.6.12 Stalk diameter (cm) at harvest

S No	Entries	Coimbatore	Akola	Kolhapur	Mandya	Navsari	Padegaon	Perumallapalle	Pravara nagar	Pugalur	Pune	Sameerwadi	Sanke shwar	Thiruvalla	Mean
1	Co 09009	3.05	2.52	2.53	3.41	2.47	2.90	2.60	2.27	2.46	2.99	2.70	2.95	2.23	2.70
2	Co 10015	3.01	2.92	2.17	3.40	2.55	2.85	2.65	2.61	2.50	2.87	2.90	2.46	2.41	2.72
3	Co 10017	3.26	2.58	2.09	3.50	-	3.00	2.80	2.56	2.71	2.91	3.00	-	2.74	2.83
4	Co 10031	3.67	3.03	2.69	3.53	2.44	3.15	2.90	2.46	3.20	2.94	3.10	3.17	2.84	3.01
5	Co 10033	3.08	2.87	2.25	3.34	2.55	3.20	2.80	2.42	2.80	3.07	3.20	3.12	2.93	2.89
6	CoM 10083	2.65	2.69	2.61	3.26	-	2.95	2.40	2.40	2.35	2.78	2.70	2.65	2.60	2.67
7	CoT 10368	2.59	2.26	2.23	4.02	2.65	2.75	2.50	2.50	2.25	2.84	2.60	2.46	2.68	2.64
8	CoT 10369	2.56	3.06	2.29	3.57	2.65	3.30	2.80	2.63	2.36	3.25	3.10	2.94	3.00	2.89
9	CoVC 10061	3.31	3.17	2.21	3.87	2.74	3.25	2.85	2.76	2.94	2.92	3.30	2.86	2.75	2.99
10	PI 10131	3.40	3.25	2.59	3.57	2.59	3.15	2.90	2.54	2.69	3.05	3.20	3.19	2.93	3.00
11	PI 10132	3.26	2.67	2.38	3.41	2.55	3.35	2.95	2.62	2.88	3.03	3.00	2.91	2.45	2.88
Standards															
1	Co 86032	3.15	2.31	2.54	3.33	2.59	3.30	2.60	2.49	2.92	2.90	2.90	2.77	2.88	2.82
2	Co 99004	2.81	2.77	2.21	3.39	2.59	3.05	2.50	2.42	2.74	3.01	2.80	2.67	2.54	2.73
	GM	3.06	2.78	2.37	3.51	2.58	3.09	2.71	2.51	2.68	2.97	2.96	2.85	2.70	
	SE	0.15	0.04	0.05	-	0.05	0.10	-	0.04	0.07	0.06	0.17	0.09	0.14	
	CD	0.47	0.12	0.14	NS	0.15	0.32	0.20	0.13	0.16	0.18	NS	0.27	NS	
	CV	7.01	1.96	2.77	7.03	2.64	4.98	2.50	2.38	2.80	0.35	8.06	4.31	7.68	

Varietal Improvement Programme- AICRP (Sugarcane)
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Peninsular zone AVT II Plant- Midlate

Table 2.6.13 Single cane weight (kg) at harvest

S No	Entries	Coimbatore	Akola	Kolhapur	Mandya	Navsari	Padegaon	Perumalpal	Pravara nagar	Pugalur	Pune	Sameerwadi	Sanke shwar	Thiruvalla	Mean
1	Co 09009	1.56	1.20	0.98	1.10	1.06	1.12	1.35	1.23	1.20	1.10	0.68	1.11	1.25	1.15
2	Co 10015	1.71	1.60	0.83	1.02	1.21	1.23	1.15	1.19	1.20	1.49	0.89	1.10	1.18	1.22
3	Co 10017	2.23	1.10	0.21	1.37	-	1.33	1.25	1.13	1.35	1.06	0.67	-	1.14	1.17
4	Co 10031	1.37	1.70	1.09	1.03	1.04	1.44	1.70	1.21	1.25	1.15	0.53	1.20	1.50	1.25
5	Co 10033	1.89	1.60	0.87	0.98	1.12	1.48	1.25	1.22	1.15	1.87	1.41	1.78	1.27	1.38
6	CoM 10083	1.21	1.50	1.19	1.12	-	0.96	1.35	1.36	0.95	1.11	0.70	0.87	1.20	1.13
7	CoT 10368	1.29	1.30	0.77	1.30	1.08	1.13	1.35	1.38	1.15	1.43	0.78	1.16	1.48	1.20
8	CoT 10369	1.68	1.50	1.19	1.12	1.08	1.47	1.15	1.04	1.00	1.72	0.79	1.39	1.36	1.27
9	CoVC 10061	1.42	1.70	0.75	1.35	1.15	1.11	1.25	1.02	1.60	1.49	0.78	1.24	1.01	1.22
10	PI 10131	1.94	1.30	1.21	1.14	1.12	1.18	1.25	1.32	1.60	1.69	0.91	1.55	1.27	1.34
11	PI 10132	1.96	1.40	0.93	0.97	1.17	1.64	1.30	1.43	1.25	1.29	0.72	1.75	1.41	1.32
Standards															
1	Co 86032	1.32	1.30	1.10	1.23	0.92	1.29	1.25	1.45	1.40	1.33	0.72	1.59	1.45	1.26
2	Co 99004	1.59	1.25	0.85	1.19	1.06	1.28	1.25	1.36	1.25	1.33	1.13	1.39	1.18	1.24
	GM	1.63	1.42	0.92	1.15	1.09	1.28	1.30	1.26	1.26	1.39	0.82	1.34	1.28	
	SE	0.11	0.08	0.06	-	0.04	0.04	-	0.01	0.09	0.04	0.14	0.11	-	
	CD	0.34	0.24	0.19	NS	0.13	0.13	0.10	0.04	0.2	0.10	NS	0.34	-	
	CV	9.54	7.78	9.64	19.75	5.32	4.76	5.10	1.75	7.45	4.17	20.74	11.31	-	

Varietal Improvement Programme- AICRP (Sugarcane)
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Peninsular zone AVT II Plant- Midlate

Table 2.6.14 Brix % at 10 months

S No	Entries	Coimbatore	Akola	Kolhapur	Man dya	Nav sari	Padegaon	Perumalpalalle	Pravaragar	Pugalur	Pune	Sameerwadi	Sanke shwar	Thiruvalla	Mean
1	Co 09009	18.25	17.26	18.67	19.25	20.09	16.60	15.70	17.79	19.16	18.89	18.45	19.54	18.93	18.35
2	Co 10015	19.17	19.41	19.17	19.75	18.94	18.60	19.10	18.59	19.25	19.02	18.17	20.54	17.79	19.04
3	Co 10017	18.80	17.76	15.92	21.00	-	18.10	18.60	17.79	17.93	18.88	19.72	-	17.93	18.40
4	Co 10031	19.47	18.11	19.42	19.50	18.85	18.60	18.80	20.34	18.00	19.43	20.65	19.29	19.15	19.20
5	Co 10033	18.44	16.14	17.17	19.25	19.01	17.10	16.20	17.69	17.44	19.12	14.85	19.54	17.03	17.61
6	CoM 10083	18.89	17.23	19.92	20.75	-	17.35	17.10	18.39	18.33	19.07	19.02	18.54	16.25	18.40
7	CoT 10368	19.05	16.49	18.42	21.00	19.69	18.35	14.60	20.79	17.22	15.09	18.77	18.04	18.06	18.12
8	CoT 10369	20.62	18.64	20.42	19.75	18.91	18.10	15.10	18.89	18.82	19.34	17.87	18.54	17.17	18.63
9	CoVC 10061	17.93	17.19	18.17	20.00	19.11	15.85	17.90	18.59	18.05	19.06	17.96	17.54	16.53	17.99
10	PI 10131	20.47	20.44	20.92	21.00	18.53	17.60	14.80	18.19	18.26	19.98	21.30	19.29	17.57	19.10
11	PI 10132	19.53	18.84	17.92	20.00	18.60	18.85	14.90	19.44	18.90	20.01	18.82	19.29	18.40	18.73
Standards															
1	Co 86032	19.16	19.94	19.17	19.25	18.37	17.60	18.00	17.79	19.19	18.83	17.86	18.04	18.22	18.57
2	Co 99004	19.77	19.69	19.42	21.00	20.17	18.60	19.20	17.64	19.33	18.84	18.77	20.04	16.62	19.16
	GM	19.20	18.24	18.82	20.12	19.12	17.79	16.92	18.61	18.45	18.89	18.63	19.02	17.67	
	SE	0.44	0.87	0.32	-	0.14	0.54	-	0.61	0.35	0.28	0.69	0.50	0.53	
	CD	1.38	NS	0.97	NS	0.44	1.67	0.70	1.90	0.77	0.81	2.14	1.53	1.51	
	CV	3.26	6.77	2.41	3.25	1.05	4.30	1.70	4.69	1.93	2.58	5.27	3.67	4.27	

Varietal Improvement Programme- AICRP (Sugarcane)
Principal Investigator's Report (2016-17)
Peninsular zone AVT II Plant- Midlate

Table 2.6.15 Sucrose % at 10 months

S No	Entries	Coimbatore	Akola	Kolhapur	Mandya	Navsari	Padegaon	Perumallapalle	Pravaranagar	Pugalur	Pune	Sameerwadi	Sanke shwar	Thiruvalla	Mean
1	Co 09009	16.10	-	17.52	17.31	17.93	14.66	15.70	17.24	16.64	17.25	15.85	16.41	17.06	15.36
2	Co 10015	17.10	-	18.03	18.84	17.04	16.89	12.40	18.27	17.37	16.60	15.95	17.51	15.95	15.53
3	Co 10017	16.79	-	15.30	19.71	-	16.19	14.80	17.00	16.07	16.44	16.76	-	16.18	15.02
4	Co 10031	17.64	-	18.58	18.26	17.05	17.10	16.10	18.70	16.23	17.30	17.65	17.08	16.28	16.00
5	Co 10033	16.17	-	16.63	17.55	17.59	15.35	16.20	15.45	15.52	16.66	11.36	16.42	15.39	14.64
6	CoM 10083	17.27	-	18.79	19.36	-	15.52	11.50	18.65	16.97	16.91	16.86	15.29	14.59	16.52
7	CoT 10368	17.14	-	17.39	19.70	17.95	16.30	14.60	18.94	15.61	13.59	16.00	14.93	16.18	15.26
8	CoT 10369	18.66	-	19.09	18.59	17.68	16.59	15.10	18.42	16.96	16.98	15.20	15.62	15.37	15.71
9	CoVC 10061	15.83	-	16.99	18.82	17.50	12.92	14.10	17.00	16.21	16.91	15.30	13.65	14.93	14.63
10	PI 10131	18.69	-	19.58	19.63	17.01	15.78	14.80	16.07	16.47	18.20	18.30	16.68	15.83	15.93
11	PI 10132	17.57	-	17.00	18.46	16.92	17.28	14.90	17.60	17.09	17.81	16.31	16.20	16.53	15.67
Standards															
1	Co 86032	17.65	-	18.36	17.55	17.08	16.19	12.10	16.92	17.55	17.08	15.11	15.32	16.18	15.16
2	Co 99004	17.62	-	18.42	19.15	18.12	17.39	15.10	16.86	17.66	17.28	16.12	17.34	14.93	15.85
	GM	17.25		17.82	18.69	17.44	16.01	14.42	17.47	16.64	16.85	15.91	16.04	15.80	
	SE	0.46	-	0.39	-	0.17	0.70	-	0.31	0.31	0.24	0.27	0.63	0.51	
	CD	1.44	-	1.18	NS	0.53	2.16	0.40	0.96	0.68	0.68	0.83	1.94	NS	
	CV	3.88	-	3.10	5.60	1.40	6.19	1.30	2.52	1.90	2.43	2.04	5.50	4.62	

Varietal Improvement Programme- AICRP (Sugarcane)
Principal Investigator's Report (2016-17)
Peninsular zone AVT II Plant- Midlate

Table 2.6.16 Purity % at 10 months

S No	Entries	Coimbatore	Akola	Kolhapur	Mandya	Navsari	Padegaon	Perumallapalle	Pravarana gar	Pugalur	Pune	Sameerwadi	Sanke shwar	Thiruvalla	Mean
1	Co 09009	88.25	94.63	93.78	89.40	89.22	88.36	83.08	95.03	86.85	91.32	85.89	83.92	89.25	89.15
2	Co 10015	89.13	82.72	94.03	94.90	89.97	90.57	64.93	95.42	90.23	87.27	87.72	85.25	88.79	87.76
3	Co 10017	89.26	96.02	96.07	93.40	-	89.37	79.57	91.63	89.59	87.11	84.96	-	89.31	89.66
4	Co 10031	90.57	96.98	95.70	91.20	90.46	91.96	85.66	95.56	90.15	89.03	85.56	88.56	84.28	90.44
5	Co 10033	87.68	97.03	96.83	90.60	92.55	89.65	98.18	90.99	88.99	87.13	76.48	83.87	89.39	89.95
6	CoM 10083	91.39	96.85	94.32	91.70	-	89.29	67.25	98.05	92.58	88.65	88.66	82.35	88.81	82.30
7	CoT 10368	90.00	97.62	94.40	93.30	91.19	88.81	82.03	91.06	90.61	90.04	85.25	82.73	88.73	89.67
8	CoT 10369	90.47	94.21	93.48	93.70	93.50	91.67	97.43	97.56	90.10	87.83	85.03	84.23	88.61	91.37
9	CoVC 10061	88.29	102.23	93.48	93.60	91.58	81.54	78.78	91.47	89.80	88.70	85.22	77.82	89.36	88.61
10	PI 10131	91.30	89.22	93.58	93.00	91.77	89.60	72.56	91.06	90.19	91.10	85.93	86.48	89.20	88.85
11	PI 10132	89.94	96.68	94.85	91.80	90.97	90.06	90.31	94.39	90.45	89.00	86.70	83.95	88.94	90.62
Standards															
1	Co 86032	92.14	91.12	95.75	90.70	92.97	91.95	67.22	95.14	91.46	90.69	84.44	84.88	87.93	88.95
2	Co 99004	89.12	90.10	94.84	90.90	89.83	93.56	78.65	97.36	91.36	91.77	85.91	86.53	88.90	89.91
	GM	89.81	94.26	94.70	92.17	91.27	89.72	80.43	94.21	90.18	89.20	85.21	84.21	88.58	
	SE	0.58	3.42	1.15	-	1.08	1.40	-	1.12	0.59	0.57	1.85	1.51	1.28	
	CD	1.82	NS	N.S.	NS	3.33	4.33	3.90	3.46	1.30	1.64	NS	4.65	NS	
	CV	0.92	5.13	1.72	3.46	1.69	2.21	2.00	1.68	0.66	1.11	3.07	2.53	2.04	

Varietal Improvement Programme- AICRP (Sugarcane)
Principal Investigator's Report (2016-17)
Peninsular zone AVT II Plant- Midlate

Table 2.6.17 CCS % at 10 months

S No	Entries	Coimbatore	Akola	Kolhapur	Mandya	Navsari	Padegaon	Perumallapalle	Pravaranaagar	Pugalur	Pune	Sameerwadi	Sanke shwar	Thiruvalla	Mean
1	Co 09009	11.13	11.66	12.45	12.03	12.46	10.14	10.82	11.91	11.41	12.28	10.81	11.06	11.90	11.54
2	Co 10015	11.87	10.76	12.82	13.46	11.88	11.83	7.29	13.25	12.13	11.57	11.00	11.9	11.11	11.61
3	Co 10017	11.66	12.16	10.99	13.98	-	11.26	9.96	12.18	11.18	11.35	11.37	-	11.30	11.58
4	Co 10031	12.34	12.66	13.32	12.93	11.92	12.05	11.27	13.16	11.33	12.17	12.01	11.82	11.05	12.16
5	Co 10033	11.14	11.29	11.98	12.28	12.43	10.70	12.12	10.62	10.77	11.60	7.28	11.07	10.75	11.08
6	CoM 10083	12.13	12.01	13.39	13.69	-	10.79	6.95	13.69	11.99	11.87	11.68	10.21	10.17	11.55
7	CoT 10368	11.96	11.63	12.39	13.97	12.60	11.30	9.99	13.28	10.92	9.61	10.87	9.99	11.26	11.52
8	CoT 10369	13.04	12.49	13.54	13.20	12.55	11.67	11.34	13.31	11.83	11.87	10.32	10.55	10.70	12.03
9	CoVC 10061	10.94	12.92	12.05	13.36	12.31	8.58	9.44	11.95	11.29	11.88	10.40	8.83	10.43	11.11
10	PI 10131	13.12	12.56	13.90	13.89	11.97	10.99	9.42	11.11	11.50	12.94	12.48	11.41	11.05	12.03
11	PI 10132	12.25	13.11	12.14	12.99	11.86	11.84	10.70	12.31	11.95	12.53	11.18	10.92	11.52	11.95
Standards															
1	Co 86032	12.45	12.76	13.16	8.79	12.09	11.42	7.31	12.60	12.33	12.12	10.23	10.39	11.21	11.30
2	Co 99004	12.23	12.37	13.15	12.29	12.63	12.34	10.10	12.09	12.40	12.33	10.99	11.87	10.41	11.94
	GM	12.02	12.18	12.71	12.84	12.25	11.15	9.75	12.42	11.62	11.86	10.82	10.84	10.99	
	SE	0.35	0.52	0.32	-	0.18	0.53	-	0.39	0.22	0.17	0.61	0.51	0.39	
	CD	1.08	NS	0.98	NS	0.55	1.64	0.50	1.21	0.49	0.50	1.88	1.57	NS	
	CV	4.08	6.09	3.60	6.49	2.05	6.75	2.10	4.50	1.97	2.54	7.99	6.60	5.13	

Varietal Improvement Programme- AICRP (Sugarcane)
Principal Investigator's Report (2016-17)
Peninsular zone AVT II Plant- Midlate

Table 2.6.18 Number of shoots ('000/ha) at 8 months

S No	Entries	Coimbatore	Akola	Kolhapur	Mandya	Nasari	Padgaon	Perumalpal	Pravara	Pugalur	Pune	Sameerwadi	Sanke shwar	Thiruvalla	Mean
1	Co 09009	-	69.21	-	140.50	127.06	98.78	112.95	117.76	121.76	77.85	73.60	75.65	98.54	101.24
2	Co 10015	-	68.40	-	130.00	154.62	91.23	126.05	127.42	133.02	98.03	91.31	68.88	109.17	108.92
3	Co 10017	-	69.79	-	131.00	-	84.20	81.40	107.55	102.37	73.81	59.72	-	70.00	70.89
4	Co 10031	-	61.00	-	140.50	141.84	87.41	80.80	125.97	94.87	70.07	69.21	72.88	68.02	92.05
5	Co 10033	-	71.88	-	144.90	149.81	96.35	113.85	124.23	109.88	84.07	76.84	71.03	80.32	102.11
6	CoM 10083	-	72.69	-	122.50	-	88.19	80.35	105.91	121.76	78.11	62.61	49.30	67.50	77.17
7	CoT 10368	-	76.16	-	110.20	138.84	74.39	92.70	114.09	128.44	74.61	49.88	67.86	71.46	90.78
8	CoT 10369	-	68.17	-	130.40	150.71	89.84	114.20	116.52	100.71	88.00	69.32	73.49	88.86	99.11
9	CoVC 10061	-	67.25	-	138.30	146.35	87.24	78.50	97.37	135.73	89.51	68.86	81.39	100.73	99.20
10	PI 10131	-	69.68	-	132.00	145.30	85.07	92.20	100.37	87.57	71.72	65.27	76.16	75.00	90.94
11	PI 10132	-	53.47	-	146.50	129.07	91.32	102.05	91.21	82.36	70.22	44.09	50.12	60.94	83.76
Standards															
1	Co 86032	-	77.78	-	107.10	115.73	88.19	94.55	116.88	117.80	91.83	84.37	87.95	91.04	97.57
2	Co 99004	-	72.92	-	103.90	128.32	80.99	81.15	100.60	101.12	68.31	62.49	67.45	106.15	88.49
	GM		69.11		129.06	138.88	87.94	96.21	111.22	110.57	79.70	67.51	70.18	83.67	
	SE	-	4.14	-	-	6.80	2.62	-	1.74	8.86	2.69	8.61	3.66	4.25	
	CD	-	12.75	-	13.50	20.96	8.06	9.40	5.36	19.31	7.79	NS	11.28	12.10	
	CV	-	8.47	-	4.80	6.93	4.21	6.60	2.21	8.09	5.80	18.05	7.37	7.19	

Varietal Improvement Programme- AICRP (Sugarcane)
Principal Investigator's Report (2016-17)
Peninsular zone AVT II Plant- Midlate

Table 2.6.19 Number of tillers ('000/ha) at 120 days

S No	Entries	Coimbatore	Akola	Kolhapur	Mandya	Navsari	Padegaon	Perumallapalle	Pravaranagar	Pugalur	Pune	Sameerwadi	Sanke shwar	Thiruvalla	Mean
1	Co 09009	99.31	75.12	93.49	172.50	139.68	113.89	96.50	127.23	148.45	149.93	94.55	86.61	90.21	114.42
2	Co 10015	121.70	74.88	95.14	148.00	149.73	131.94	172.70	134.45	139.28	166.25	81.01	76.57	112.71	123.41
3	Co 10017	100.35	80.09	72.92	160.70	-	102.08	91.00	117.27	145.74	152.54	85.41	-	81.35	108.13
4	Co 10031	101.48	70.49	88.63	154.00	145.29	95.49	96.30	138.10	120.72	126.16	89.69	105.17	103.65	110.40
5	Co 10033	101.13	75.35	101.74	154.90	174.94	114.24	107.55	131.53	123.43	163.00	98.14	80.26	91.56	116.75
6	CoM 10083	98.18	71.76	98.52	142.60	-	94.79	143.55	132.70	148.45	135.81	67.12	89.28	93.96	109.73
7	CoT 10368	95.75	71.41	78.56	129.60	147.92	90.97	102.80	122.51	132.61	133.09	66.66	89.69	87.71	103.79
8	CoT 10369	111.89	63.31	117.10	152.60	146.93	99.31	139.70	128.95	108.63	146.24	84.25	131.51	104.69	118.09
9	CoVC 10061	93.66	65.63	91.41	160.80	141.33	104.17	114.95	101.29	140.32	129.86	20.16	119.31	108.02	106.99
10	PI 10131	103.73	67.94	88.28	173.80	143.97	100.69	102.80	107.60	117.80	122.82	79.28	93.58	85.94	106.79
11	PI 10132	79.95	64.47	108.68	160.50	137.87	108.68	114.70	120.09	117.18	131.14	80.78	66.22	88.02	106.02
	Standards														
1	Co 86032	103.82	78.13	111.81	129.10	148.58	114.58	135.55	130.91	105.29	155.22	100.69	121.36	102.82	118.30
2	Co 99004	77.00	52.55	84.38	123.70	128.65	95.14	122.50	101.66	119.47	118.03	67.24	71.65	88.34	96.18
	GM	99.07	70.09	94.67	150.98	145.90	105.07	118.51	122.64	128.26	140.78	78.08	94.27	95.31	
	SE	3.57	6.01	6.56	-	6.36	6.42	-	1.65	9.14	3.31	5.68	7.33	5.07	
	CD	11.12	18.51	19.84	23.70	19.60	19.78	10.70	5.10	19.92	9.55	17.53	22.60	14.42	
	CV	5.09	12.12	9.79	7.20	6.15	8.64	6.90	1.91	7.07	4.02	9.64	10.98	7.53	

Varietal Improvement Programme- AICRP (Sugarcane)
Principal Investigator's Report (2016-17)
Peninsular zone AVT II Plant- Midlate

Table 2.6.20 Germination % at 30 days

S No	Entries	Coimbatore	Akola	Kolhapur	Man dya	Nav sari	Padegaon	Perumallapalle	Pravarana gar	Pugalur	Pune	Sameerwadi	Sanke shwar	Thiruvalla	Mean
1	Co 09009	60.19	43.04	47.92	53.40	46.53	46.88	78.21	75.65	87.29	55.95	58.00	68.96	62.75	60.37
2	Co 10015	51.06	37.32	32.99	40.60	48.78	25.00	40.28	49.97	65.83	47.24	44.00	48.13	79.75	47.00
3	Co 10017	51.94	58.13	50.35	52.50	-	43.75	46.72	59.93	86.04	53.99	57.00	-	53.33	55.79
4	Co 10031	49.56	48.21	32.73	48.60	46.53	35.42	42.02	52.67	82.50	51.06	64.00	56.23	60.75	51.56
5	Co 10033	42.44	49.73	42.62	35.30	45.78	40.10	40.54	70.25	93.75	49.61	68.00	51.49	62.59	53.25
6	CoM 10083	51.88	49.11	46.53	49.40	-	54.17	55.25	81.83	90.42	49.13	65.00	74.05	64.67	60.95
7	CoT 10368	47.56	38.39	33.77	43.90	43.52	36.98	48.81	47.10	83.54	53.05	51.00	47.55	60.42	48.89
8	CoT 10369	51.19	46.25	46.96	41.50	48.03	38.02	56.50	53.10	81.04	44.25	71.00	59.47	73.75	54.70
9	CoVC 10061	41.25	51.88	41.06	38.30	42.02	30.73	49.59	46.59	87.92	42.90	34.00	46.74	73.50	48.19
10	PI 10131	44.69	45.09	38.80	43.80	49.53	41.15	62.47	51.76	78.54	46.81	58.00	58.08	59.75	52.19
11	PI 10132	46.44	40.71	55.99	50.50	45.78	25.52	47.76	43.49	93.75	53.02	41.00	34.48	59.92	49.10
Standards															
1	Co 86032	48.00	48.21	41.93	46.10	46.53	36.46	45.07	51.55	86.46	50.98	56.00	60.05	66.50	52.60
2	Co 99004	42.44	42.86	30.73	38.40	41.28	34.90	59.25	44.61	96.88	49.63	60.00	59.93	59.59	50.81
	GM	48.36	46.07	41.72	44.79	45.85	37.62	51.73	56.04	85.69	49.82	55.92	55.43	64.41	
	SE	3.41	2.84	3.59	-	1.75	2.73	-	2.25	8.66	1.38	2.17	2.22	3.97	
	CD	NS	8.76	10.85	NS	5.40	8.40	2.50	6.95	18.88	3.98	6.71	6.84	11.30	
	CV	9.97	8.73	12.16	12.10	5.34	10.25	2.20	5.69	10.11	4.88	5.48	5.68	8.73	

2.6.21. Assessment of entries by monitoring team

Entry / Locations	Perumalapalle	Pugalur	Coimbatore	Thiruvalla	Mandya	Sankeshwar	Sameerwadi	Kohlapur
Co 09009	On-par	Poor	Better	On-par	On-par	Poor	On-par	On-par
Co 10015	On-par	On-par	On-par	On-par	On-par	On-par	Better	Poor
Co 10017	On-par	Poor	Better	Better	On-par	*	On-par	Poor
Co 10031	On-par	On-par	On-par	Better	On-par	On-par	On-par	On-par
Co 10033	Better	Better	Better	On-par	Better	Poor	Better	Better
CoM 10083	On-par	On-par	Better	On-par	On-par	Poor	On-par	On-par
CoT 10368	Better	Poor	Better	On-par	On-par	On-par	Better	On-par
CoT 10369	On-par	On-par	On-par	Better	Better	On-par	On-par	On-par
CoVc 10061	On-par	Better	Better	On-par	Better	On-par	Better	On-par
PI 10131	Poor	Poor	On-par	Poor	On-par	Poor	On-par	On-par
PI 10132	On-par	On-par	Better	On-par	Better	On-par	Better	Better
Best standard	Co 86032	Co 86032	Co 86032, Co 99004	Co 86032	Co 86032	Co 86032	Co 86032	Co 86032

Entries	Navsari	VSI, Pune	Padegaon	Pravara nagar	Akola	Pawar kheda	Rudrur
Co 09009	Better	Better	On par	Better	Better	On par	N
Co 10015	On par	On par	On par	Better	On par	On par	O
Co10017	NT	Better	On par	Better	On par	Poor	T
Co10031	On par	On par	On par	Better	Better	On par	
Co 10033	On par	On par	On par	On par	On par	On par	
CoM 10083	NT	Better	Poor	Better	On par	On par	C
CoT 100368	On par	Better	On par	Better	On par	Better	O
CoT 100369	Better	Poor	Better	Better	Better	Better	N
CoVC 10061	On par	On par	Poor	On par	On par	On par	D
PI 10131	On par	Better	Better	Better	Better	On par	U
PI 10132	On par	Better	On par	Better	On par	Poor	C
Co 86032(C)	Best	Best	Best	Better	Best	Best	T
Co 99004(C)	On par	Better	On par	Best	Better	Better	E

Annexure: Performance of entries at Powerkheda

S. No.	Clone	CCS t/ha	Cane yield t/ha	Brix % (12 m)	Sucrose % (12 m)	Purity % (12 m)	CCS % (12 m)	NMC at 12 m ('000/ha)
1	Co 09009	16.32	113.54	24.11	20.95	86.91	14.37	96.66
2	Co 10015	16.83	114.40	24.58	21.43	87.16	14.72	105.75
3	Co 10017	13.53	97.54	23.43	20.27	86.53	13.88	80.69
4	Co 10031	11.31	80.48	23.63	20.48	86.64	14.03	72.82
5	Co 10033	12.44	87.01	23.95	20.79	86.81	14.26	74.56
6	CoM 10083	18.27	124.08	24.59	21.43	87.17	14.72	106.27
7	CoT 10368	9.71	76.46	21.83	18.67	85.55	12.71	65.76
8	CoT 10369	12.12	88.26	23.27	20.11	86.43	13.76	75.60
9	CoVC 10061	9.74	79.29	21.24	18.09	85.15	12.28	70.57
10	CoPI 10131	13.33	91.73	24.31	21.16	87.02	14.52	78.49
11	CoPI 10132	11.61	82.04	23.78	20.62	86.73	14.13	79.58
12	Co 86032	16.47	116.53	23.79	20.63	86.74	14.14	104.51
13	Co 99004	15.06	109.40	23.26	20.10	86.43	13.75	93.21
	CD at 5 %	1.61	9.90	0.95	0.95	0.54	0.69	8.84
	CV	6.90	5.94	2.34	2.71	0.36	2.88	6.04

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S. No.	Clone	Stalk Length (m)	Stalk Diameter (cm)	Single cane weight (kg)	Brix % (10 m)	Sucrose % (10 m)	Purity % (10 m)	CCS % (10 m)	No. of shoots (‘000/ha)		Germination % (30 days)
									240 days	120 days	
1	Co 09009	2.32	2.55	1.81	23.71	20.55	86.69	14.08	97.96	99.68	54.74
2	Co 10015	2.57	2.49	2.01	24.48	21.33	87.10	14.65	107.10	107.43	52.34
3	Co 10017	2.43	2.20	1.66	23.03	19.87	86.30	13.58	81.99	83.71	48.61
4	Co 10031	2.07	3.24	1.91	23.23	20.08	86.41	13.73	73.42	74.13	43.89
5	Co 10033	2.66	2.95	1.86	23.55	20.39	86.59	13.96	75.86	77.58	45.81
6	CoM 10083	2.37	2.55	1.99	24.19	21.03	86.96	14.43	107.57	109.29	57.74
7	CoT 10368	2.36	2.16	1.76	21.43	18.27	85.28	12.42	67.06	68.78	43.81
8	CoT 10369	2.59	3.27	1.71	22.87	19.71	86.19	13.47	79.90	80.98	46.14
9	CoVC 10061	2.21	2.96	1.66	20.84	17.69	84.86	11.99	71.92	71.14	42.02
10	CoPI 10131	2.43	2.99	1.79	23.91	20.76	86.81	14.23	79.79	81.51	51.79
11	CoPI 10132	2.59	2.77	1.91	23.88	20.72	86.77	14.20	80.89	82.60	47.84
12	Co 86032	2.74	2.68	1.81	23.39	20.23	86.51	13.85	103.81	106.02	55.89
13	Co 99004	2.74	2.65	1.80	22.86	19.70	86.19	13.46	94.51	96.23	59.29
	CD at 5 %	0.16	0.18	0.13	1.12	1.12	0.64	0.82	8.79	8.87	2.99
	CV	3.69	3.93	4.23	2.81	3.26	0.43	3.48	5.92	5.89	3.48

2.7. Advanced Varietal Trial – Midlate Ratoon (2016-17)

Centers where trial was conducted (10)	Coimbatore, Akola, Kolhapur, Navsari, Padegoan, Perumallapalle, Pravaranagar, Pune, Sankeshwar and Thiruvalla
Entries (11)	Co 09009, Co 10015, Co 10017, Co 10031, Co 10033, CoM 10083, CoT 10368, CoT 10369, CoVC 10061, PI 10131 and PI 10132
Standards (2)	Co 86032 and Co 99004
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
Year of start	2016-17
Crop duration	11 months

Results of the previous year: Eleven midlate entries were evaluated along with two standards (Co 86032 and Co 99004) at 16 locations during 2015-16. Two entries Co 10033 and Co10015 had recorded 15.03 t/ha and 14.74 t/ha of sugar yield as well as 115.24 t/ha and 110.24 t/ha of cane yield respectively and found superior over the best standard Co 86032 (14.31 t/ha of CCS t/ha and 104.74 t/ha of cane yield) respectively. The two entries Co10033 and Co 10015 ranked top three at eight locations each for commercial sugar and cane yield in the zone. For CCS % two entries viz., PI10132 (13.88) and PI 10131(13.75) were found superior and recorded higher CCS % than best standard Co 86032 (13.47). The entries PI 10131and PI 10132 ranked top three at nine and seven locations respectively. The highest sucrose % was observed in PI 10132 (19.71) and PI 10131 (19.61) and found superior to the best standard variety Co 86032 (19.30). The entry PI 10131 and PI 10132 ranked top three in ten and six locations respectively in the zone. Co 10033 better than standard for cane parameters, whereas PI 10131 for juice traits.

Results of the current year: Eleven test entries and two standards (Co 86032 and Co 99004) were evaluated at 10 locations. None of the test entries recorded 10 % improvement for sugar yield over the best standard Co 86032 (11.96 t/ha) across the zone, however two entries viz., Co 10033 (12.97 t/ha) and CoT 10369 (12.46 t/ha) recorded numerically higher sugar yield as compared to the best standard in the zone. The entry Co 10033 recorded more than 10 % improvement for CCS t/ha over the best standard at five locations. For cane yield, none of the test entries recorded 10 % improvement over the best standard Co 86032 (91.10 t/ha) across the zone, however the entry Co 10033 (98.87 t/ha) was the only test entry which had recorded numerically higher cane yield in the zone when compared with the best standard and it also recorded more than 10 % improvement over the best standard at five locations in the zone. In case of CCS %, one entry CoT 10369 (14.03) recorded 5.73 % of higher CCS % over the best standard Co 99004 (13.27) across the zone. Other entries PI 10131 (13.70), PI 10132 (13.67), Co 10015 (13.38) and Co 10031 (13.37) recorded numerically significant over the best standard of the zone. The entries Co 10031, Co 10033 and PI 10131 recorded more than 5 % improvement for CCS % over the best standard at three locations each. For sucrose %, none of the test entries recorded 5 % improvement for sucrose % over the best standard Co 99004 (19.37) across the zone, however four entries viz., PI 10132 (19.98), CoT 10369 (19.96), PI 10131(19.91) and Co 10015 (19.40) recorded numerically higher juice sucrose % over the best standard in the zone. The entry PI 10131 had recorded more than 5 % improvement for sucrose % over the best standard at three locations in the zone. The entry Co 10033 recorded significantly higher commercial sugar and cane yield over best standard and showed 10% improvement over the best standard at five locations. For juice quality traits PI 10131 was superior over best standard. None of the test entries were identified as qualifying entry across the zone. The data are presented in table 2.7.1 to 2.7.20.

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Table 2.7.1 CCS t/ha at harvest

S No	Entries	Coimbatore	Akola	Kolhapur	Navsari #	Padegaon	Perumallapalle #	Pravara nagar	Pune	Sanke shwar	Thiruvalla	Mean	Rank
1	Co 09009	11.81	6.35	13.11	13.93	11.57	11.80	15.80	10.32	10.22	8.22	11.31	
2	Co 10015	14.83	8.68	12.70	13.24	10.91	14.90*	16.63	7.55	4.85	5.80	11.01	
3	Co 10017	17.13	6.57	1.25	-	12.73	12.90	13.22	9.78	-	8.27	10.23	
4	Co 10031	9.93	8.86	10.95	11.46	14.64	8.60	14.30	9.16	4.22	5.52	9.76	
5	Co 10033	16.70	10.24*	13.11	14.98*	14.06	18.50*	15.81	14.12	8.63	3.52	12.97	1
6	CoM 10083	10.04	4.40	12.74	-	8.30	10.00	15.83	8.33	9.67	6.22	9.50	
7	CoT 10368	10.64	6.70	8.86	13.14	10.14	14.20*	14.03	10.02	11.31	4.54	10.36	
8	CoT 10369	11.56	8.08	13.88	12.50	15.05	16.30*	13.90	14.43	13.32	5.58	12.46	2
9	CoVC 10061	11.04	7.75	9.87	13.37	11.01	12.40*	13.01	14.46	10.58	7.30	11.08	
10	PI 10131	10.70	6.25	12.35	14.71*	11.63	13.00*	13.84	11.83	10.68	6.46	11.15	
11	PI 10132	12.84	7.04	11.73	13.87	19.02*	9.10	14.49	11.56	10.67	5.57	11.59	
Standards													
1	Co 86032	14.13	8.55	14.02	12.10	13.51	9.90	17.36	12.57	9.87	7.58	11.96	
2	Co 99004	13.08	7.38	9.29	10.08	10.05	10.20	14.53	9.44	11.11	9.02	10.42	
	GM	12.61	7.46	11.07	13.03	12.51	12.45	14.83	11.04	9.46	6.43		
	SE	0.58	0.41	0.83	0.76	0.62	-	0.50	0.86	0.56	0.51		
	CD	1.82	1.26	2.51	2.34	1.91	1.40	1.54	2.62	1.64	1.46		
	CV	6.52	7.76	10.61	8.16	7.02	6.90	4.78	10.44	9.97	11.30		
Qualifying Entries at each location													
	1	Co 10017	Co 10033		Co 10033	PI 10132	Co 10033		Co 10033	CoT 10369			
	2	Co 10033			PI 10131	CoT 10369	CoT 10369		CoVC 10061				
	3				Co 09009		Co 10015		CoT 10369				

* Significant with best standard variety at 5% level. # Only top three entries were listed.

Qualifying Entries: Co 09009 (2), Co 10015 (1), Co 10017 (2), Co 10033 (5), CoT 10368 (1), CoT 10369 (3) CoVC 10061 (3), PI 10131(2) and PI 10132 (2).

Performance across locations: None of the test entries recorded 10 % improvement for sugar yield over the best standard Co 86032 (11.96 t/ha) across the zone, however two entries viz., Co 10033 (12.97 t/ha) and CoT 10369 (12.46 t/ha) recorded numerically higher sugar yield as compared to the best standard in the zone. The entry Co 10033 had recorded more than 10 % improvement for CCS t/ha over the best standard at five locations, followed by CoT 10369 (3), CoVC 10061(3), Co 09009 (2), Co 10017 (2), PI 10131 (2) and PI 10132 (2). The other entries which were better the standard were Co 10015 and CoT 10368 at one location each.

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Table 2.7.2 Cane yield t/ha at harvest

S No	Entries	Coimbatore	Akola	Kolhapur	Navsari	Padegaon	Perumallapalle #	Pravara nagar	Pune	Sanke shwar	Thiruvalla	Mean	Rank
1	Co 09009	94.67	59.05	89.35	112.08	85.55	99.70*	117.15	76.54	66.28	64.06	86.44	
2	Co 10015	104.71	86.92	87.34	108.05	77.30	112.80*	123.31	52.82	33.48	43.85	83.06	
3	Co 10017	121.98*	68.63	10.17	-	88.82	98.10	102.72	68.95	-	66.35	78.22	
4	Co 10031	75.89	83.59	74.66	93.05	94.45	76.20	104.56	64.49	29.04	39.90	73.58	
5	Co 10033	127.77*	99.72*	98.35	118.33	101.22	125.20*	123.67	103.09	60.41	30.94	98.87	1
6	CoM 10083	76.36	48.15	87.21	-	58.21	74.70	119.36	65.74	67.38	50.10	71.91	
7	CoT 10368	81.73	69.63	59.61	100.55	73.61	118.60*	107.09	76.43	85.25*	36.04	80.85	
8	CoT 10369	89.53	70.14	92.07	90.69	104.28*	114.70*	99.79	96.88	83.54*	40.73	88.24	3
9	CoVC 10061	93.55	76.44	71.14	96.94	77.28	108.70*	104.44	100.05	69.43	60.21	85.82	
10	PI 10131	79.23	66.50	86.12	100.41	86.25	96.90*	109.68	75.68	64.10	48.96	81.38	
11	PI 10132	93.19	77.08	84.25	95.41	128.28*	69.70	105.69	77.92	67.65	42.19	84.14	
Standards													
1	Co 86032	102.76	88.19	93.80	104.30	93.55	78.50	129.14	91.14	72.98	56.67	91.10	2
2	Co 99004	101.43	76.91	61.04	87.91	74.25	74.70	107.51	64.36	72.30	70.42	79.08	
	GM	95.60	74.69	76.55	100.70	87.93	96.04	111.85	78.01	64.32	50.03		
	SE	4.58	3.26	4.95	4.71	3.45	-	0.55	6.1	3.14	3.62		
	CD	14.26	10.05	14.98	14.51	10.64	14.90	1.72	18.51	9.15	10.29		
	CV	6.77	6.17	9.14	6.49	5.55	7.10	0.70	10.51	8.30	10.23		
Qualifying Entries at each location													
	1	Co 10033	Co 10033		Co 10033	PI 10132	Co 10033		Co 10033	CoT 10368			
	2	Co 10017				CoT 10369	CoT 10368			CoT 10369			
	3						CoT 10369						

* Significant with best standard variety at 5% level. # Only top three entries were listed.

Qualifying Entries: Co 09009 (1), Co 10017 (2), Co 10033 (5), CoT 10368 (2), CoT 10369 (2) CoVC 10061 (1), PI 10131(1) and PI 10132 (1).

Performance across locations: None of the test entries recorded 10 % improvement for cane yield over the best standard Co 86032 (91.10 t/ha) across the zone, however the entry Co 10033 (98.87 t/ha) was the only test entry which had recorded numerically higher cane yield in the zone when compared with the best standard and it also recorded more than 10 % improvement over the best standard at five locations in the zone, which was followed by Co 11017(2), CoT 10368 (2) and CoT 10369 (2), Co 09009(1), CoVC 10061(1), PI 10131(1) and PI 10132(1).

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Table 2.7.3 CCS % at harvest

S No	Entries	Coimbatore	Akola #	Kolhapur	Navsari #	Padegaon	Perumallapalle	Pravara nagar	Pune	Sanke shwar	Thiruvalla	Mean	Rank
1	Co 09009	12.47	10.72	14.64	12.43	13.53	11.80	13.49	13.46	15.44	12.87	13.09	
2	Co 10015	14.17	9.98	14.55	12.25	14.12	13.20	13.49	14.33	14.47	13.24	13.38	4
3	Co 10017	14.04	9.58	12.28	-	14.34	13.10	12.87	14.47	-	12.46	12.89	
4	Co 10031	13.09	10.65	14.64	12.33	15.50*	11.30	13.68	14.18	14.53	13.84	13.37	5
5	Co 10033	13.07	10.26	13.34	12.65*	13.89	14.80*	12.78	13.68	14.29	11.39	13.02	
6	CoM 10083	13.15	9.14	14.63	-	14.29	13.40	13.12	12.70	14.39	12.43	13.03	
7	CoT 10368	13.01	9.64	14.85	13.06*	13.77	11.90	13.10	13.10	13.11	12.61	12.82	
8	CoT 10369	12.91	11.52*	15.08	13.79*	14.43	14.20	13.93	14.87	15.97	13.59	14.03	1
9	CoVC 10061	11.80	10.13	13.83	13.77*	14.24	11.40	12.47	14.43	15.30	12.14	12.95	
10	PI 10131	13.50	9.45	14.34	14.65*	13.48	13.40	12.63	15.65*	16.70	13.20	13.70	2
11	PI 10132	13.78	9.13	13.87	14.51*	14.82	13.10	13.72	14.82	15.75	13.21	13.67	3
Standards													
1	Co 86032	13.75	9.68	14.95	11.60	14.44	12.70	13.44	13.80	13.55	13.38	13.13	
2	Co 99004	12.90	9.60	15.22	11.47	13.54	13.60	13.52	14.68	15.35	12.80	13.27	
	GM	13.20	9.96	14.32	12.96	14.18	12.92	13.25	14.17	14.90	12.86		
	SE	0.33	0.38	0.31	0.29	0.26	-	0.41	0.13	0.56	0.36		
	CD	1.03	1.17	0.94	0.90	0.80	0.80	1.29	0.39	1.63	1.02		
	CV	3.53	5.40	3.05	3.21	2.60	3.70	4.47	1.27	6.47	3.90		
Qualifying Entries at each location													
	1		CoT 10369		PI 10131	Co 10031	Co 10033		PI 10131	PI 10131		CoT 10369	
	2		Co 09009		PI 10132								
	3		Co 10031		CoT 10369								

* Significant with best standard variety at 5% level. # Only top three entries were listed.

Qualifying Entries: Co 09009 (2), Co 10015 (1), Co 10031 (3), Co 10033 (3), CoT 10368 (1), CoT 10369 (2) CoVC 10061 (1) and PI 10131(3)

Performance across locations: The entry CoT 10369 (14.03) recorded 5.73 % of higher CCS % over the best standard Co 99004 (13.27) across the zone. Other entries PI 10131 (13.70), PI 10132 (13.67), Co 10015 (13.38) and Co 10031 (13.37) recorded numerically significant CCS % over the best standard of the zone. The entries Co 10031, Co 10033 and PI 10131 had recorded more than 5% improvement for CCS % over the best standard at three locations.

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Table 2.7.4 Sucrose % at harvest

S No	Entries	Coimbatore	Akola	Kolhapur	NavSari #	Padegaon	Perumallapalle	Pravara nagar	Pune	Sanke shwar	Thiruvalla	Mean	Rank
1	Co 09009	17.78	-	20.64	17.89*	19.20	16.60	18.83	18.78	21.90	18.42	18.89	
2	Co 10015	20.02	-	20.62	18.01*	19.84	18.20	18.52	19.85	20.56	18.98	19.40	4
3	Co 10017	19.84	-	17.11	-	20.14	17.80	18.09	20.09	-	17.88	18.71	
4	Co 10031	18.62	-	20.70	17.70	21.55*	15.40	19.55	19.72	20.71	19.84	19.31	
5	Co 10033	18.66	-	18.57	18.28*	19.41	15.80	18.06	19.02	20.34	16.30	18.27	
6	CoM 10083	18.53	-	20.62	-	19.94	18.00	18.56	17.68	20.68	17.88	18.99	
7	CoT 10368	18.43	-	21.06	18.94*	19.50	15.50	18.56	18.25	18.75	18.10	18.57	
8	CoT 10369	18.38	-	21.13	19.47*	20.21	18.90	18.90	20.60	22.56	19.52	19.96	2
9	CoVC 10061	16.97	-	19.56	19.56*	20.04	15.90	17.49	19.98	21.80	17.43	18.75	
10	PI 10131	19.15	-	20.19	20.88*	18.94	18.20	17.78	21.63*	23.42	18.99	19.91	3
11	PI 10132	19.51	-	19.67	20.46*	20.74	17.90	19.67	20.52	22.34	18.98	19.98	1
Standards													
1	Co 86032	19.47	-	21.08	17.03	20.16	17.40	19.14	19.20	19.43	19.21	19.12	
2	Co 99004	18.53	-	21.49	17.06	19.06	18.70	19.23	20.33	21.57	18.32	19.37	
	GM	18.76		20.19	18.66	19.90	17.25	18.64	19.67	21.17	18.45		
	SE	0.44	-	0.38	0.24	0.32	-	0.66	0.17	0.75	0.53		
	CD	1.36	-	1.15	0.74	0.99	0.60	2.03	0.51	2.78	1.52		
	CV	3.29	-	2.66	1.83	2.29	1.60	5.00	1.19	6.11	4.09		
Qualifying Entries at each location													
	1				PI 10131	Co 10031				PI 10131	PI 10131		
	2				PI 10132								
	3				CoVC 10061								

* Significant with best standard variety at 5% level.

Qualifying Entries: Co 10015 (1), Co 10031 (1), Co 10033 (1), CoT 10368 (1), CoT 10369 (1) CoVC 10061 (1) PI 10131(3) and PI 10132(1).

Performance across locations: None of the test entries recorded 5 % improvement for sucrose % over the best standard Co 09004 (19.37) across the zone, however four entries viz., PI 10132 (19.98), CoT 10369 (19.96), PI 10131(19.91) and Co 10015 (19.40) recorded numerically higher juice sucrose % over the best standard in the zone. The entry PI 10131 recorded more than 5 % improvement for sucrose % over the best standard at three locations in the zone, followed by Co 11015(1), Co 10031(1), Co 10033(1), CoT 10368(1), Cot 10369(1), CoVC 10061 (1) and PI 10132 (1).

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Table 2.7.5 Brix % at harvest

S No	Entries	Coimbatore	Akola	Kolhapur	Navsari	Padegaon	Perumallapalle	Pravaranaagar	Pune	Sanke shwar	Thiruvalla	Mean
1	Co 09009	19.53	19.06	22.07	20.05	20.85	18.70	19.69	20.24	23.76	20.40	20.44
2	Co 10015	21.55	19.41	22.32	21.09	21.10	19.70	18.64	21.06	22.42	21.10	20.84
3	Co 10017	21.36	18.16	17.82	-	21.35	18.50	19.24	21.41	-	19.90	19.72
4	Co 10031	20.35	18.32	22.32	19.73	22.35	16.10	21.59	21.10	22.75	22.05	20.67
5	Co 10033	20.56	16.91	19.32	20.67	20.35	18.60	19.44	20.35	22.26	18.05	19.65
6	CoM 10083	19.81	19.08	22.07	-	20.85	18.20	20.04	18.98	23.09	20.00	20.24
7	CoT 10368	19.94	18.74	22.82	21.56	21.10	15.80	20.09	19.64	20.75	20.15	20.06
8	CoT 10369	20.12	19.63	22.32	20.92	21.35	18.90	18.44	21.85	24.26	21.75	20.95
9	CoVC 10061	18.98	18.33	21.07	21.32	21.35	17.60	18.54	21.18	23.93	19.40	20.17
10	PI 10131	20.78	20.58	21.57	22.92	20.10	19.10	18.99	22.83	24.76	21.25	21.29
11	PI 10132	21.11	21.24	21.32	21.94	21.85	18.90	21.84	21.76	24.26	21.20	21.54
	Standards											
1	Co 86032	21.06	19.88	22.57	19.89	21.10	18.70	20.94	20.57	21.62	21.40	20.77
2	Co 99004	20.68	20.18	23.07	20.46	20.35	20.10	20.99	21.57	22.92	20.25	21.06
	GM	20.43	19.11	21.58	20.96	21.08	18.38	19.88	20.96	23.07	20.53	
	SE	0.39	0.40	0.32	0.45	0.29	-	0.98	0.16	0.90	0.63	
	CD	1.22	1.24	0.96	1.38	0.88	0.90	3.02	0.48	2.62	1.81	
	CV	2.72	2.97	2.07	3.00	1.92	2.20	6.98	1.06	6.71	4.39	

Varietal Improvement Programme- AICRP (Sugarcane)
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Peninsular zone AVT - Midlate Ratoon

Table 2.7.6 Purity % at harvest

S No	Entries	Coimbatore	Akola	Kolhapur	Navsari	Padegaon	Perumallapalle	Pravaranaagar	Pune	Sanke shwar	Thiruvalla	Mean
1	Co 09009	91.04	83.81	93.49	89.23	92.09	88.79	91.38	92.78	92.13	89.51	90.43
2	Co 10015	92.88	78.92	92.36	85.40	94.04	92.40	94.49	94.27	91.63	89.19	90.56
3	Co 10017	92.89	80.22	95.99	-	94.35	96.26	92.46	93.81	-	89.02	91.88
4	Co 10031	91.49	85.94	92.74	89.69	96.43	95.66	90.57	93.43	91.06	89.25	91.63
5	Co 10033	90.74	87.99	96.12	88.49	95.39	84.95	93.01	93.49	91.49	89.41	91.11
6	CoM 10083	93.54	75.48	93.42	-	95.63	98.90	92.57	93.15	89.55	88.58	91.20
7	CoT 10368	92.43	78.96	92.27	87.88	92.43	98.10	92.37	92.95	90.30	89.04	90.67
8	CoT 10369	91.35	86.02	94.67	93.17	94.69	99.99	89.44	94.27	92.99	89.04	92.56
9	CoVC 10061	89.41	82.67	92.79	91.78	93.85	90.37	94.52	94.33	91.10	88.99	90.98
10	PI 10131	92.16	73.65	93.62	91.08	94.22	95.30	93.65	94.74	94.57	88.60	91.16
11	PI 10132	92.42	70.62	92.23	93.53	94.94	94.70	90.05	94.30	92.00	88.77	90.36
	Standards											
1	Co 86032	92.46	76.23	93.39	85.62	96.04	93.05	91.41	93.34	90.55	88.99	90.11
2	Co 99004	89.60	75.12	93.12	83.38	94.21	93.04	91.62	94.25	94.58	89.65	89.86
	GM	91.72	79.66	93.55	89.02	94.49	93.96	92.12	93.78	91.83	89.08	
	SE	0.53	2.74	0.83	2.32	0.71	-	1.37	0.18	2.00	0.30	
	CD	1.65	8.45	N.S.	7.16	2.20	3.90	4.22	0.55	5.83	NS	
	CV	0.81	4.87	1.25	3.73	1.07	1.90	2.10	0.28	3.77	0.47	

Varietal Improvement Programme- AICRP (Sugarcane)
Principal Investigator's Report (2016-17)
Peninsular zone AVT - Midlate Ratoon

Table 2.7.7 Pol % Cane at harvest

S No	Entries	Coimbatore	Akola	Kolhapur	Navsari	Padegaon	Perumallapalle	Pravaranagar	Pune	Sanke shwar	Thiruvalla	Mean
1	Co 09009	13.64	15.94	-	13.70	15.11	-	-	14.31	16.89	-	14.93
2	Co 10015	14.80	15.32	-	13.80	14.93	-	-	15.11	15.44	-	14.90
3	Co 10017	14.67	14.56	-	-	15.39	-	-	15.37	-	-	15.00
4	Co 10031	14.03	15.65	-	13.46	16.15	-	-	14.95	16.55	-	15.13
5	Co 10033	14.37	14.88	-	13.71	14.92	-	-	14.55	15.90	-	14.72
6	CoM 10083	14.09	14.40	-	-	15.24	-	-	13.99	15.70	-	14.68
7	CoT 10368	13.91	14.79	-	14.39	14.73	-	-	13.78	14.31	-	14.32
8	CoT 10369	14.15	16.88	-	14.67	15.74	-	-	15.97	17.56	-	15.83
9	CoVC 10061	13.35	15.15	-	14.64	15.41	-	-	15.42	16.72	-	15.12
10	PI 10131	14.42	15.13	-	15.92	15.07	-	-	16.39	17.84	-	15.80
11	PI 10132	14.93	15.01	-	15.48	15.53	-	-	15.40	16.39	-	15.46
	Standards											
1	Co 86032	15.00	15.16	-	12.96	15.77	-	-	14.64	14.95	-	14.75
2	Co 99004	14.18	15.16	-	12.98	14.69	-	-	15.24	16.60	-	14.81
	GM	14.27	15.23		14.16	15.28			15.01	16.24		
	SE	0.38	0.34	-	0.19	0.24	-	-	0.08	0.56	-	
	CD	NS	1.04	-	0.59	0.75	-	-	0.25	1.63	-	
	CV	3.75	3.15	-	1.90	2.24	-	-	0.76	5.92	-	

Varietal Improvement Programme- AICRP (Sugarcane)
Principal Investigator's Report (2016-17)
Peninsular zone AVT - Midlate Ratoon

Table 2.7.8 Extraction % at harvest

S No	Entries	Coimbatore	Akola	Kolhapur	Navsari	Padegaon	Perumallapalle	Pravara nagar	Pune	Sanke shwar	Thiruvalla	Mean
1	Co 09009	42.58	-	-	58.72	51.14	-	51.92	59.70	55.15	61.45	54.38
2	Co 10015	40.60	-	-	56.69	50.95	-	54.43	63.03	52.67	65.53	54.84
3	Co 10017	46.95	-	-	-	52.75	-	54.36	53.50	-	56.55	52.82
4	Co 10031	41.86	-	-	56.77	52.20	-	48.98	61.18	45.61	59.73	52.33
5	Co 10033	43.87	-	-	59.73	51.73	-	50.00	58.33	51.22	62.08	53.85
6	CoM 10083	43.59	-	-	-	51.22	-	46.00	55.82	53.78	60.75	51.86
7	CoT 10368	41.24	-	-	59.68	52.35	-	50.94	60.52	54.80	59.68	54.17
8	CoT 10369	48.28	-	-	58.47	50.08	-	51.94	52.80	61.31	62.03	54.99
9	CoVC 10061	42.84	-	-	57.21	52.31	-	50.65	57.81	53.22	59.86	53.41
10	PI 10131	41.48	-	-	56.72	51.55	-	53.33	58.77	55.43	64.30	54.51
11	PI 10132	44.97	-	-	55.38	50.05	-	54.43	60.53	53.25	59.95	54.08
Standards												
1	Co 86032	45.89	-	-	59.69	51.27	-	55.55	61.66	54.75	64.80	56.23
2	Co 99004	44.14	-	-	57.23	51.79	-	53.76	62.93	55.95	60.81	55.23
	GM	43.71			57.84	51.49		52.02	58.97	53.93	61.35	
	SE	1.22	-	-	0.89	0.56	-	1.16	0.68	3.00	2.68	
	CD	3.81	-	-	NS	NS	-	3.58	2.08	8.74	NS	
	CV	3.95	-	-	2.18	1.55	-	3.10	1.63	9.60	6.19	

Varietal Improvement Programme- AICRP (Sugarcane)
Principal Investigator's Report (2016-17)
Peninsular zone AVT - Midlate Ratoon

Table 2.7.9 Fibre % at harvest

S No	Entries	Coimbatore	Akola	Kolhapur	Navsari	Padegaon	Perumallapalle	Pravara nagar	Pune	Sanke shwar	Thiruvalla	Mean
1	Co 09009	13.29	-	-	13.40	13.30	-	-	14.61	12.83	-	13.49
2	Co 10015	16.05	-	-	13.34	15.45	-	-	14.76	14.86	-	14.89
3	Co 10017	16.08	-	-	-	14.75	-	-	14.31	-	-	15.05
4	Co 10031	14.67	-	-	13.93	15.66	-	-	14.92	10.11	-	13.86
5	Co 10033	13.00	-	-	14.96	14.43	-	-	14.02	11.80	-	13.64
6	CoM 10083	13.96	-	-	-	14.74	-	-	11.72	14.05	-	13.62
7	CoT 10368	14.58	-	-	14.02	15.30	-	-	14.98	13.68	-	14.51
8	CoT 10369	13.03	-	-	14.67	13.81	-	-	13.04	12.15	-	13.34
9	CoVC 10061	11.36	-	-	15.17	14.44	-	-	13.58	13.32	-	13.57
10	PI 10131	14.76	-	-	13.73	12.76	-	-	13.80	13.81	-	13.77
11	PI 10132	13.50	-	-	14.31	15.71	-	-	15.50	16.62	-	15.13
	Standards											
1	Co 86032	12.99	-	-	13.87	13.60	-	-	14.07	13.05	-	13.52
2	Co 99004	13.51	-	-	13.93	14.33	-	-	15.46	13.11	-	14.07
	GM	13.91			14.12	14.48			14.21	13.28		
	SE	0.67	-	-	0.38	0.18	-	-	0.15	0.53	-	
	CD	2.07	-	-	1.19	0.55	-	-	0.45	1.54	-	
	CV	6.76	-	-	3.83	1.75	-	-	1.46	6.91	-	

Varietal Improvement Programme- AICRP (Sugarcane)
Principal Investigator's Report (2016-17)
Peninsular zone AVT - Midlate Ratoon

Table 2.7.10 Number of millable canes ('000/ha) at harvest

S No	Entries	Coimbatore	Akola	Kolhapur	Navsari	Padegaon	Perumalpal	Pravara nagar	Pune	Sanke shwar	Thiruvalla	Mean
1	Co 09009	107.56	65.97	76.48	94.58	83.07	78.95	105.03	68.50	76.37	69.38	82.59
2	Co 10015	116.51	86.92	81.25	95.69	69.44	100.02	108.69	78.92	69.80	49.38	85.66
3	Co 10017	89.35	68.63	47.31	-	73.87	87.86	92.71	67.25	-	66.15	74.14
4	Co 10031	74.54	64.47	65.02	85.41	76.04	56.14	98.70	59.33	20.49	41.77	64.19
5	Co 10033	90.45	76.85	86.81	105.69	77.86	105.20	114.32	73.59	54.79	29.69	81.53
6	CoM 10083	84.10	60.19	69.18	-	74.91	57.53	104.29	69.50	69.03	55.21	71.55
7	CoT 10368	112.65	77.66	58.07	86.25	70.23	106.38	86.86	75.04	82.72	37.71	79.36
8	CoT 10369	84.10	70.14	78.47	79.86	83.42	99.63	84.82	71.50	67.09	43.75	76.28
9	CoVC 10061	106.79	70.02	68.58	87.91	73.09	109.85	84.91	88.50	75.99	65.10	83.07
10	PI 10131	61.88	60.42	72.57	87.64	78.39	75.56	93.98	59.25	54.54	52.82	69.71
11	PI 10132	69.29	51.62	73.96	87.64	84.81	49.89	89.18	54.75	42.75	44.38	64.83
	Standards											
1	Co 86032	88.41	68.06	83.16	92.08	79.95	55.10	109.41	87.92	72.61	60.31	79.70
2	Co 99004	77.95	62.15	61.89	79.44	71.01	54.40	96.25	61.67	73.42	74.27	71.25
	GM	89.51	67.93	70.98	89.29	76.62	79.73	97.63	70.44	63.30	53.07	
	SE	3.96	3.04	5.49	4.42	2.07	-	0.53	3.42	4.91	3.48	
	CD	12.35	9.37	16.61	13.61	6.39	8.20	1.65	10.38	14.34	9.91	
	CV	6.25	6.33	10.94	6.86	3.83	6.50	0.77	6.75	13.57	9.29	

Varietal Improvement Programme- AICRP (Sugarcane)
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Peninsular zone AVT - Midlate Ratoon

Table 2.7.11 Stalk length (cm) at harvest

S No	Entries	Coimbatore	Akola	Kolhapur	Navsari	Padegaon	Perumallapalle	Pravara nagar	Pune	Sanke shwar	Thiruvalla	Mean
1	Co 09009	173	178	183	223	173	66	214	159	139	234	174.23
2	Co 10015	203	213	217	221	208	66	219	159	123	219	184.72
3	Co 10017	218	200	148	-	220	221	223	171	-	218	202.29
4	Co 10031	143	206	168	238	238	188	257	173	144	152	190.58
5	Co 10033	230	252	198	285	265	303	251	188	188	268	242.76
6	CoM 10083	215	178	195	-	160	193	209	159	168	179	183.94
7	CoT 10368	170	204	205	266	233	258	127	184	182	229	205.68
8	CoT 10369	145	179	173	250	195	210	140	169	167	228	185.45
9	CoVC 10061	158	201	165	241	198	223	169	155	175	214	189.70
10	PI 10131	178	147	178	223	148	193	157	161	143	194	172.09
11	PI 10132	223	205	166	219	283	208	250	191	214	232	218.98
	Standards											
1	Co 86032	173	185	186	246	218	194	259	155	167	218	199.97
2	Co 99004	185	189	233	245	258	205	178	169	167	240	206.86
	GM	185.38	195.15	185.77	241.78	214.85	194.46	203.77	168.73	164.78	217.31	197.17
	SE	8.62	13.34	7.37	11.12	3.56	-	0.66	5.45	9.44	14.13	
	CD	26.87	41.10	22.30	34.28	10.96	11.90	2.04	16.52	27.55	40.17	
	CV	6.58	9.68	5.61	6.40	2.34	2.50	0.44	4.36	9.78	9.20	

Varietal Improvement Programme- AICRP (Sugarcane)
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Peninsular zone AVT - Midlate Ratoon

Table 2.7.12 Stalk diameter (cm) at harvest

S No	Entries	Coimbatore	Akola	Kolhapur	Navsari	Padegaon	Perumalpal	Pravara nagar	Pune	Sanke shwar	Thiruvalla	Mean
1	Co 09009	2.81	2.64	2.39	2.51	3.05	2.49	2.15	2.87	2.62	3.19	2.67
2	Co 10015	2.73	2.37	2.20	2.56	2.55	2.48	2.52	2.87	2.15	2.97	2.54
3	Co 10017	2.99	2.64	1.79	-	2.70	2.88	2.58	2.63	-	3.04	2.66
4	Co 10031	2.86	3.05	2.57	2.43	3.40	3.04	2.37	3.02	2.90	3.00	2.86
5	Co 10033	3.05	2.66	2.25	2.74	3.00	2.41	2.33	3.05	2.55	3.02	2.71
6	CoM 10083	2.82	2.22	2.51	-	2.75	2.49	2.35	2.77	2.53	2.56	2.56
7	CoT 10368	2.52	2.47	2.18	2.61	2.60	2.43	2.42	2.57	2.46	2.98	2.52
8	CoT 10369	2.79	2.58	2.31	2.56	3.05	2.96	2.56	2.97	2.98	3.00	2.78
9	CoVC 10061	2.78	2.63	2.22	2.54	2.75	2.80	2.65	2.97	2.57	2.93	2.68
10	PI 10131	2.78	3.02	2.53	2.56	3.00	3.16	2.40	2.87	3.07	3.13	2.85
11	PI 10132	2.96	2.94	2.33	2.51	3.30	2.86	2.65	3.05	3.09	2.83	2.85
	Standards											
1	Co 86032	2.68	2.64	2.35	2.46	3.20	2.52	2.50	3.15	2.58	2.77	2.69
2	Co 99004	2.91	2.68	2.18	2.61	2.65	2.58	2.41	2.80	2.54	2.96	2.63
	GM	2.82	2.66	2.29	2.55	2.92	2.70	2.45	2.89	2.67	2.95	
	SE	0.09	0.21	0.05	0.05	0.07	-	0.03	0.09	0.08	0.07	
	CD	NS	NS	0.15	0.16	0.21	0.20	0.12	0.27	0.23	0.21	
	CV	4.47	11.01	3.04	2.87	3.28	2.90	2.28	4.38	5.05	3.58	

Varietal Improvement Programme- AICRP (Sugarcane)
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Table 2.7.13 Single cane weight (kg) at harvest

S No	Entries	Coimbatore	Akola	Kolhapur	Navsari	Padegaon	Perumallapalle	Pravara nagar	Pune	Sanke shwar	Thiruvalla	Mean
1	Co 09009	0.83	0.90	1.22	1.10	1.03	1.03	1.17	1.13	0.81	1.26	1.05
2	Co 10015	0.90	1.00	1.08	1.06	1.11	1.13	1.14	0.72	0.45	1.35	0.99
3	Co 10017	1.45	1.00	0.20	-	1.20	1.06	1.08	1.08	-	1.13	1.03
4	Co 10031	0.91	1.30	1.27	1.10	1.24	1.08	1.18	1.20	1.33	1.32	1.19
5	Co 10033	1.47	1.30	1.15	1.21	1.30	1.19	1.21	1.45	1.08	1.20	1.26
6	CoM 10083	0.96	0.80	1.25	-	0.78	1.12	1.30	0.99	0.94	1.22	1.04
7	CoT 10368	0.70	0.90	0.94	1.04	1.05	1.12	1.37	1.03	0.95	1.32	1.04
8	CoT 10369	0.96	1.00	1.27	1.14	1.25	1.15	1.04	1.43	1.21	1.30	1.18
9	CoVC 10061	0.94	1.10	0.92	1.18	1.06	0.99	0.99	1.17	0.90	1.46	1.07
10	PI 10131	1.22	1.10	1.36	1.21	1.10	1.29	1.31	1.30	1.10	1.17	1.22
11	PI 10132	1.39	1.50	1.23	1.13	1.51	1.20	1.40	1.45	1.52	1.53	1.39
Standards												
1	Co 86032	1.08	1.30	1.21	1.01	1.17	1.03	1.43	1.08	0.98	1.25	1.15
2	Co 99004	1.44	1.24	1.11	1.06	1.05	1.20	1.31	1.07	0.96	1.52	1.20
	GM	1.10	1.11	1.09	1.11	1.14	1.12	1.23	1.16	1.02	1.31	
	SE	0.07	0.08	0.07	0.04	0.03	-	0.01	0.05	0.12	78.76	
	CD	0.23	0.25	0.21	0.14	0.08	0.10	0.03	0.14	0.35	NS	
	CV	9.57	10.21	8.97	5.58	3.40	5.70	1.17	5.50	19.83	8.49	

Varietal Improvement Programme- AICRP (Sugarcane)
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Peninsular zone AVT - Midlate Ratoon

Table 2.7.18 Number of shoots ('000/ha) at 180 days

S No	Entries	Coimbatore	Akola*	Kolhapur*	Navsari*	Padegaon*	Perumalpalke*	Pravara nagar	Pune	Sanke shwar	Thiruvalla*	Mean
1	Co 09009	108.49	74.54	89.06	136.33	90.63	128.71	118.11	71.00	-	75.42	99.14
2	Co 10015	119.17	108.10	88.80	149.37	75.00	194.11	130.07	81.58	-	51.15	110.82
3	Co 10017	100.46	71.88	67.97	-	77.43	138.09	123.55	69.28	-	72.29	90.12
4	Co 10031	75.64	69.91	75.17	146.62	76.39	95.61	132.78	60.87	-	46.35	86.59
5	Co 10033	111.73	101.97	96.09	169.02	80.21	171.78	136.77	75.92	-	33.44	108.55
6	CoM 10083	73.15	68.17	93.06	-	81.60	88.67	118.63	71.06	-	60.94	81.91
7	CoT 10368	110.03	97.92	70.05	144.78	79.51	88.67	112.28	77.11	-	38.96	91.03
8	CoT 10369	96.81	78.59	105.03	146.80	87.15	159.16	103.93	73.56	-	46.88	99.77
9	CoVC 10061	114.20	83.45	86.11	137.25	78.13	172.01	104.39	89.44	-	68.65	103.74
10	PI 10131	77.01	65.63	92.71	148.82	87.85	126.75	100.09	60.97	-	54.27	90.46
11	PI 10132	79.08	52.78	102.69	135.05	89.93	78.37	97.69	56.78	-	46.15	82.06
	Standards											
1	Co 86032	89.04	79.28	96.88	139.64	84.72	61.70	120.87	88.67	-	63.65	91.61
2	Co 99004	86.39	74.07	70.49	124.77	78.13	66.21	108.98	62.45	-	78.86	83.37
	GM	95.48	78.95	87.24	143.50	82.05	120.76	116.01	72.21		56.69	
	SE	4.41	8.57	6.33	6.36	3.17	-	1.26	3.54	-	3.95	
	CD	13.74	26.40	19.15	19.60	9.76	13.50	3.90	10.74	-	11.24	
	CV	6.53	15.35	10.26	6.27	5.46	9.10	1.54	6.82	-	9.87	

*No. of shoots at 120 days data

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Table 2.7.19 Number of tillers ('000/ha) at 90 days

S No	Entries	Coimbatore	Akola	Kolhapur	Navsari	Padegaon	Perumallapalle	Pravara nagar	Pune	Sanke shwar	Thiruvalla	Mean
1	Co 09009	125.46	63.66	-	133.01	122.57	120.03	100.00	145.84	-	79.38	111.24
2	Co 10015	129.23	84.72	-	137.76	109.03	146.43	103.75	139.69	-	56.04	113.33
3	Co 10017	93.51	72.45	-	-	109.38	124.78	101.31	168.09	-	74.90	106.35
4	Co 10031	80.23	75.69	-	140.33	94.79	81.72	100.30	106.27	-	46.98	90.79
5	Co 10033	115.90	90.39	-	151.01	102.43	146.89	105.44	149.73	-	34.90	112.09
6	CoM 10083	76.76	67.48	-	-	87.85	115.64	97.95	123.49	-	67.30	90.92
7	CoT 10368	119.66	78.36	-	137.56	102.78	148.74	95.47	143.46	-	41.04	108.38
8	CoT 10369	101.25	79.05	-	138.15	104.86	160.43	93.16	138.35	-	45.94	107.65
9	CoVC 10061	122.84	78.47	-	133.31	102.08	99.32	84.72	155.90	-	71.36	106.00
10	PI 10131	83.15	77.66	-	137.07	111.46	122.58	68.66	131.79	-	59.27	98.96
11	PI 10132	87.35	72.45	-	143.59	111.81	56.61	60.05	128.24	-	49.48	88.70
	Standards											
1	Co 86032	95.96	81.37	-	143.59	87.85	55.56	92.22	160.56	-	64.27	97.67
2	Co 99004	92.57	69.68	-	123.92	84.03	52.21	86.89	126.97	-	81.67	89.74
	GM	101.84	76.26		138.12	102.38	110.07	91.53	139.88		59.43	
	SE	3.40	7.64	-	3.61	3.41	-	0.42	5.39	-	3.55	
	CD	10.61	23.54	-	11.13	10.52	11.80	1.31	16.35	-	10.10	
	CV	4.73	14.17	-	3.71	4.72	8.40	0.66	5.39	-	8.46	

2.7.20. Assessment of entries by monitoring team

Entry / Locations	Perumalapalle	Pugalur	Coimbatore	Thiruvalla	Mandya	Sankeshwar	Sameerwadi	Kohlapur
Co 09009	Poor	Trial is unfit for scoring due to water stress	Poor	Better	Poor	Poor	Due to water-scarcity, the trial was not irrigated. Hence, it is unfit for scoring.	Better
Co 10015	Poor		On-par	Better	Poor	Poor		Better
Co 10017	Poor		Better	Poor	Poor	*		Poor
Co 10031	On-par		Poor	Poor	Poor	Poor		On-par
Co 10033	Better		Better	Better	On-par	Poor		Poor
CoM 10083	Poor		Poor	On-par	Poor	On-par		On-par
CoT 10368	Poor		On-par	On-par	On-par	On-par	Better	
CoT 10369	On-par		Poor	On-par	On-par	On-par	Better	
CoVc 10061	Better		Better	Better	On-par	On-par	Better	
PI 10131	Poor		Poor	On-par	Poor	On-par	Better	
PI 10132	On-par		On-par	Poor	Poor	Poor	Poor	
Best standard	Co 86032		Co 86032	Co 86032	Co 86032	Co 86032	Co 86032	<i>The clones Co 09009, CoT 10368, CoVc 10061 alone have survived under drought.</i>

Entries	Navsari	VSI, Pune	Padegaon	Pravara nagar	Akola	Pawar kheda	Rudrur
Co 09009	On par	Better	On par	Better	On par	P O O R	N O T C O N D U C T E D
Co 10015	On par	On par	Better	On par	On par		
Co10017	NT	On par	On par	Better	On par		
Co10031	Better	On par	On par	Better	On par		
Co 10033	On par	On par	On par	On par	On par		
CoM 10083	NT	Better	Poor	Poor	On par		
CoT 100368	Better	On par	Better	On par	On par		
CoT 100369	On par	On par	On par	Poor	Better		
CoVC 10061	On par	On par	On par	On par	On par		
PI 10131	Better	On par	Better	Better	Better		
PI 10132	Better	Better	On par	On par	On par		
Co 86032(C)	Best	Best	Best	Best	Best		
Co 99004(C)	On par	On par	On par	On par	Poor		

Annexure: Performance of entries at Powerkheda

S. No.	Clone	CCS t/ha	Cane yield t/ha	Brix % (330D)	Sucrose % (330D)	Purity % (330D)	CCS % (330D)	NMC at 330 ('000/ha)
1	Co 9009	15.44	1.77	24.17	21.02	86.94	14.42	93.37
2	Co10015	15.59	1.92	24.95	21.80	87.35	14.99	95.56
3	Co10017	12.87	1.62	23.50	20.34	86.57	13.93	78.40
4	Co10031	11.18	1.87	23.70	20.55	86.68	14.08	65.83
5	Co10033	11.60	1.80	24.02	20.86	86.85	14.31	71.27
6	CoM 10083	15.60	1.95	24.66	21.50	87.20	14.77	97.27
7	CoT 10368	9.50	1.77	21.90	18.74	85.59	12.76	62.47
8	CoT 10369	11.70	1.67	23.34	20.18	86.47	13.81	72.31
9	CoVC 10061	9.88	1.62	21.31	18.16	85.20	12.33	64.83
10	CoPI 10131	13.09	1.75	24.38	21.23	87.06	14.57	75.20
11	CoPI 10132	11.18	1.87	24.35	21.19	87.02	14.55	71.29
12	Co 86032	14.44	1.77	23.86	20.70	86.78	14.19	94.98
13	Co 99004	14.14	1.76	23.33	20.17	86.47	13.80	91.93
	CD at 5%	1.22	0.14	1.12	1.12	0.62	0.82	8.91
	CV	5.53	4.55	2.76	3.18	0.41	3.39	6.51

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S. No.	Clone	Tillers '000/ha 90D	Tillers '000/ha 180D	Stalk Length(m)	Diameter (cm)	Single C. Wt (kg)
1	Co 9009	96.2	94.98	2.14	2.49	1.77
2	Co10015	97.34	96.12	2.46	2.36	1.92
3	Co10017	80.23	79.01	2.31	2.12	1.62
4	Co10031	68.66	67.44	1.96	3.16	1.87
5	Co10033	74.10	72.88	2.55	2.82	1.80
6	CoM 10083	105.81	104.59	2.26	2.47	1.95
7	CoT 10368	65.30	64.08	2.25	2.08	1.77
8	CoT 10369	71.64	70.42	2.23	3.19	1.67
9	CoVC 10061	67.66	66.44	2.10	2.88	1.62
10	CoPI 10131	78.03	76.81	2.27	2.89	1.75
11	CoPI 10132	69.93	68.71	2.23	2.59	1.87
12	Co 86032	98.80	97.58	2.63	2.60	1.77
13	Co 99004	92.75	91.53	2.63	2.57	1.76
	CD at 5%	9.14	9.14	0.18	0.24	0.14
	CV	6.48	6.58	4.62	5.30	4.55

2.8 Advanced Varietal Trial – Midlate

2.8 Mean performance of two plant and one ratoon crops (2015—2017)

Sixteen centers conducted Advanced Varietal Trial midlate I plant crop during 2015-16 and 13 centers conducted AVT II plant crop during 2016-17. Only 10 centres conducted AVT midlate ratoon trial. Kawardha and Rudrur centres did not conduct any of the Advanced Varietal Trial. Basmathnagar reported that the trials vitiated due to severe drought condition. For estimation of pooled mean of plant crops, the trials which recorded lower cane yield compared to the respective state average and for ratoon trials the centers which recorded 15% lower than the respective state average were not considered. AVT I Plant at Akola and Thiruvalla, AVT II Plant at Pugalur, Sameerwadi and Thiruvalla and AVT Ratoon at Thiruvalla were not considered. Mean performance of eleven midlate entries in relation to zonal standards of the 16 centers in terms of weighted average is presented in tables 2.8.1 to 2.8.4. The salient results pertaining to CCS (t/ha), cane yield (t/ha), CCS % and sucrose % are discussed below.

2.8.1 Commercial Cane Sugar (t/ha):

Two test entries *viz.*, Co 10033 (15.37 t/ha) and CoT 10369 (14.57 t/ha) recorded higher sugar yield (t/ha) compared to the best standard Co 86032 (14.17 t/ha). The entry Co 10033 ranked first in the zone and has shown an improvement of 8.35% over Co 86032. It performed extremely well in nine locations except Basmathnagar, Kolhapur, Powarkheda, Pravaranagar, Sankeshwar, Sirugamani and Tiruvalla.

2.8.2 Cane yield (t/ha):

For cane yield, only one entry Co 10033 (117.72 t/ha) performed better than the best standard Co 86032 (106.50 t/ha). The entry Co 10033 had shown an improvement of 10.53% in cane yield over the best standard Co 86032. It also performed extremely well in ten centres except Basmathnagar, Kolhapur, Powarkheda, Pravaranagar, Sankeshwar, and Thiruvalla.

2.8.3 CCS %:

Two test entries *viz.*, PI 10131 and CoT 10369 performed better than the best standard Co 99004 (13.41%). The entry PI 10131 ranked first in the zone with commercial cane sugar of 13.75% followed by CoT 10369 (13.74%). The entry PI 10131 performed well in nine locations *viz.*, Akola, Mandya, Navsari, Powarkheda, Pugalur, Pune, Sameerwadi, Sankeshwar, Sirugamani and Thiruvalla.

2.8.4 Sucrose %:

For juice sucrose also, two test entries *viz.*, PI 10131 and CoT 10369 performed better than the best standard Co 99004 (19.10%). The entry PI 10131 recorded the highest sucrose of 19.51% followed by CoT 10369 (19.32%). The entry PI 10131 had shown a marginal improvement of 2.09% for juice sucrose over the better standard Co 99004.

Overall performance: Based on the weighted average of two plant and one ratoon crops at 16 centres, the midlate entry Co 10033 had shown 8.35 % and 10.53 % improvement over the best standard Co 86032 for sugar yield and cane yield respectively. For juice quality traits, two entries *viz.*, PI 10131 and CoT 10369 had shown improvement over the better standard Co 99004. The entry PI 10131 had shown improvement of 2.53 % and 2.09% over the best standard for CCS% and sucrose % respectively.

Table 2.8.1 Pooled Mean CCS t/ha at harvest

S No	Entries	Coimbatore				Akola				Basmathnagar				Kolhapur			
		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
1	Co 09009	17.51	17.10	11.81	15.47	4.04	8.06	6.35	6.15	7.71			7.71	14.72	11.10	13.11	12.98
2	Co 10015	20.46	17.50	14.83	17.60	7.36	10.20	8.68	8.75	7.35			7.35	15.99	11.10	12.70	13.26
3	Co 10017	18.74	21.06	17.13	18.98	6.95	8.62	6.57	7.38	16.94			16.94	2.70	1.62	1.25	1.86
4	Co 10031	10.23	12.09	9.93	10.75	5.57	13.16	8.86	9.20	8.75			8.75	14.45	10.53	10.95	11.98
5	Co 10033	19.36	19.83	16.70	18.63	8.26	13.33	10.24	10.61	12.56			12.56	15.72	10.38	13.11	13.07
6	CoM 10083	15.05	15.68	10.04	13.59	4.36	12.15	4.40	6.97	8.35			8.35	18.42	13.62	12.74	14.93
7	CoT 10368	12.16	11.98	10.64	11.59	8.11	10.57	6.70	8.46	5.49			5.49	10.63	7.78	8.86	9.09
8	CoT 10369	15.76	15.70	11.56	14.34	5.75	10.89	8.08	8.24	8.40			8.40	19.36	14.83	13.88	16.02
9	CoVC 10061	12.78	12.05	11.04	11.96	6.37	11.81	7.75	8.64	6.60			6.60	9.44	7.74	9.87	9.02
10	PI 10131	16.02	17.63	10.7	14.78	5.7	9.68	6.25	7.21	18.52			18.52	18.51	13.74	12.35	14.87
11	PI 10132	12.90	15.89	12.84	13.88	6.69	8.29	7.04	7.34	7.78			7.78	16.38	9.72	11.73	12.61
	Stds																
1	Co 86032	19.72	15.38	14.13	16.41	5.42	10.42	8.55	8.13	7.76			7.76	18.43	14.31	14.02	15.59
2	Co 99004	14.95	16.86	13.08	14.96	8.4	9.11	7.38	8.30	15.51			15.51	8.96	8.39	9.29	8.88
	Mean	15.82	16.06	12.65	14.84	6.38	10.48	7.45	8.11	10.13			10.13	14.13	10.37	11.07	11.86

Mandya				Navsari				Padegaon				Perumallapalle				Powarkheda			
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	AVT IP	AVT IIP	AVT Ratoon	Mean
11.91	14.62		13.27	14.06	15.95	13.93	14.65	15.34	13.89	11.57	13.60	9.73	16.74	11.80	12.76	16.32			16.32
13.3	16.49		14.90	14.64	17.26	13.24	15.05	16.35	14.08	10.91	13.78	6.97	11.45	14.90	11.11	17.18			17.18
10.35	15.89		13.12	13.56			13.56	18.51	14.58	12.73	15.27	8.87	8.67	12.90	10.15	13.11			13.11
12.61	13.18		12.90	12.99	14.94	11.46	13.13	15.51	18.05	14.64	16.07	9.95	12.75	8.60	10.43	11.35			11.35
13.12	16.41		14.77	14.21	15.87	14.98	15.02	17.63	18.44	14.06	16.71	14.81	19.99	18.50	17.77	12.47			12.47
13.8	14.39		14.10	14.08			14.08	8.73	10.08	8.30	9.04	9.22	8.10	10.00	9.11	18.40			18.40
12.65	16.16		14.41	13.14	16.35	13.14	14.21	14.74	10.90	10.14	11.93	9.33	14.40	14.20	12.64	9.74			9.74
14.04	16.4		15.22	15.4	16.96	12.50	14.95	19.77	18.10	15.05	17.64	12.55	22.51	16.30	17.12	12.14			12.14
13.2	17.38		15.29	13.53	15.44	13.37	14.11	17.8	13.14	11.01	13.98	11.27	10.66	12.40	11.44	9.76			9.76
15.05	15.07		15.06	14.09	15.11	14.71	14.64	13.62	12.74	11.63	12.66	10.27	13.08	13.00	12.12	13.35			13.35
13.31	15.05		14.18	12.43	14.26	13.87	13.52	20.35	20.24	19.02	19.87	13.94	15.26	9.10	12.77	12.71			12.71
12.68	14.79		13.74	14.85	13.5	12.1	13.48	18.63	14.91	13.51	15.68	8.23	6.46	9.90	8.20	16.81			16.81
12.04	14.33		13.19	14.77	12.95	10.08	12.60	13.57	13.4	10.05	12.34	8.21	10.15	10.20	9.52	15.06			15.06
12.93	15.40		14.16	13.98	15.33	13.03	14.08	16.20	14.81	12.51	14.51	10.26	13.09	12.45	11.93	13.72			13.72

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
19.45	19.32	15.8	18.19	14.11	10.42	14.24		9.46	10.34	10.32	10.04	10.92	7.98		9.45
19.48	19.37	16.63	18.49	16.39	8.93	14.60		20.46	18.92	7.55	15.64	19.99	12.39		16.19
15.16	15.29	13.22	14.56	14.57	5.15	11.43		11.49	9.44	9.78	10.24	18.06	5.83		11.95
16.35	17.33	14.3	15.99	13.85	8.81	12.88		12.85	10.12	9.16	10.71	9.76	7.13		8.45
18.23	17.69	15.81	17.24	16.57	9.59	14.47		18.35	18.57	14.12	17.01	18.73	10.71		14.72
19.45	17.95	15.83	17.74	15.6	11.23	14.86		11.05	10.4	8.33	9.93	11.39	5.44		8.42
17.35	17.09	14.03	16.16	10.41	6.81	11.13		9.75	10.85	10.02	10.21	12.13	6.58		9.36
14.75	14.71	13.9	14.45	10.56	7.21	10.74		16.06	18.42	14.43	16.30	11.91	6.34		9.13
14.99	15.91	13.01	14.64	14.33	7.67	12.21		12.9	16.17	14.46	14.51	15.3	8.56		11.93
17.37	16.43	13.84	15.88	15.8	8.07	13.25		13.88	15.89	11.83	13.87	17.24	6.52		11.88
18.72	17.59	14.49	16.93	15.67	6.2	12.93		17.98	11.12	11.56	13.55	15.81	7.38		11.60
20.72	18.31	17.36	18.80	15.22	8.02	14.01		18.24	16.08	12.57	15.63	15.27	13.16		14.22
16.4	16.95	14.53	15.96	13.51	11.98	13.82		13.41	11.92	9.44	11.59	23.31	7.53		15.42
17.57	17.23	14.83	16.54	14.35	8.47	13.12		14.30	13.71	11.04	13.02	15.37	8.12		11.75

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Sankeshwar				Sirugamani				Thiruvalla				Overall Mean			Weighted Average	Rank
AVT IP	AVT IIP	AVT Ratoon*	Mean	AVT IP	AVT IIP	AVT R	Mean	AVT IP*	AVT IIP*	AVT Ratoon*	Mean	AVT IP	AVT IIP	AVT Ratoon		
10.78	10.08	10.22	10.36	16.2			16.20	7.20	11.73	8.22	9.05	13.44	13.72	11.99	13.13	
2.76	7.85	4.85	5.15	17.8			17.80	7.33	10.92	5.8	8.02	14.94	14.42	11.84	13.94	
				16.2			16.20	3.35	6.65	8.27	6.09	13.71	11.90	9.48	12.12	
10.13	5.50	4.22	6.62	17.8			17.80	4.20	9.48	5.52	6.40	12.61	12.77	10.99	12.22	
18.00	10.76	8.63	12.46	16.8			16.80	5.70	10.44	3.52	6.55	16.18	16.13	13.28	15.37	1
12.80	6.05	9.67	9.51	12.7			12.70	5.82	8.68	6.22	6.91	13.50	12.05	9.99	12.17	
10.77	12.51	11.31	11.53	14.5			14.50	5.07	6.24	4.54	5.28	11.63	12.86	11.11	11.86	
15.07	12.5	13.32	13.63	15.5			15.50	6.32	11.36	5.58	7.75	14.38	16.10	13.17	14.57	2
12.18	14.92	10.58	12.56	16.7			16.70	7.81	11.3	7.30	8.80	12.91	13.52	11.46	12.70	
12.68	13.55	10.68	12.30	14.8			14.80	4.52	7.44	6.46	6.14	15.09	14.29	11.90	13.98	
11.91	16.75	10.67	13.11	15.8			15.80	3.30	7.6	5.57	5.49	14.69	14.42	10.83	13.56	
18.15	14.1	9.87	14.04	13.7			13.70	5.17	9.1	7.58	7.28	15.60	13.83	12.33	14.17	3
12.31	11.24	11.11	11.55	15.1			15.10	6.82	12.19	9.02	9.34	14.08	12.53	10.53	12.64	
12.30	11.32	9.59	11.07	15.66			15.66	5.59	9.47	6.43	7.16	14.05	13.78	11.62		

*Trials were not included for calculating overall mean since the trial average for cane yield was lower than respective state average

Table 2.8.2 Pooled Mean Cane yield t/ha at harvest

S No	Entries	Coimbatore				Akola				Basmathnagar				Kolhapur				
		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	
1	Co 09009	132.06	142.51	94.67	123.08	42.48	70.83	59.05	57.45	60.38			60.38	106.87	78.24	89.35	91.49	
2	Co 10015	135.69	133.78	104.71	124.73	67.08	84.26	86.92	79.42	63.86			63.86	108.36	75.50	87.34	90.40	
3	Co 10017	128.82	163.96	121.98	138.25	68.33	68.45	68.63	68.47	129.83			129.83	22.82	13.31	10.17	15.43	
4	Co 10031	84.75	95.53	75.89	85.39	56.13	111.44	83.59	83.72	67.33			67.33	93.11	71.28	74.66	79.68	
5	Co 10033	146.28	153.55	127.77	142.53	67.18	103.33	99.72	90.08	91.87			91.87	116.11	81.24	98.35	98.57	
6	CoM 10083	111.91	123.62	76.36	103.96	64.31	103.73	48.15	72.06	60.95			60.95	121.56	94.85	87.21	101.21	
7	CoT 10368	83.57	103.62	81.73	89.64	76.57	90.23	69.63	78.81	38.84			38.84	69.32	52.10	59.61	60.34	
8	CoT 10369	116.83	114.59	89.53	106.98	56.25	84.95	70.14	70.45	67.89			67.89	121.88	101.87	92.07	105.27	
9	CoVC 10061	95.36	105.53	93.55	98.15	59.26	100.6	76.44	78.77	65.50			65.50	73.22	58.36	71.14	67.57	
10	PI 10131	112.89	126.04	79.23	106.05	55.60	83.08	66.50	68.39	128.52			128.52	126.04	97.24	86.12	103.13	
11	PI 10132	93.10	120.34	93.19	102.21	51.09	69.68	77.08	65.95	56.44			56.44	107.87	71.44	84.25	87.85	
	Stds																	
1	Co 86032	126.64	120.87	102.76	116.76	57.64	83.63	88.19	76.49	53.36			53.36	118.87	98.14	93.80	103.60	
2	Co 99004	108.32	131.11	101.43	113.62	69.72	79.07	76.91	75.23	116.06			116.06	57.06	57.36	61.04	58.49	
	Mean	113.56	125.77	95.60	111.64	60.90	87.18	74.69	74.25	76.99			76.99	95.62	73.15	76.55	81.77	

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Mandya				Navsari				Padegaon				Perumallapalle				Powarkheda				
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	AVT IP	AVT IIP	AVT Ratoon	Mean	
104.13	115.36		109.75	112.31	112.31	112.08	112.23	110.53	103.86	85.55	99.98	75.44	137.10	99.70	104.08	114.52			114.52	
102.92	115.19		109.06	129.25	129.25	108.05	122.18	112.98	102.85	77.30	97.71	53.56	117.35	112.80	94.57	116.18			116.18	
80.61	114.24		97.43	109.71			109.71	129.35	102.48	88.82	106.88	67.46	78.75	98.10	81.44	95.35			95.35	
99.27	101.22		100.25	107.72	109.71	93.05	103.49	108.02	120.25	94.45	107.57	82.62	100.55	76.20	86.46	81.46			81.46	
103.70	123.78		113.74	116.69	107.72	118.33	114.25	130.36	134.63	101.22	122.07	118.2	140.01	125.20	127.83	87.99			87.99	
103.35	109.11		106.23	122.08			122.08	66.33	76.55	58.21	67.03	71.74	95.05	74.70	80.50	126.05			126.05	
104.65	117.80		111.23	111.71	116.69	100.55	109.65	103.06	78.14	73.61	84.94	83.26	123.40	118.60	108.42	77.44			77.44	
105.17	119.79		112.48	117.49	122.08	90.69	110.09	135.93	122.94	104.28	121.05	100.79	153.10	114.70	122.86	89.24			89.24	
99.01	121.27		110.14	109.52	111.71	96.94	106.06	125.24	92.49	77.28	98.34	89.81	98.40	108.70	98.97	80.27			80.27	
105.69	114.84		110.27	108.12	117.49	100.41	108.67	100.53	95.28	86.25	94.02	78.22	113.35	96.90	96.16	92.71			92.71	
101.18	117.88		109.53	96.16	109.52	95.41	100.36	131.25	136.83	128.28	132.12	121.83	130.00	69.70	107.18	88.02			88.02	
99.36	113.11		106.24	115.1	108.12	104.30	109.17	129.02	108.43	93.55	110.33	59.6	82.35	78.50	73.48	119.99			119.99	
98.14	101.3		99.72	120.08	96.16	87.91	101.38	100.69	93.39	74.25	89.44	66.74	92.35	74.70	77.93	110.38			110.38	
100.55	114.22		107.39	113.53	112.80	100.70	109.95	114.10	105.24	87.93	102.42	82.25	112.45	96.04	96.91	98.43			98.43	

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
142.8	136.79	117.15	132.25	122.21	79.42		100.82	68.96	78.32	76.54	74.61	86.0	60.42		73.21
134.31	135.25	123.31	130.96	150.08	66.14		108.11	144.56	141.71	52.82	113.03	140.0	98.89		119.45
110.72	109.72	102.72	107.72	124.21	42.97		83.59	84.21	73.29	68.95	75.48	126.0	40.97		83.49
116.56	110.01	104.56	110.38	129.33	71.44		100.39	98.92	76.84	64.49	80.08	79.0	56.67		67.84
140.67	139.86	123.67	134.73	161.36	81.42		121.39	142.24	151.46	103.09	132.26	144.0	104.03		124.02
139.36	135.36	119.36	131.36	148.6	88.02		118.31	78.65	82.15	65.74	75.51	87.0	40.56		63.78
130.59	122.94	107.09	120.21	104.59	59.98		82.29	74.36	100.17	76.43	83.65	92.0	53.47		72.74
101.79	99.79	99.79	100.46	109.8	56.25		83.03	109.82	136.51	96.88	114.40	91.0	48.19		69.60
112.94	108.26	104.44	108.55	162.66	62.76		112.71	98.2	121.77	100.05	106.67	118.0	66.39		92.20
126.26	118.09	109.68	118.01	127.42	61.8		94.61	90.52	115.91	75.68	94.04	113.0	46.39		79.70
124.01	119.69	105.69	116.46	129.85	47.22		88.54	129.44	84.12	77.92	97.16	114.0	54.58		84.29
162.19	145.25	129.14	145.53	126.81	61.54		94.18	129.8	118.94	91.14	113.29	112.0	101.67		106.84
116.64	115.70	107.51	113.28	122.82	92.01		107.42	96.4	86.03	64.36	82.26	176.0	54.72		115.36
127.60	122.82	111.85	120.76	132.29	67.00		99.64	103.54	105.17	78.01	95.57	113.69	63.61		88.65

Sankeshwar				Sirugamani				Thiruvalla				Overall Mean			Weighted Average	Rank
AVT IP	AVT IIP	AVT Ratoon	Mean	AVT IP	AVT IIP	AVT R	Mean	AVT IP*	AVT IIP*	AVT Ratoon*	Mean	AVT IP	AVT IIP	AVT Ratoon		
75.12	83.00	66.28	74.80	127.5			127.50	53.75	83.65	64.06	67.15	102.77	105.83	90.05	100.23	
22.34	51.00	33.48	35.61	137.2			137.20	57.64	85.21	43.85	62.23	110.81	108.61	89.33	104.29	
				124.9			124.90	26.12	48.23	66.35	46.90	102.61	90.53	73.33	91.75	
74.96	36.50	29.04	46.83	139.5			139.50	32.64	69.06	39.90	47.20	97.33	93.33	83.09	92.23	
132.5	82.50	60.41	91.80	128.4			128.40	47.37	81.67	30.94	53.33	125.74	121.82	100.71	117.72	1
85.7	42.50	67.38	65.19	117.1			117.10	43.75	67.50	50.10	53.78	102.88	95.88	75.31	93.80	
83.86	94.50	85.25	87.87	113.9			113.90	41.25	47.60	36.04	41.63	90.80	99.96	86.70	92.46	
101.9	89.00	83.54	91.48	133.4			133.40	46.12	80.10	40.73	55.65	107.35	114.46	93.96	105.85	3
84.47	106.50	69.43	86.80	133.5			133.50	59.17	87.19	60.21	68.86	103.41	102.49	87.07	98.67	
77.99	89.00	64.10	77.03	115.4			115.40	33.34	53.75	48.96	45.35	107.38	107.03	86.54	101.59	
76	109.5	67.65	84.38	126.5			126.50	24.17	56.04	42.19	40.80	106.83	106.90	78.44	99.11	
118.56	105.00	72.98	98.85	106.4			106.40	40.42	70.00	56.67	55.70	112.69	108.38	94.78	106.50	2
81.64	85.50	72.3	79.81	120.1			120.10	56.25	98.75	70.42	75.14	106.51	93.80	79.40	95.26	
84.59	81.21	64.32	76.71	124.91			124.91	43.23	71.44	50.03	54.90	105.83	104.00	77.18		

*Trials were not included for calculating overall mean since the trial average for cane yield was lower than respective state average

Table 2.8.3 Pooled Mean CCS % at harvest

S No	Entries	Coimbatore				Akola				Basmatnagar				Kolhapur			
		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
1	Co 09009	13.25	12.00	12.47	12.57	9.63	11.39	10.72	10.58	12.9			12.90	13.78	14.19	14.64	14.20
2	Co 10015	15.08	13.08	14.17	14.11	11.04	12.11	9.98	11.04	11.61			11.61	14.81	14.71	14.55	14.69
3	Co 10017	14.55	12.86	14.04	13.82	10.18	12.61	9.58	10.79	13.04			13.04	11.82	12.16	12.28	12.09
4	Co 10031	12.11	12.55	13.09	12.58	9.94	11.81	10.65	10.80	12.88			12.88	15.48	14.78	14.64	14.97
5	Co 10033	13.30	12.91	13.07	13.09	12.27	12.91	10.26	11.81	13.61			13.61	13.56	12.8	13.34	13.23
6	CoM 10083	13.45	12.68	13.15	13.09	6.65	11.66	9.14	9.15	13.7			13.70	15.16	14.36	14.63	14.72
7	CoT 10368	14.56	11.58	13.01	13.05	10.63	11.71	9.64	10.66	14.13			14.13	15.37	14.94	14.85	15.05
8	CoT 10369	13.47	13.71	12.91	13.36	10.17	12.74	11.52	11.48	12.33			12.33	15.89	14.55	15.08	15.17
9	CoVC 10061	13.41	11.44	11.8	12.22	10.9	11.74	10.13	10.92	12.3			12.30	12.86	13.27	13.83	13.32
10	PI 10131	14.13	13.98	13.5	13.87	10.31	11.66	9.45	10.47	14.42			14.42	14.7	14.13	14.34	14.39
11	PI 10132	13.91	13.2	13.78	13.63	13.18	11.94	9.13	11.42	13.78			13.78	15.16	13.6	13.87	14.21
	Stds																
1	Co 86032	15.57	12.74	13.75	14.02	9.47	12.51	9.68	10.55	14.52			14.52	15.51	14.56	14.95	15.01
2	Co 99004	13.77	12.83	12.9	13.17	12.05	11.55	9.6	11.07	13.51			13.51	15.68	14.63	15.22	15.18
	Mean	13.89	12.74	13.20	13.28	10.49	12.03	9.96	10.83	13.29			13.29	14.60	14.05	14.32	14.33

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Mandya				Navsari				Padegaon				Perumallapalle				Powarkheda			
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	AVT IP	AVT IIP	AVT Ratoon	Mean
12	12.60		12.30	12.52	14.18	12.43	13.04	13.87	13.37	13.53	13.59	13.10	12.21	11.80	12.37	14.25			14.25
13.58	14.29		13.94	11.33	13.35	12.25	12.31	14.47	13.69	14.12	14.09	13.05	9.75	13.20	12.00	14.81			14.81
13.67	13.90		13.79	12.36			12.36	14.30	14.23	14.34	14.29	13.15	11.01	13.10	12.42	13.75			13.75
13.38	13.01		13.20	12.06	13.62	12.33	12.67	14.32	15.01	15.5	14.94	12.05	12.68	11.30	12.01	13.90			13.90
13.27	13.26		13.27	12.18	14.74	12.65	13.19	13.53	13.72	13.89	13.71	11.45	14.27	14.80	13.51	14.13			14.13
14.04	13.20		13.62	11.53			11.53	13.11	13.17	14.29	13.52	12.80	8.52	13.40	11.57	14.6			14.60
12.68	13.72		13.20	11.76	14.00	13.06	12.94	14.29	13.95	13.77	14.00	12.90	11.67	11.90	12.16	12.58			12.58
14	13.68		13.84	13.11	13.9	13.79	13.60	14.54	14.73	14.43	14.57	12.45	14.70	14.20	13.78	13.64			13.64
14.06	14.33		14.20	12.35	13.82	13.77	13.31	14.22	14.22	14.24	14.23	12.55	10.83	11.40	11.59	12.16			12.16
14.96	13.14		14.05	13.03	12.87	14.65	13.52	13.56	13.36	13.48	13.47	11.20	11.54	13.40	12.05	14.4			14.40
13.86	12.77		13.32	12.93	13.02	14.51	13.49	15.51	14.79	14.82	15.04	12.55	11.73	13.10	12.46	14.37			14.37
13.43	13.09		13.26	12.90	12.47	11.6	12.32	14.43	13.76	14.44	14.21	12.30	7.85	12.70	10.95	14.01			14.01
12.93	14.15		13.54	12.30	13.46	11.47	12.41	13.48	14.35	13.54	13.79	13.80	10.98	13.60	12.79	13.63			13.63
13.53	13.47		13.50	12.34	13.58	12.96	12.82	14.13	14.03	14.18	14.11	12.57	11.36	12.92	12.28	13.86			13.86

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
13.61	14.14	13.49	13.75	11.54	13.13		12.34	13.72	13.2	13.46	13.46	12.67	13.21		12.94
14.49	14.33	13.49	14.10	10.93	13.51		12.22	14.16	13.35	14.33	13.95	14.28	12.52		13.40
13.69	13.94	12.87	13.50	11.72	11.98		11.85	13.65	12.89	14.47	13.67	14.26	14.18		14.22
14.02	14.69	13.68	14.13	10.71	12.29		11.50	12.99	13.17	14.18	13.45	12.29	12.58		12.44
12.96	12.64	12.78	12.79	10.27	11.77		11.02	12.90	12.38	13.68	12.99	13.09	10.27		11.68
13.96	13.28	13.12	13.45	10.48	12.75		11.62	14.06	12.82	12.70	13.19	13.72	13.41		13.57
13.38	13.91	13.10	13.46	9.90	11.41		10.66	13.12	10.82	13.10	12.35	13.17	12.24		12.71
14.49	14.74	13.93	14.39	9.60	12.84		11.22	14.61	13.50	14.87	14.33	13.08	13.17		13.13
13.30	14.70	12.47	13.49	8.8	12.23		10.52	13.12	13.30	14.43	13.62	12.96	12.85		12.91
13.76	13.90	12.63	13.43	12.39	13.07		12.73	15.33	13.71	15.65	14.90	15.23	14.03		14.63
15.11	14.70	13.72	14.51	12.07	13.16		12.62	13.90	13.23	14.82	13.98	13.94	13.48		13.71
12.76	12.62	13.44	12.94	12	13.05		12.53	14.05	13.52	13.8	13.79	13.65	12.94		13.30
13.75	14.66	13.52	13.98	11.01	13.02		12.02	13.91	13.86	14.68	14.15	13.2	13.78		13.49
13.79	14.02	13.25	13.69	10.88	12.63		11.76	13.81	13.06	14.17	13.68	13.50	12.97		13.24

Sankeshwar				Sirugamani				Tiruvalla				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*	Mean	AVT IP	AVT IIP	AVT Ratoon		
14.30	12.18	15.44	13.97	12.70			12.70	13.41	14.02	12.87	13.43	13.16	12.95	13.30	13.13	
12.31	15.33	14.47	14.04	13.00			13.00	12.75	12.81	13.24	12.93	13.42	13.40	13.38	13.40	4
				12.90			12.90	12.84	13.78	12.46	13.03	13.30	12.95	12.82	13.07	
13.51	15.05	14.53	14.36	12.80			12.80	12.86	13.73	13.84	13.48	13.04	13.64	13.32	13.30	
13.45	13.02	14.29	13.59	13.10			13.10	12.15	12.78	11.39	12.11	12.91	13.27	13.20	13.10	
14.9	14.24	14.39	14.51	10.90			10.90	13.24	12.85	12.43	12.84	13.32	12.66	13.09	13.05	
12.86	13.25	13.11	13.07	12.70			12.70	12.29	13.12	12.61	12.67	13.10	12.96	12.83	12.98	
14.77	14.06	15.97	14.93	11.60			11.60	13.70	14.18	13.59	13.82	13.40	14.03	13.95	13.74	2
14.29	14.08	15.30	14.56	12.50			12.50	13.16	12.96	12.14	12.75	12.78	13.17	13.23	13.02	
16.26	15.23	16.70	16.06	12.80			12.80	13.55	13.84	13.20	13.53	14.01	13.35	13.79	13.75	1
15.62	15.30	15.75	15.56	12.50			12.50	13.65	13.57	13.21	13.48	13.94	13.43	12.19	13.31	
15.29	13.43	13.55	14.09	12.80			12.80	12.78	13.00	13.38	13.05	13.80	12.66	13.01	13.24	
15.03	13.16	15.35	14.51	12.60			12.60	12.13	12.34	12.80	12.42	13.47	13.36	13.35	13.41	3
14.38	14.03	14.90	14.44	12.53			12.53	12.96	13.31	12.86	13.04	13.36	13.24	11.89		

*Trials were not included for calculating overall mean since the trial average for cane yield was lower than respective state average

Table 2.8.4 Pooled Mean Sucrose % at harvest

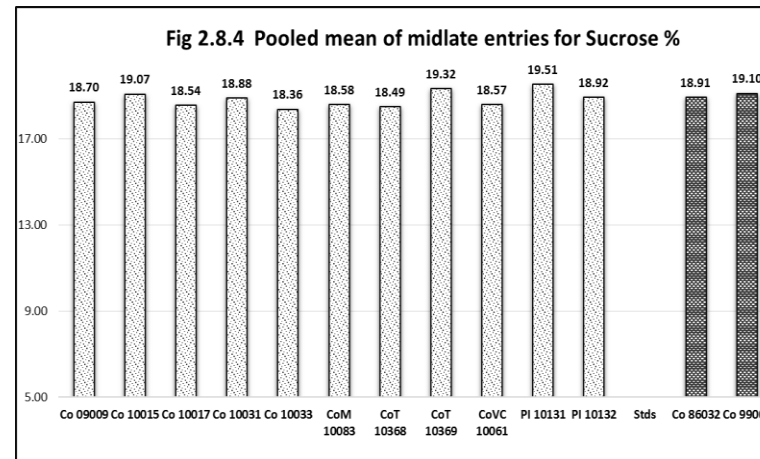
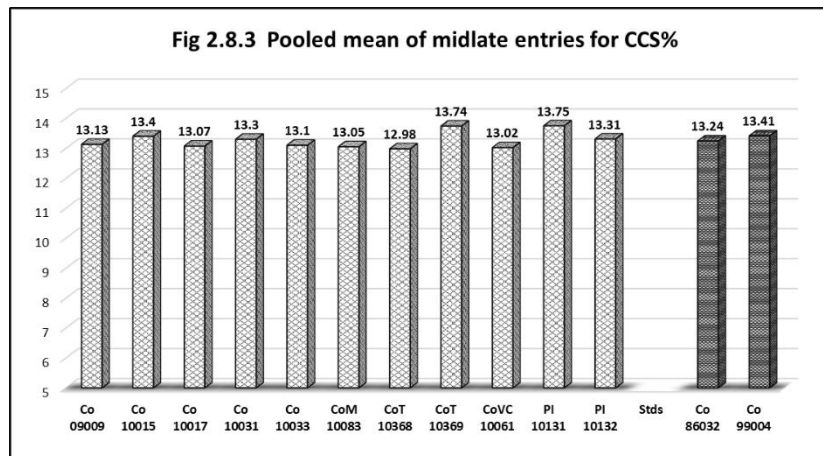
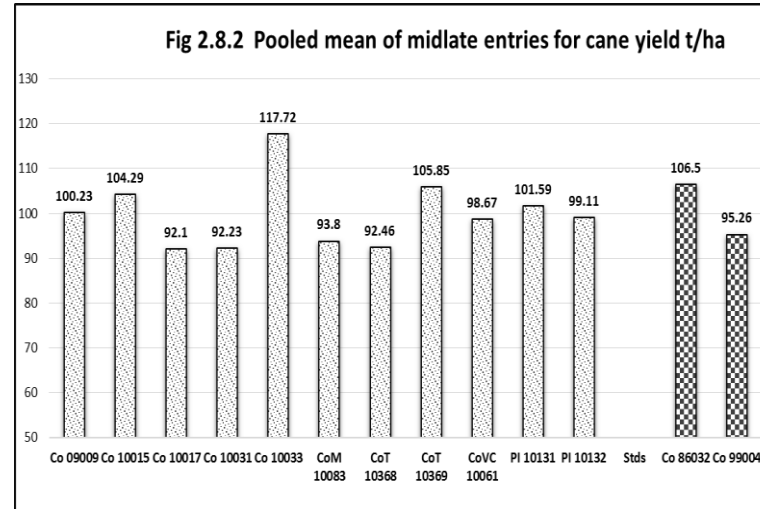
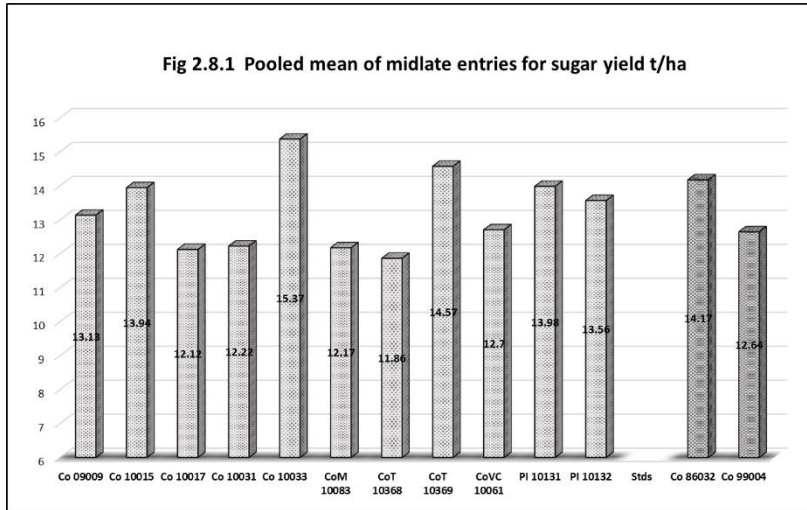
S No	Entries	Coimbatore				Akola				Basmathnagar				Kolhapur				
		AVT IP	AVT IIP	AVT Ratoon	Mean	AVT IP*	AVT IIP	AVT Ratoon	Mean	AVT IP	AVT IIP	AVT Ratoon	Mean	AVT IP	AVT IIP	AVT Ratoon	Mean	
1	Co 09009	18.82	17.21	17.78	17.94	15.75	16.85	15.94	16.18	18.00			18.00	19.00	20.04	20.64	19.89	
2	Co 10015	21.13	18.66	20.02	19.94	17.56	17.57	15.32	16.82	15.95			15.95	20.44	20.62	20.62	20.56	
3	Co 10017	20.48	18.32	19.84	19.55	16.43	17.85	14.56	16.28	18.00			18.00	16.28	17.04	17.11	16.81	
4	Co 10031	17.28	17.84	18.62	17.91	16.38	17.71	15.65	16.58	17.80			17.80	21.35	20.75	20.70	20.93	
5	Co 10033	18.93	18.44	18.66	18.68	17.69	18.60	14.88	17.06	18.61			18.61	18.66	17.96	18.57	18.40	
6	CoM 10083	19.06	17.97	18.53	18.52	12.86	17.20	14.40	14.82	18.87			18.87	20.79	20.27	20.62	20.56	
7	CoT 10368	20.46	16.55	18.43	18.48	16.51	17.41	14.79	16.24	19.45			19.45	21.12	21.13	21.06	21.10	
8	CoT 10369	19.14	19.52	18.38	19.01	16.43	18.65	16.88	17.32	17.08			17.08	21.78	20.53	21.13	21.15	
9	CoVC 10061	19.07	16.69	16.97	17.58	17.12	17.66	15.15	16.64	16.65			16.65	18.32	18.70	19.56	18.86	
10	PI 10131	20.00	19.81	19.15	19.65	16.81	17.77	15.13	16.57	19.93			19.93	20.41	19.97	20.19	20.19	
11	PI 10132	19.65	18.80	19.51	19.32	19.58	17.93	15.01	17.51	18.85			18.85	20.79	19.39	19.67	19.95	
	Stds																	
1	Co 86032	21.82	18.04	19.47	19.78	16.01	18.53	15.16	16.57	19.65			19.65	21.35	20.54	21.08	20.99	
2	Co 99004	19.37	18.34	18.53	18.75	18.53	17.45	15.16	17.05	18.53			18.53	21.56	20.68	21.49	21.24	
	Mean	19.63	18.17	18.76	18.85	16.74	17.78	15.23	16.59	18.26			18.26	20.14	19.82	20.19	20.05	

Mandya				Navsari				Padegaon				Perumallapalle				Powarkheda				
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	AVT IP	AVT IIP	AVT Ratoon	Mean	
17.00	17.99		17.50	18.28	20.12	17.89	18.76	19.74	18.84	19.20	19.26	18.65	17.40	16.60	17.55	17.00	17.99		17.50	
19.04	20.14		19.59	17.11	18.90	18.01	18.01	20.41	19.16	19.84	19.80	18.60	14.80	18.20	17.20	19.04	20.14		19.59	
19.35	19.68		19.52	17.75			17.75	20.22	19.97	20.14	20.11	18.75	16.20	17.80	17.58	19.35	19.68		19.52	
18.64	18.46		18.55	17.28	19.45	17.70	18.14	20.59	21.02	21.55	21.05	17.35	17.70	15.40	16.82	18.64	18.46		18.55	
18.60	18.70		18.65	17.47	20.88	18.28	18.88	19.39	19.18	19.41	19.33	16.55	17.90	15.80	16.75	18.60	18.70		18.65	
19.71	18.78		19.25	17.00			17.00	18.74	18.50	19.94	19.06	18.35	13.40	18.00	16.58	19.71	18.78		19.25	
17.81	19.36		18.59	17.01	20.28	18.94	18.74	20.22	19.63	19.50	19.78	18.50	16.80	15.50	16.93	17.81	19.36		18.59	
19.53	19.26		19.40	18.67	19.93	19.47	19.36	20.65	20.53	20.21	20.46	17.85	16.80	18.90	17.85	19.53	19.26		19.40	
19.80	19.96		19.88	17.82	19.78	19.56	19.05	20.17	20.03	20.04	20.08	18.00	15.80	15.90	16.57	19.80	19.96		19.88	
20.75	18.87		19.81	18.90	18.48	20.88	19.42	19.38	18.83	18.94	19.05	16.20	16.30	18.20	16.90	20.75	18.87		19.81	
19.39	18.22		18.81	18.34	18.75	20.46	19.18	21.90	20.73	20.74	21.12	18.00	16.40	17.90	17.43	19.39	18.22		18.81	
18.82	18.48		18.65	18.75	18.45	17.03	18.08	20.51	19.08	20.16	19.92	17.70	13.30	17.40	16.13	18.82	18.48		18.65	
18.05	19.93		18.99	17.83	19.61	17.06	18.17	19.37	20.16	19.06	19.53	19.70	16.00	18.70	18.13	18.05	19.93		18.99	
18.96	19.06		19.01	17.86	19.51	18.66	18.50	20.10	19.67	19.90	19.89	18.02	16.06	17.25	17.11	18.96	19.06		19.01	

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
20.78			20.78	19.59	19.95	18.83	19.46	16.63	18.85		17.74	19.18	18.48	18.78	18.81
21.56			21.56	20.78	20.20	18.52	19.83	15.93	19.35		17.64	19.79	18.73	19.85	19.46
20.10			20.10	19.68	19.79	18.09	19.19	16.95	17.58		17.27	19.02	18.38	20.09	19.16
20.31			20.31	20.26	20.66	19.55	20.16	15.63	17.97		16.80	18.30	18.55	19.72	18.86
20.62			20.62	18.51	17.92	18.06	18.16	14.79	17.24		16.02	18.01	17.72	19.02	18.25
21.26			21.26	19.58	18.99	18.56	19.04	15.16	18.43		16.80	19.50	18.08	17.68	18.42
18.50			18.50	19.27	19.69	18.56	19.17	14.64	16.51		15.58	18.32	15.36	18.25	17.31
19.94			19.94	20.77	20.84	18.90	20.17	14.20	18.45		16.33	20.27	18.87	20.60	19.91
17.92			17.92	19.05	20.61	17.49	19.05	13.18	17.83		15.51	18.24	18.80	19.98	19.01
20.99			20.99	18.54	19.55	17.78	18.62	17.87	18.91		18.39	20.90	19.28	21.63	20.60
20.95			20.95	21.43	20.78	19.67	20.63	17.16	18.95		18.06	19.25	18.81	20.52	19.53
20.46			20.46	18.63	18.12	19.14	18.63	17.20	18.68		17.94	19.41	18.92	19.20	19.18
19.93			19.93	19.73	20.60	19.23	19.85	16.08	18.84		17.46	19.30	19.33	20.33	19.65
20.26			20.26	19.68	19.82	18.64	19.38	15.80	18.28		17.04	19.19	18.41	19.67	19.09

Sankeshwar				Sirugamani				Tiruvalla				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*	Mean	AVT IP	AVT IIP	AVT Ratoon		
20.34	18.09	21.90	20.11	17.90			17.90	19.20	20.08	18.42	19.23	18.73	18.50	18.87	18.70	
18.02	21.96	20.56	20.18	18.60			18.60	18.29	18.32	18.98	18.53	19.13	19.07	18.97	19.07	
				18.70			18.70	18.41	19.75	17.88	18.68	18.89	18.40	18.06	18.54	
19.47	21.26	20.71	20.48	17.90			17.90	18.42	19.65	19.84	19.30	18.57	19.34	18.85	18.88	
19.13	18.77	20.34	19.41	18.80			18.80	17.42	18.32	16.30	17.35	18.35	18.61	18.10	18.36	
20.98	20.32	20.68	20.66	15.80			15.80	18.99	18.42	17.88	18.43	18.89	18.17	18.54	18.58	
18.51	19.06	18.75	18.77	18.30			18.30	17.63	18.77	18.10	18.17	18.64	18.53	18.19	18.49	
20.95	20.28	22.56	21.26	17.00			17.00	19.65	20.30	19.52	19.82	19.05	19.52	19.51	19.32	2
20.53	20.38	21.80	20.90	18.20			18.20	18.87	18.54	17.43	18.28	18.26	18.84	18.74	18.57	
23.02	21.86	23.42	22.77	18.90			18.90	19.43	19.86	18.99	19.43	19.83	19.07	19.52	19.51	1
22.25	21.86	22.34	22.15	18.30			18.30	19.63	19.42	18.98	19.34	19.73	19.17	17.37	18.92	
21.69	19.10	19.43	20.07	18.90			18.90	18.32	18.65	19.21	18.73	19.61	18.26	18.57	18.91	
21.38	19.05	21.57	20.67	17.90			17.90	17.40	17.65	18.32	17.79	19.13	19.12	19.04	19.10	3
20.52	20.17	21.17	20.62	18.09			18.09	18.59	19.06	18.45	18.70	18.99	18.85	16.80		

*Trials were not included for calculating overall mean since the trial average for cane yield was lower than respective state average



2.9. Advanced Varietal Trial I Plant – Midlate (2016-17)

Centers where trial was conducted (13)	Coimbatore, Akola, Kolhapur, Mandya, Navsari, Padegoan, Perumallapalle, Pravaranagar, Pugalur, Pune, Sameerwadi, Sankeshwar and Thiruvall
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	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
Year of start	2016-17
Crop duration	12 months

Results of the previous year: Fourteen entries and two standards (Co 86032 and Co 99004) were evaluated during 2014-15 at 17 locations in peninsular zone. None of the test entries were better than the best standard Co 86032 (14.77) for CCS t/ha. The entry Co 11019 (14.59 t/ha) was the best among the entries and ranked top three in six locations. For cane yield also none of the entries were better than standard Co 86032 (113.94 t/ha), but Co 11019 (112.53 t/ha) was the best among entries. In case of CCS %, Co 11012 (12.95) was better than best standard Co 86032 (12.93) and ranked top three at seven locations. For sucrose %, none of the test entries performed better than best standard Co 99004 (19.02 %). None of the entries were better than the standard for cane yield and juice quality.

Results of the current year: Six test entries and two standards (Co 86032 and Co 99004) were evaluated in Randomized Block Design with three replications at 13 locations in peninsular zone. None of the test 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 more than 10 % improvement for CCS t/ha over the best standard at four locations in the zone, Co 11019 and CoM 11086 recorded at three locations each. For cane yield also none of the test entries evaluated had recorded more than 10 % cane yield over the best standard Co 86032 (109.24 t/ha) across the zone. Among the entries CoM 11086 was the best entry followed by Co11019. The entries Co 11007 and Co 11019 recorded significantly 10% improvement for 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 test entry 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 test entries recorded 5% improvement over best standard Co 99004 (18.83) across the zone. 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 t/ha and cane yield at four and three locations respectively. For CCS % and sucrose %, Co 11005 had recorded 5 % improvement over the best standard Co 99004 at two locations. Therefore none of the entries were identified as qualifying entry across the locations. The data are presented in table 2.9.1 to 2.9.20.

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Table 2.9.1 CCS t/ha at harvest

S No	Entries	Coimbatore	Akola	Kolhapur	Mandya	Navsari	Padegaon #	Perumallapalle	Pravaranagar	Pugalur	Pune	Sameerwadi	Sanke shwar	Thiruvalla	Mean	Rank
1	Co 11005	16.93	10.69	11.24	10.91	14.71	15.61*	16.80	17.15	7.27	17.35	10.32	8.68	8.94	12.82	
2	Co 11007	17.95	13.47	9.63	12.66	15.15	11.99	17.60	18.87	7.21	15.33	4.67	14.67	8.80	12.92	
3	Co 11012	14.50	13.94	12.51	14.52	14.28	16.16*	13.10	19.70	12.61	16.98	9.51	9.87	11.75	13.80	3
4	Co 11019	14.48	12.84	10.74	13.70	14.48	16.32*	15.40	16.19	9.94	18.69	7.21	14.29	10.41	13.44	
5	CoM 11085	15.30	11.67	11.91	13.59	15.80	15.51*	15.60	17.90	9.00	17.12	12.66	10.42	11.18	13.67	
6	CoM 11086	18.29	11.16	13.51	14.78	17.42*	18.47*	12.10	19.30	9.82	11.29	9.54	12.03	12.76	13.88	2
Standards																
1	Co 86032	13.58	11.35	13.20	14.64	14.19	14.16	15.90	20.91	11.63	17.20	17.38	9.89	13.89	14.46	1
2	Co 99004	15.37	10.63	8.13	13.48	13.14	12.93	11.90	16.60	10.26	13.79	8.46	12.54	12.38	12.28	
	GM	15.80	11.97	11.36	13.54	14.90	15.14	14.80	18.33	9.72	15.97	9.97	11.55	11.26		
	SE	0.96	1.27	0.80	-	0.76	0.41	-	0.88	0.69	0.57	0.93	0.93	0.39		
	CD	2.94	NS	2.43	2.34	2.30	1.22	1.80	2.68	1.48	1.72	2.82	2.81	1.11		
	CV	10.52	18.34	12.23	9.85	8.81	4.72	8.00	8.36	8.71	6.14	16.16	13.91	6.01		
Qualifying Entries at each location																
	1	CoM 11086	Co 11012			CoM 11086	CoM 11086	Co 11007					Co 11007			
	2	Co 11007	Co 11007			CoM 11085	Co 11019						Co 11019			
	3	Co 11005	Co 11019				Co 11012									

* Significant with best standard variety at 5% level. # Only top three entries were listed.

Qualifying Entries: Co 11005 (2), Co 11007 (4), Co 11012 (2), Co 11019 (3), CoM 11085 (1) and CoM 11086 (3).

Performance across locations: None of the test entries had recorded 10 % improvement for CCS t/ha over the best standard Co 86032 (14.46 t/ha) across the zone. Among the entries CoM 11086 was the best however the entry Co 11007 recorded more than 10 % improvement over the best standard for CCS t/ha at four locations in the zone, which was closely followed by Co 11019 and CoM 11086 at three locations each. The other entries which recorded more than 10 % sugar yield over standard were Co 11005 and Co 11012 at two locations and CoM 11085 at one location.

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Table 2.9.2 Cane yield t/ha at harvest

S No	Entries	Coimbatore	Akola	Kolhapur	Man dya	Nav sari	Padegaon	Perumalappalle	Pravaranagar	Pugalur	Pune	Sameerwadi	Sanke shwar	Thiruvalla	Mean	Rank
1	Co 11005	142.33*	87.47	76.38	84.72	110.55	107.81	120.50	132.89	61.22	130.46	79.44	72.34	82.71	99.14	
2	Co 11007	140.23*	115.00	71.31	94.27	107.96	95.53	140.90	141.38	76.79	114.16	36.30	121.22*	75.21	102.33	
3	Co 11012	107.38	105.96	88.56	101.79	110.92	111.93	106.00	150.78	101.85	119.72	66.76	78.38	107.43	104.42	
4	Co 11019	118.06	112.25	76.49	105.90	114.63	114.76	134.80	127.71	80.09	135.57	54.35	101.36	90.35	105.10	3
5	CoM 11085	115.03	96.54	83.33	104.05	123.05	112.37	126.50	142.41	67.94	128.83	86.20	75.61	94.65	104.35	
6	CoM 11086	141.89*	93.73	98.28	102.14	126.94*	124.54	109.80	143.10	80.26	96.34	71.11	93.25	112.01	107.18	2
Standards																
1	Co 86032	106.96	91.06	93.48	105.27	109.16	103.82	128.90	156.90	90.45	123.16	125.93	78.73	106.32	109.24	1
2	Co 99004	116.67	88.40	55.08	102.14	99.63	98.71	91.20	121.68	85.24	97.89	58.43	90.57	110.28	93.53	
	GM	123.57	98.80	80.36	100.04	112.86	108.68	119.83	139.61	80.48	118.27	74.30	88.93	97.37		
	SE	6.85	8.01	5.19	-	5.19	2.22	-	3.01	5.79	4.10	6.65	6.57	4.16		
	CD	20.97	NS	15.70	10.62	15.74	6.55	13.40	9.13	12.42	12.45	20.17	19.91	11.82		
	CV	9.60	14.05	11.18	6.06	7.97	3.54	7.20	3.73	8.80	6.01	15.93	12.79	7.40		
Qualifying Entries at each location																
	1	Co 11005	Co 11007			CoM 11086				Co 11012	Co 11019		Co 11007			
	2	CoM 11086	Co 11019			CoM 11085							Co 11019			
	3	Co 11007	Co 11012													

* Significant with best standard variety at 5% level.

Qualifying Entries: Co 11005 (1), Co 11007 (3), Co 11012 (2), Co 11019 (3), CoM 11085 (1) and CoM 11086 (2).

Performance across locations: None of the test entries evaluated had recorded 10 % cane yield over the best standard Co 86032 (109.24 t/ha) across the zone. Among the entries CoM 11086 was the best test entry followed by Co11019. The entries Co 11007 and Co 11019 recorded significantly higher than 10 % for cane yield over the best standard at three locations, which was followed by Co 11012 and CoM 11086 at two locations each and the other test entries Co 11005 and CoM 11085 at one location each.

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Table 2.9.3 CCS % at harvest

S No	Entries	Coimbatore	Akola	Kolhapur	Mandya	Navsari	Padegaon	Perumallapalle	Pravaranagar	Pugalur	Pune	Sameerwadi	Sanke shwar	Thiruvalla	Mean	Rank
1	Co 11005	11.89	12.16	14.73	12.87	13.31	14.49*	14.00*	12.89	11.85	13.28	12.98	12.00	10.83	12.87	
2	Co 11007	12.78	11.59	13.53	13.42	14.04*	12.57	12.40	13.33	9.41	13.42	12.90	12.11	11.70	12.55	
3	Co 11012	13.55	13.24	14.13	14.25	12.88	14.45	12.30	13.09	12.40	14.19	14.20	12.58	10.94	13.25	1
4	Co 11019	12.38	11.30	14.02	12.93	12.64	14.24	11.40	12.65	12.40	13.78	13.29	14.05	11.53	12.82	
5	CoM 11085	13.32	12.09	14.29	13.05	12.84	13.78	12.20	12.57	13.24	13.29	14.68	13.88	11.84	13.16	3
6	CoM 11086	12.89	12.13	13.75	14.46	13.71*	14.83*	10.90	13.51	12.25	11.73	13.42	12.88	11.42	12.91	
Standards																
1	Co 86032	12.69	12.43	14.12	13.91	13.00	13.64	12.20	13.32	12.89	13.96	13.78	12.55	13.07	13.20	
2	Co 99004	13.15	12.05	14.76	13.19	13.16	13.12	13.00	13.65	12.01	14.08	14.47	13.87	11.24	13.21	2
	GM	12.83	12.12	14.17	13.51	13.20	13.89	12.30	13.13	12.06	13.47	13.72	12.99	11.57		
	SE	0.48	0.77	0.31	-	0.16	0.28	-	0.47	0.41	0.15	0.10	0.45	0.26		
	CD	N.S.	NS	NS	NS	0.48	0.83	0.50	1.43	0.89	0.46	0.31	1.38	0.76		
	CV	6.52	11.05	3.75	5.88	2.08	3.53	2.90	6.22	4.22	1.96	1.27	6.05	4.01		
Qualifying Entries at each location																
	1		Co 11012			Co 11007	CoM 11086	Co 11005								
	2						Co 11005									
	3						Co 11012									

* Significant with best standard variety at 5% level

Qualifying Entries: Co 11005 (2), Co 11007 (1), Co 11012 (2) and CoM 11086 (1).

Performance across locations: None of the test entry had recorded 5 % improvement for CCS % 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. The entries Co 11005 and Co 11012 recorded more than 5 % for CCS % over the best standard at two locations, which was followed by Co 11007 and CoM 11086 at one location each.

Varietal Improvement Programme- AICRP (Sugarcane)
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Table 2.9.4 Sucrose % at harvest

S No	Entries	Coimbatore	Akola	Kolhapur	Mandya	Navsari	Padegaon	Perumallapalle	Pravaranaagar	Pugalur	Pune	Sameerwadi	Sanke shwar	Thiruvalla	Mean	Rank
1	Co 11005	16.93	-	20.78	18.27	19.07	20.19	19.00*	18.73	16.89	18.41	18.77	17.70	15.60	18.36	
2	Co 11007	18.26	-	18.89	19.14	19.59*	17.88	16.70	18.84	13.97	18.73	18.66	17.81	16.75	17.94	
3	Co 11012	19.19	-	19.80	20.19	18.17	20.29*	16.60	18.54	17.77	19.75	20.27	18.26	15.75	18.72	
4	Co 11019	17.75	-	19.65	18.66	17.94	20.08	15.80	17.98	17.77	19.33	19.30	20.03	16.52	18.40	
5	CoM 11085	18.86	-	19.92	18.69	18.51	19.35	16.70	17.54	18.80*	18.66	20.89	19.87	16.97	18.73	3
6	CoM 11086	18.45	-	19.24	20.30	19.30*	20.71*	15.10	18.87	17.50	16.53	19.25	18.70	16.36	18.36	
Standards																
1	Co 86032	18.05	-	19.65	19.81	18.52	19.21	16.90	18.62	18.31	19.45	19.73	18.38	18.69	18.78	2
2	Co 99004	18.77	-	20.85	18.77	18.70	18.56	17.40	19.35	17.27	19.60	20.67	19.86	16.14	18.83	1
	GM	18.28		19.85	19.23	18.73	19.53	16.78	18.56	17.29	18.81	19.69	18.83	16.60		
	SE	0.64	-	0.39	-	0.18	0.35	-	0.61	0.55	0.23	0.15	0.53	0.36		
	CD	N.S.	-	1.17	NS	0.56	1.03	0.80	1.86	1.19	0.68	0.45	1.59	1.03		
	CV	6.03	-	3.38	4.82	1.69	3.09	2.80	5.72	3.96	2.07	1.32	4.84	3.78		
Qualifying Entries at each location																
	1					Co 11007	CoM 11086	Co 11005								
	2						Co 11012									
	3						Co 11005									

* Significant with best standard variety at 5% level

Qualifying Entries: Co 11005 (2), Co 11007 (1), Co 11012 (1) and CoM 11086 (1).

Performance across locations: For sucrose % at harvest, none of the test entries recorded 5 % improvement over best standard Co 99004 (18.83) across the zone. Among the entries CoM 11085 was the best. The entry Co 11005 had recorded more than 5 % improvement for sucrose % over the best standard at two locations, followed by Co 11007, Co 11012 and CoM 11086 at one location each in the zone.

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Table 2.9.5 Brix % at harvest

S No	Entries	Coimbatore	Akola	Kolhapur	Mandya	Navsari	Padegaon	Perumalpalke	Pravaranagar	Pugalur	Pune	Sameerwadi	Sanke shwar	Thiruvalla	Mean
1	Co 11005	18.52	20.99	22.26	19.83	21.18	21.02	19.80	19.76	18.53	19.89	21.25	20.84	17.50	20.11
2	Co 11007	20.16	20.79	19.76	21.00	20.50	19.52	17.00	20.26	16.67	20.19	21.11	20.84	18.57	19.72
3	Co 11012	20.79	21.04	20.93	21.83	19.48	21.52	17.10	20.06	19.73	21.19	22.31	20.84	17.67	20.35
4	Co 11019	19.70	20.69	20.76	21.00	19.52	21.52	17.30	19.59	19.73	21.09	22.01	22.01	18.33	20.25
5	CoM 11085	20.41	21.89	20.76	20.67	20.81	20.52	17.80	18.53	20.47	20.41	22.85	22.01	18.83	20.46
6	CoM 11086	20.42	20.37	20.26	21.50	20.60	21.69	16.60	20.09	19.31	18.24	21.41	21.34	18.17	20.00
Standards															
1	Co 86032	19.71	21.39	20.43	21.67	20.33	20.52	18.40	19.89	19.94	20.90	21.88	21.34	20.67	20.54
2	Co 99004	20.64	21.92	22.43	20.50	20.40	20.02	17.70	20.99	19.32	21.06	22.78	22.01	18.00	20.60
	GM	20.04	21.14	20.95	21.00	20.35	20.79	17.71	19.90	19.21	20.37	21.83	21.40	18.47	
	SE	0.58	0.43	0.39	-	0.30	0.33	-	0.65	0.58	0.23	1.84	0.37	0.35	
	CD	N.S.	NS	1.18	NS	0.90	0.98	0.90	1.98	1.24	0.70	0.71	1.12	1.00	
	CV	5.01	3.55	3.23	4.56	2.51	2.75	2.90	5.70	3.71	1.95	0.23	2.99	3.31	

Table 2.6.6 Purity % at harvest

S No	Entries	Coimbatore	Akola	Kolhapur	Mandya	Navsari	Padegaon	Perumalpalke	Pravaranagar	Pugalur	Pune	Sameerwadi	Sanke shwar	Thiruvalla	Mean
1	Co 11005	91.37	85.30	93.32	91.84	90.08	96.02	96.00	92.30	91.14	92.55	88.34	84.96	88.23	90.88
2	Co 11007	90.16	83.30	95.57	91.02	95.58	91.52	97.90	92.99	83.83	92.74	88.39	85.45	89.35	90.60
3	Co 11012	92.35	90.28	94.66	92.34	93.29	94.25	97.10	92.68	90.02	93.19	90.83	87.58	88.27	92.06
4	Co 11019	89.99	82.18	94.70	88.70	91.93	93.31	91.40	91.68	90.08	91.68	87.72	91.02	89.23	90.28
5	CoM 11085	92.40	82.65	95.94	90.30	88.94	94.26	93.90	93.99	91.86	91.44	91.44	90.27	89.23	91.28
6	CoM 11086	90.81	87.01	95.03	94.25	93.75	95.47	91.00	93.71	90.63	90.63	89.90	87.60	89.16	91.46
Standards															
1	Co 86032	91.88	85.45	96.24	91.42	91.12	93.59	91.90	93.47	91.80	93.05	91.18	86.12	89.66	91.30
2	Co 99004	90.90	82.45	92.96	91.50	91.73	92.71	98.10	92.22	89.39	93.10	90.76	90.26	88.75	91.14
	GM	91.23	84.83	94.80	91.42	92.05	93.89	94.66	92.88	89.84	92.30	89.82	87.91	88.99	
	SE	0.74	4.13	1.04	-	1.33	0.94	-	1.81	0.48	0.18	0.49	1.51	0.32	
	CD	N.S.	N.S.	N.S.	NS	NS	2.78	3.60	5.50	1.05	0.55	1.50	4.59	NS	
	CV	1.40	8.43	1.89	3.93	2.49	1.74	2.10	3.38	0.67	0.34	0.96	2.98	0.62	

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Table 2.9.7 Pol % Cane at harvest

S No	Entries	Coimbatore	Akola	Kolhapur	Mandya	Navsari	Padegaon	Perumallapalle	Pravar anagar	Pugalur	Pune	Sameerwadi	Sanke shwar	Thiruvalla	Mean
1	Co 11005	13.03	17.90	-	18.27	14.64	15.87	-	-	13.88	13.67	13.70	13.89	-	14.98
2	Co 11007	13.92	17.28	-	19.14	14.85	14.80	-	-	11.46	14.26	13.62	13.85	-	14.80
3	Co 11012	14.57	18.97	-	20.19	13.72	16.25	-	-	14.59	14.80	14.80	13.52	-	15.71
4	Co 11019	13.57	16.97	-	18.66	13.73	16.18	-	-	14.64	14.59	14.09	14.82	-	15.25
5	CoM 11085	14.47	18.08	-	18.69	14.18	15.93	-	-	15.47	14.18	15.25	15.54	-	15.75
6	CoM 11086	14.04	17.69	-	20.30	14.80	16.80	-	-	14.39	12.44	14.05	14.04	-	15.39
Standards															
1	Co 86032	13.92	18.28	-	19.81	14.21	15.70	-	-	15.07	14.80	14.41	14.20	-	15.60
2	Co 99004	14.33	18.06	-	18.77	14.15	15.30	-	-	14.20	14.65	15.09	15.32	-	15.54
	GM	13.98	17.90		19.23	14.29	15.85			14.21	14.17	14.38	14.40		
	SE	0.50	0.73	-	-	0.15	0.29	-	-	0.45	0.17	0.11	0.43	-	
	CD	N.S	N.S	-	1.62	0.47	0.87	-	-	0.97	0.51	0.33	1.31	-	
	CV	6.25	7.10	-	4.82	1.87	3.22	-	-	3.93	2.05	1.31	5.21	-	

Table 2.9.8 Extraction % at harvest

S No	Entries	Coimbatore	Akola	Kolhapur	Mandya	Navsari	Padegaon	Perumallapalle	Pravar anagar	Pugalur	Pune	Sameerwadi	Sanke shwar	Thiruvalla	Mean
1	Co 11005	46.25	-	-	52.67	58.30	53.49	-	53.70	-	62.81	-	61.00	61.58	56.23
2	Co 11007	51.65	-	-	54.67	57.02	51.88	-	54.84	-	57.34	-	62.25	56.78	55.80
3	Co 11012	47.51	-	-	54.09	64.37	53.59	-	57.77	-	59.72	-	61.96	59.48	57.31
4	Co 11019	45.80	-	-	54.15	56.88	51.56	-	50.08	-	63.25	-	55.59	61.88	54.90
5	CoM 11085	48.48	-	-	52.91	57.99	52.56	-	56.50	-	53.01	-	58.19	61.78	55.18
6	CoM 11086	48.11	-	-	55.86	63.66	51.61	-	56.17	-	49.82	-	56.02	62.51	55.47
Standards															
1	Co 86032	49.98	-	-	54.13	57.74	50.38	-	59.08	-	53.27	-	59.26	62.70	55.82
2	Co 99004	50.02	-	-	52.62	56.88	52.11	-	54.50	-	53.37	-	60.37	63.71	55.45
	GM	48.48			53.89	59.11	52.15		55.33		56.57		59.33	61.30	
	SE	1.75	-	-	-	1.78	0.81	-	1.1	-	0.70	-	1.81	2.15	
	CD	N.S	-	-	NS	5.40	2.40	-	3.35	-	2.13	-	5.49	NS	
	CV	6.26	-	-	8.42	5.21	2.70	-	3.46	-	2.15	-	5.29	6.10	

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Table 2.9.9 Fibre % at harvest

S No	Entries	Coimbatore	Akola	Kolhapur	Mandya	Navsari	Padegaon	Perumallapalle	Pravaranagar	Pugalur	Pune	Sameerwadi	Sanke shwar	Thiruvalla	Mean
1	Co 11005	13.02	-	-	14.40	13.25	15.32	-	-	12.80	15.72	-	11.54	-	13.72
2	Co 11007	13.78	-	-	14.48	14.21	15.12	-	-	12.99	13.84	-	12.24	-	13.81
3	Co 11012	14.09	-	-	13.73	14.48	15.31	-	-	12.89	15.04	-	16.03	-	14.51
4	Co 11019	13.54	-	-	13.80	13.47	15.52	-	-	12.64	14.51	-	16.07	-	14.22
5	CoM 11085	13.28	-	-	14.80	13.39	14.01	-	-	12.73	14.03	-	11.76	-	13.43
6	CoM 11086	13.88	-	-	14.57	13.29	14.09	-	-	12.79	14.75	-	14.89	-	14.04
Standards															
1	Co 86032	12.90	-	-	14.41	13.27	14.70	-	-	12.71	13.93	-	12.72	-	13.52
2	Co 99004	13.60	-	-	14.00	14.35	14.76	-	-	12.78	15.27	-	12.82	-	13.94
	GM	13.51			14.27	13.71	14.85			12.79	14.64		13.51		
	SE	0.43	-	-	-	0.20	0.32	-	-	0.18	0.19	-	0.68	-	
	CD	N.S	-	-	0.93	0.62	0.94	-	-	0.39	0.57	-	2.07	-	
	CV	5.50	-	-	3.74	2.58	3.71	-	-	1.76	2.21	-	8.76	-	

Table 2.9.10 Number of millable canes (000/ha) at harvest

S No	Entries	Coimbatore	Akola	Kolhapur	Mandya	Navsari	Padegaon	Perumallapalle	Pravaranagar	Pugalur	Pune	Sameerwadi	Sanke shwar	Thiruvalla	Mean
1	Co 11005	150.43	65.51	72.80	90.91	108.11	95.72	105.70	103.16	123.29	100.74	102.31	59.85	85.07	97.20
2	Co 11007	136.64	61.34	62.79	81.71	104.47	80.27	106.40	98.28	88.54	73.64	39.81	68.38	65.90	82.17
3	Co 11012	141.93	58.87	68.23	95.43	107.27	91.96	96.70	103.61	113.15	97.77	62.96	55.85	94.02	91.37
4	Co 11019	129.93	70.45	65.97	93.63	103.63	94.73	101.90	113.41	122.04	104.92	61.11	65.30	79.51	92.81
5	CoM 11085	155.29	62.65	71.35	100.58	114.19	92.19	105.30	97.79	122.04	104.40	101.11	58.31	84.65	97.68
6	CoM 11086	160.27	70.29	93.00	92.13	118.02	99.88	83.10	107.69	119.82	97.33	84.72	62.93	103.05	99.40
Standards															
1	Co 86032	131.46	68.44	89.06	101.16	109.42	85.88	99.00	115.56	90.91	94.42	124.17	58.83	94.65	97.15
2	Co 99004	111.50	60.42	51.56	93.40	96.90	83.68	79.10	90.16	89.93	78.87	71.30	61.39	97.36	81.97
	GM	139.68	64.75	71.85	93.62	107.75	90.54	97.15	103.71	108.72	94.01	80.94	61.36	88.03	
	SE	1.31	2.94	4.89	-	3.91	1.34	-	1.51	6.69	3.39	7.98	4.92	3.22	
	CD	4.01	NS	14.80	17.79	11.85	3.96	7.70	4.58	14.35	10.27	24.19	14.92	9.16	
	CV	1.63	7.86	11.79	8.42	6.28	2.57	5.70	2.52	7.54	6.24	17.07	13.89	6.34	

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Table 2.9.11 Stalk length (cm) at harvest

S No	Entries	Coimbatore	Akola	Kolhapur	Mandya	Navsari	Padegaon	Perumalpal	Pravara nagar	Pugalur	Pune	Sameerwadi	Sanke shwar	Thiruvalla	Mean
1	Co 11005	260	193	173	116	253	207	304	217	172	203	155	217	215	205.91
2	Co 11007	282	227	142	153	248	243	291	233	205	186	146	227	232	215.26
3	Co 11012	248	245	170	145	246	212	314	253	265	227	161	244	209	227.52
4	Co 11019	275	243	167	150	287	260	378	221	228	228	153	252	205	236.86
5	CoM 11085	245	233	163	103	296	230	285	269	202	196	152	228	213	216.80
6	CoM 11086	263	254	183	133	289	255	412	222	260	182	132	222	234	233.98
Standards															
1	Co 86032	243	224	160	141	262	247	288	273	229	201	154	241	195	221.91
2	Co 99004	297	242	207	150	271	265	346	200	252	219	174	239	214	238.32
	GM	264.17	232.54	170.59	136.38	269.14	239.79	327.33	235.91	226.63	205.29	153.38	233.71	214.63	
	SE	9.00	8.00	4.90	-	11.37	3.02	-	2.34	0.16	7.06	7.50	11.93	9.38	
	CD	27.56	24.25	14.83	NS	34.50	8.92	12.50	7.09	0.35	21.42	NS	36.20	NS	
	CV	5.90	5.95	4.97	26.96	7.32	2.76	2.20	1.71	8.92	5.96	8.47	8.84	7.57	

Table 2.9.12 Stalk diameter (cm) at harvest

S No	Entries	Coimbatore	Akola	Kolhapur	Mandya	Navsari	Padegaon	Perumalpal	Pravara nagar	Pugalur	Pune	Sameerwadi	Sanke shwar	Thiruvalla	Mean
1	Co 11005	2.78	2.49	2.34	3.33	2.52	2.70	2.90	2.60	2.37	2.84	2.50	3.44	2.58	2.72
2	Co 11007	3.40	2.99	2.82	3.80	2.57	3.60	3.20	2.53	2.61	3.28	3.40	3.16	2.58	3.07
3	Co 11012	2.83	3.14	2.70	3.59	2.53	3.00	3.00	2.50	2.85	2.98	3.20	3.21	2.71	2.94
4	Co 11019	3.09	2.78	2.82	3.26	2.62	2.90	2.80	2.42	2.66	2.99	2.80	3.15	2.69	2.84
5	CoM 11085	2.78	2.93	2.53	3.19	2.75	2.93	2.70	2.68	2.57	2.90	2.60	3.19	2.97	2.82
6	CoM 11086	2.93	2.75	2.37	3.28	2.79	2.80	2.90	2.45	2.45	3.06	2.70	2.98	2.54	2.77
Standards															
1	Co 86032	3.20	2.83	2.88	3.36	2.52	3.27	3.00	2.51	2.75	2.97	2.60	2.87	2.79	2.89
2	Co 99004	2.85	2.67	2.46	2.24	2.56	3.07	2.80	2.44	2.56	2.95	2.50	2.90	2.85	2.68
	GM	2.98	2.82	2.62	3.26	2.61	3.03	2.91	2.52	2.60	3.00	2.79	3.11	2.71	
	SE	0.11	0.17	0.09	-	0.04	0.05	-	0.02	0.12	0.07	0.10	0.15	0.10	
	CD	0.34	NS	0.28	NS	0.12	0.14	0.10	0.08	0.27	0.20	0.31	0.45	NS	
	CV	6.46	10.19	6.23	21.67	2.60	2.79	2.60	1.89	6.00	3.76	6.33	8.25	6.62	

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Table 2.9.13 Single cane weight (kg) at harvest

S No	Entries	Coimbatore	Akola	Kolhapur	Mandya	Navsari	Padegaon	Perumallapalle	Pravaranagar	Pugalur	Pune	Sameerwadi	Sanke shwar	Thiruvalla	Mean
1	Co 11005	1.21	1.33	0.86	0.96	1.17	1.13	1.13	1.28	1.23	1.42	0.66	1.25	1.26	1.15
2	Co 11007	2.11	1.87	0.93	1.20	1.15	1.19	1.33	1.38	1.17	1.67	1.12	1.91	1.33	1.41
3	Co 11012	1.24	1.80	1.03	1.05	1.17	1.22	1.13	1.31	1.17	1.28	1.03	1.44	1.35	1.25
4	Co 11019	1.54	1.60	0.98	1.04	1.25	1.21	1.27	1.22	1.23	1.48	0.79	1.49	1.36	1.27
5	CoM 11085	1.31	1.53	1.01	1.01	1.26	1.22	1.20	1.41	1.00	1.36	0.79	1.33	1.43	1.22
6	CoM 11086	1.41	1.33	1.04	1.03	1.30	1.25	1.37	1.41	1.23	1.18	0.71	1.36	1.31	1.23
Standards															
1	Co 86032	1.70	1.33	1.03	1.06	1.04	1.21	1.33	1.42	1.33	1.37	0.73	1.37	1.29	1.25
2	Co 99004	1.66	1.47	0.95	1.12	1.15	1.18	1.20	1.33	1.40	1.38	0.84	1.51	1.61	1.29
	GM	1.52	1.53	0.98	1.06	1.19	1.20	1.25	1.35	1.22	1.39	0.83	1.46	1.37	
	SE	0.11	0.09	0.05	-	0.05	0.01	-	0.01	0.07	0.03	0.06	0.11	-	
	CD	0.32	0.28	N.S.	NS	0.14	0.04	0.10	0.05	0.15	0.09	0.19	0.33	-	
	CV	11.94	10.41	8.95	12.67	6.74	1.87	4.40	2.49	7.28	3.53	13.13	12.87	-	

Table 2.9.14 Brix % at 10 months

S No	Entries	Coimbatore	Akola	Kolhapur	Mandya	Navsari	Padegaon	Perumallapalle	Pravaranagar	Pugalur	Pune	Sameerwadi	Sanke shwar	Thiruvalla	Mean
1	Co 11005	18.05	17.62	20.02	18.83	18.18	19.21	19.10	19.12	17.96	19.08	17.03	21.34	13.73	18.80
2	Co 11007	17.45	18.23	17.69	19.33	17.85	15.37	16.40	19.62	16.14	18.95	17.86	18.34	14.57	17.77
3	Co 11012	20.25	17.76	18.86	20.00	17.98	19.54	16.30	18.39	18.53	19.85	19.77	22.84	13.80	19.17
4	Co 11019	18.03	18.09	18.19	20.50	17.73	18.37	16.80	18.19	18.12	20.51	19.06	22.18	14.67	18.81
5	CoM 11085	19.26	17.93	18.69	19.50	18.58	19.37	17.20	17.92	18.49	19.09	19.00	22.68	14.17	18.98
6	CoM 11086	19.12	16.16	18.19	21.33	18.99	18.87	16.00	18.22	18.23	17.25	17.43	22.18	15.83	18.50
Standards															
1	Co 86032	19.20	17.56	18.52	19.67	18.93	18.87	17.70	19.49	18.42	19.74	17.08	21.01	15.73	18.85
2	Co 99004	19.20	18.28	20.36	19.17	18.64	19.04	17.20	19.32	18.44	20.05	18.16	21.51	14.50	19.11
	GM	18.82	17.70	18.82	19.79	18.36	18.58	17.09	18.78	18.04	19.32	18.17	21.51	14.63	
	SE	0.39	0.29	0.35	-	0.17	1.11	-	0.69	0.52	0.25	5.12	0.28	0.32	
	CD	1.18	0.89	1.07	NS	0.51	3.51	0.90	2.09	1.11	0.74	1.62	0.84	0.91	
	CV	3.56	2.86	3.25	4.34	1.58	19.21	2.90	6.37	3.54	2.20	0.54	2.24	3.82	

Varietal Improvement Programme- AICRP (Sugarcane)
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Table 2.9.15 Sucrose % at 10 months

S No	Entries	Coimbatore	Akola	Kolhapur	Mandya	Navsari	Padegaon	Perumalappalle	Pravaranagar	Pugalur	Pune	Sameerwadi	Sanke shwar	Thiruvalla	Mean
1	Co 11005	16.21	-	18.92	17.77	16.71	17.85	17.90	17.85	15.69	17.21	14.18	18.08	12.38	16.73
2	Co 11007	14.82	-	16.89	18.23	16.32	13.13	15.40	18.47	13.74	17.08	15.24	15.71	13.16	15.68
3	Co 11012	18.44	-	17.60	18.90	16.16	18.35	16.00	17.61	16.71	18.48	17.33	19.97	12.46	17.33
4	Co 11019	15.81	-	17.47	19.42	15.98	16.35	15.40	17.47	15.88	18.21	16.12	18.18	13.23	16.63
5	CoM 11085	17.30	-	17.71	18.38	16.98	18.21	15.90	16.90	16.87	16.79	16.18	20.15	12.76	17.01
6	CoM 11086	16.96	-	17.09	20.31	17.06	17.01	14.40	17.31	16.62	15.08	14.55	19.45	14.31	16.68
Standards															
1	Co 86032	17.36	-	17.47	18.28	16.19	17.74	16.00	18.09	16.71	17.62	14.44	18.02	14.16	16.84
2	Co 99004	16.81	-	19.08	18.24	16.76	17.80	16.80	18.42	16.21	18.10	15.53	17.89	13.08	17.06
	GM	16.71		17.78	18.69	16.52	17.06	15.98	17.77	16.05	17.32	15.45	18.43	13.19	
	SE	0.44	-	0.27	-	0.18	0.41	-	0.50	0.46	0.16	0.93	0.31	0.30	
	CD	1.35	-	0.81	1.28	0.55	1.21	0.70	1.53	0.99	0.50	2.82	0.94	0.87	
	CV	4.57	-	2.61	3.92	1.92	4.16	2.30	4.92	3.53	1.64	16.16	2.91	4.04	

Table 2.9.16 Purity % at 10 months

S No	Entries	Coimbatore	Akola	Kolhapur	Mandya	Navsari	Padegaon	Perumalappalle	Pravaranagar	Pugalur	Pune	Sameerwadi	Sanke shwar	Thiruvalla	Mean
1	Co 11005	89.81	96.92	94.51	94.60	91.95	92.94	93.70	94.18	87.34	90.19	83.16	84.74	88.98	91.00
2	Co 11007	84.93	92.32	95.51	94.47	91.42	85.53	93.90	93.65	85.16	90.16	85.17	85.81	89.24	89.79
3	Co 11012	91.05	94.93	93.34	93.29	89.90	93.89	98.00	95.75	90.15	91.58	87.70	87.40	89.11	92.01
4	Co 11019	87.63	92.72	96.07	94.92	90.16	88.95	91.90	96.05	87.65	88.81	84.55	81.97	89.13	90.04
5	CoM 11085	89.92	92.57	94.74	92.95	91.42	94.05	92.40	94.47	91.23	87.82	85.09	88.89	88.96	91.12
6	CoM 11086	88.72	97.95	93.98	95.36	89.84	90.10	90.00	95.03	91.19	87.42	83.45	87.68	89.38	90.78
Standards															
1	Co 86032	90.40	96.69	94.37	93.27	85.51	94.00	90.40	92.91	90.74	89.58	84.47	85.80	89.00	90.55
2	Co 99004	87.57	92.46	93.73	95.36	89.91	93.49	97.70	95.11	87.90	90.29	85.54	83.18	89.08	90.87
	GM	88.75	94.57	94.53	94.28	90.01	91.62	93.50	94.64	88.92	89.48	84.89	85.68	89.11	
	SE	0.67	1.19	0.91	-	0.93	0.99	-	1.53	0.49	0.23	1.41	1.50	0.20	
	CD	2.06	3.62	N.S.	NS	2.82	2.91	4.70	4.66	1.05	0.70	NS	4.55	NS	
	CV	1.31	2.19	1.68	1.64	1.79	1.86	2.80	2.81	0.68	0.45	2.88	3.03	0.40	

Varietal Improvement Programme- AICRP (Sugarcane)
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Table 2.9.17 CCS % at 10 months

S No	Entries	Coimbatore	Akola	Kolhapur	Mandya	Navsari	Padegaon	Perumallapalle	Pravaranagar	Pugalur	Pune	Sameerwadi	Sanke shwar	Thiruvalla	Mean
1	Co 11005	11.30	12.31	13.49	12.68	11.78	12.64	18.80	12.67	10.79	12.18	9.52	12.24	8.64	12.23
2	Co 11007	10.06	11.87	12.10	12.99	11.47	8.94	16.20	13.16	9.33	12.09	10.35	10.70	9.20	11.42
3	Co 11012	12.94	12.04	12.48	13.49	11.27	13.04	16.80	12.63	11.67	13.08	11.94	13.74	8.70	12.60
4	Co 11019	10.90	11.86	12.55	13.87	11.16	11.35	16.20	12.54	10.94	12.80	10.91	12.10	9.24	12.03
5	CoM 11085	12.05	11.72	12.64	13.10	11.93	12.95	16.70	12.03	11.84	11.75	10.98	13.98	8.91	12.35
6	CoM 11086	11.75	11.45	12.16	14.54	11.89	11.88	15.10	12.37	11.67	10.51	9.78	13.40	10.00	12.04
Standards															
1	Co 86032	12.14	12.22	12.44	12.95	11.02	12.62	16.80	12.79	11.70	12.78	9.77	12.28	9.88	12.26
2	Co 99004	11.57	11.93	13.55	13.06	11.69	12.63	17.60	13.18	11.18	12.76	10.57	12.01	9.13	12.37
	GM	11.59	11.93	12.68	13.34	11.53	12.01	16.78	12.67	11.14	12.24	10.48	12.56	9.21	
	SE	0.34	0.21	0.19	-	0.17	0.32	-	0.33	0.32	0.12	0.47	0.29	0.22	
	CD	1.05	NS	0.58	0.91	0.51	0.95	0.60	1.02	0.69	0.37	1.43	0.88	0.63	
	CV	5.10	3.09	2.63	3.85	2.52	4.65	3.00	4.63	3.57	1.73	7.77	4.00	4.16	

Table 2.9.18 Number of shoots ('000/ha) at 8 months

S No	Entries	Coimbatore	Akola	Kolhapur	Mandya	Navsari	Padegaon	Perumallapalle	Pravaranagar	Pugalur	Pune	Sameerwadi	Sanke shwar	Thiruvalla	Mean
1	Co 11005	152.78	73.92	-	107.33	116.03	109.95	118.60	105.77	137.75	103.21	97.84	75.05	90.76	107.42
2	Co 11007	139.40	67.90	-	113.33	117.69	92.71	143.00	103.06	102.86	76.33	55.71	51.13	68.19	94.28
3	Co 11012	151.88	65.20	-	110.00	119.28	100.06	132.30	106.65	125.52	99.50	80.40	53.39	96.25	103.37
4	Co 11019	138.37	75.00	-	118.00	128.90	105.44	142.30	117.79	130.24	109.77	67.05	78.85	85.41	108.09
5	CoM 11085	157.67	70.52	-	130.33	129.74	103.24	153.50	101.12	131.63	105.81	88.58	76.79	85.97	111.24
6	CoM 11086	167.95	74.38	-	109.33	133.07	108.10	110.80	108.81	136.78	99.09	91.20	84.80	103.40	110.64
Standards															
1	Co 86032	143.90	74.31	-	118.00	129.81	95.83	124.20	109.84	109.25	96.22	101.62	81.52	96.11	106.72
2	Co 99004	122.17	74.31	-	108.90	118.60	90.97	80.00	87.34	100.78	80.16	69.52	56.67	104.51	91.16
	GM	146.77	71.94		114.40	124.14	100.79	125.59	105.05	121.85	96.26	81.49	69.78	91.33	
	SE	3.67	2.94	-	-	4.11	1.25	-	0.94	7.42	3.33	2.52	4.13	4.28	
	CD	11.23	8.93	-	NS	12.47	3.68	8.40	2.86	15.90	10.02	7.63	12.52	12.16	
	CV	4.33	7.09	-	11.45	5.74	2.15	6.20	1.55	7.50	5.98	5.35	10.25	8.11	

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Table 2.9.19 Number of tillers ('000/ha) at 120 days

S No	Entries	Coimbatore	Akola	Kolhapur	Mandya	Navsari	Padegaon	Perumallapalle	Pravaranagar	Pugalur	Pune	Sameerwadi	Sanke shwar	Thiruvalla	Mean
1	Co 11005	106.40	86.27	101.39	124.33	129.05	117.59	121.90	112.40	159.85	173.92	182.56	82.34	94.58	116.17
2	Co 11007	95.52	85.96	64.18	132.67	135.71	97.45	152.90	109.31	144.70	124.61	114.04	81.83	71.04	102.16
3	Co 11012	109.72	88.73	70.95	126.33	134.52	120.83	172.80	118.32	144.70	144.90	146.30	55.85	103.75	113.99
4	Co 11019	114.43	92.75	88.37	131.33	145.66	113.66	167.20	128.42	158.04	154.20	151.93	73.82	86.32	117.87
5	CoM 11085	108.10	88.35	86.98	145.33	148.04	123.15	167.90	110.78	154.43	152.73	172.91	88.50	88.82	119.04
6	CoM 11086	111.11	92.67	103.18	119.00	153.61	122.69	177.30	113.99	164.44	159.62	164.97	114.37	107.22	122.29
Standards															
1	Co 86032	108.18	86.88	94.79	116.33	150.03	114.35	179.10	116.49	154.85	159.62	164.51	89.22	99.58	118.82
2	Co 99004	86.57	81.33	60.36	115.67	146.85	107.87	128.70	106.09	113.70	131.29	99.99	63.96	107.08	98.88
	GM	105.00	87.87	83.78	126.37	142.93	114.70	158.48	114.48	149.34	150.11	149.65	81.24	94.80	
	SE	2.13	4.54	5.40	-	5.22	4.93	-	1.13	10.37	5.61	8.26	8.47	4.62	
	CD	6.51	13.77	16.33	18.07	15.85	14.53	10.40	3.43	22.25	17.02	25.05	25.68	13.13	
	CV	3.51	8.95	11.16	8.16	6.33	7.44	5.70	1.71	8.51	6.48	9.56	18.05	8.44	

Table 2.9.20 Germination % at 30 days

S No	Entries	Coimbatore	Akola	Kolhapur	Mandya	Navsari	Padegaon	Perumallapalle	Pravaranagar	Pugalur	Pune	Sameerwadi	Sanke shwar	Thiruvalla	Mean
1	Co 11005	69.73	46.01	48.78	49.72	48.68	53.82	48.00	60.16	92.78	62.96	70.00	56.10	88.78	61.19
2	Co 11007	70.37	49.76	33.51	43.58	46.37	39.93	54.50	52.05	91.94	56.81	70.00	44.99	51.72	54.27
3	Co 11012	53.24	41.37	40.63	31.25	44.51	31.60	55.60	63.94	87.92	46.87	45.00	22.67	68.33	48.69
4	Co 11019	53.01	42.98	33.39	33.85	53.77	36.81	48.00	67.12	90.69	47.92	51.00	33.77	55.83	49.86
5	CoM 11085	57.23	44.94	42.88	38.74	53.77	51.74	51.80	48.60	86.94	53.07	62.00	42.57	67.22	53.96
6	CoM 11086	66.44	43.99	45.66	52.97	53.31	50.00	67.60	59.32	90.28	52.49	65.00	56.45	67.89	59.34
Standards															
1	Co 86032	73.26	43.87	41.38	37.35	53.31	52.43	47.90	55.93	88.61	45.97	59.00	51.24	70.05	55.41
2	Co 99004	66.96	45.89	34.09	49.03	44.98	40.28	42.30	48.49	85.14	41.60	59.00	47.42	80.83	52.77
	GM	63.78	44.85	40.04	42.06	49.84	44.58	51.96	56.95	89.29	50.96	60.13	44.40	68.83	
	SE	3.13	2.11	3.53	-	1.48	2.20	-	1.66	7.39	2.20	1.72	44.40	2.86	
	CD	9.58	NS	N.S.	8.93	4.49	6.48	2.90	5.06	15.86	6.67	5.23	9.61	8.13	
	CV	8.50	8.15	15.28	12.13	5.14	8.54	3.10	5.07	10.15	7.47	4.97	12.36	7.20	

2.9.21. Assessment of entries by monitoring team

Entry / Locations	Perumalapalle	Pugalur	Coimbatore	Thiruvalla	Mandya	Sankeshwar	Sameerwadi	Kohlapur
Co 11005	On-par	On-par	On-par	On-par	Poor	Poor	On-par	On-par
Co 11007	On-par	Poor	Better	Poor	Poor	On-par	On-par	Poor
Co 11012	Better	Better	On-par	On-par	On-par	Better	Better	On-par
Co 11019	On-par	On-par	Better	On-par	On-par	On-par	On-par	Poor
CoM 11085	On-par	On-par	On-par	On-par	On-par	On-par	Better	Poor
CoM 11086	On-par	On-par	Better	On-par	On-par	Better	On-par	Better
Best standard	Co 86032	Co 86032	Co 86032, Co 99004	Co 86032	Co 86032	Co 99004	Co 99004	Co 86032

Entries	Navsari	VSI, Pune	Padegaon	Pravara nagar	Akola	Pawar kheda	Rudrur
Co 11005	On par	On par	On par	On par	On par	Better	N
Co 11007	Better	Better	On par	On par	On par	Poor	O
Co11012	On par	On par	Poor	On par	On par	On par	T
Co11019	Better	On par	On par	On par	On par	On par	
CoM 11085	On par	On par	On par	On par	On par	On par	C
CoM 11086	On par	On par	On par	On par	Better	On pavr	O
Co 86032(C)	Best	Better	Best	Best	Best	Best	N
Co 99004(C)	Better	Best	Better	Better	Better	Better	D

Annexure: Performance of entries at Powerkheda

S. No.	Clone	CCS t/ha	Cane yield t/ha	Brix % (12 m)	Sucrose % (12 m)	Purity % (12 m)	CCS % (12 m)	NMC at 12 m ('000/ha)
1	Co 11005	6.85	51.44	22.64	19.48	86.06	13.32	51.84
2	Co 11007	7.06	57.41	21.23	18.08	85.14	12.30	58.82
3	Co 11012	10.30	82.10	21.56	18.40	85.37	12.53	84.27
4	Co 11019	13.40	100.49	22.65	19.50	86.07	13.33	103.37
5	CoM 11085	10.23	81.13	21.68	18.53	85.45	12.63	81.89
6	CoM 11086	10.19	85.10	20.82	17.67	84.83	12.00	88.67
7	Co 86032	14.15	99.03	23.93	20.78	86.81	14.27	98.86
8	Co 99004	13.14	101.22	22.16	19.01	85.77	12.98	102.11
	CD at 5 %	1.32	8.47	0.80	0.80	0.52	0.58	8.90
	CV	5.80	4.81	1.69	1.97	0.28	2.11	4.96

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S. No.	Clone	Stalk Length (m)	Stalk Diameter (cm)	Single cane weight (kg)	Brix % (10 m)	Sucrose % (10 m)	Purity % (10 m)	CCS % (10 m)	No. of shoots (‘000/ha)		Germination % (30 days)
									240 days	120 days	
1	Co 11005	2.38	2.31	0.89	22.43	19.27	85.93	13.11	52.38	55.37	41.16
2	Co 11007	2.47	2.59	1.28	21.02	17.87	84.99	12.08	58.97	61.78	49.30
3	Co 11012	2.37	2.57	1.10	21.35	18.19	85.22	12.32	84.87	86.47	56.20
4	Co 11019	2.84	2.57	1.42	22.44	19.29	85.94	13.12	103.21	105.82	53.49
5	CoM 11085	2.45	2.61	1.17	21.47	18.32	85.30	12.41	81.75	86.05	56.47
6	CoM 11086	2.75	2.49	1.24	20.61	17.46	84.68	11.79	87.27	90.80	53.49
7	Co 86032	2.74	2.48	1.36	23.72	20.57	86.69	14.05	99.43	103.00	59.39
8	Co 99004	2.70	2.51	1.26	21.95	18.80	85.63	12.76	102.07	106.83	52.05
	CD at 5 %	0.11	0.18	0.15	0.80	0.80	0.53	0.58	9.26	9.28	4.15
	CV	1.91	3.29	5.81	1.70	1.99	0.29	2.13	5.17	4.99	3.68

2.10. Initial Varietal Trial – Midlate (2016-17)

Centers where trial was conducted (15)	Coimbatore, Akola, Kawardha, Kolhapur, Mandya, Navsari, Padegoan, Perumallapalle, Pravaranagar, Pugalur, Pune, Rudrur, Sameerwadi, Sankeshwar and Thiruvalla
Entries (20)	Co 13005 (Co 7201 x Co 775) Co 13006 (CoSnk 03-61 x Co 62175) Co 13008 (Co 94012 PC) Co 13009 (Co 97015 x Co 1148) Co 13011 (Co 86011 x CoT 8201) Co 13013 (PI 96-843 x Co 86249) Co 13014 (Co 86032 x Co 94008) Co 13016 (Co 85002 x CoT 8201) Co 13018 (Co 8371 x Co 86011) Co 13020 (Co 7704 x Co 8209) CoM 13082 (CoM 0265 PC) CoN 13073 (CoN 91132 x CoC 671) CoN 13074 (Co 8371 GC) CoSnk 13103 (Co 95021 x Co 97015) CoSnk 13104 (ISH 100 PC) CoSnk 13105 (Co 95021 x Co 9701) CoSnk 13106 (ISH 100 PC) CoT 13366 (CoA 92081 GC) PI 13131 (PI 00-1946 PC) PI 13132 (Co 86032 PC)
Standards (2)	Co 86032 and Co 99004
Design	RBD
Replications	Two
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
Year of start	2016-17
Crop duration	12 months

Results of the previous year: Entries were under multiplications.

Results of the current year: Twenty test entries and two standards (Co 86032 and Co 99004) were evaluated in 15 locations. The entry Co 13008 (15.04 t/ha) had recorded 11.32 % improvement for CCS t/ha over the best standard Co 86032 (13.51 t/ha) across the zone. Other test entries Co 13018 (14.41 t/ha), Co 13009 (14.13 t/ha), Co 13013(13.85 t/ha) and Co 13020 (13.57 t/ha) recorded numerically superior over the best standard Co 86032 in the zone. The entry Co 13008 recorded more than 10 % improvement over the best standard for CCS t/ha at six locations in the zone, which was followed by Co 13020 at five locations. For cane yield, none of the test entry had recorded 10 % improvement over the best standard Co 86032 (103.58 t/ha) across the zone, however eight entries viz., Co 13008 (113.63 t/ha), Co 13009 (109.41 t/ha), CoM 13082 (109.35 t/ha), Co 13013 (108.51 t/ha), Co 13018 (107.39 t/ha), CoN 13074 (105.37 t/ha), Co 13014 (105.25 t/ha) and CoN 13073 (105.08 t/ha) recorded numerically higher cane yield compared to the best standard. The entries Co 13013 and CoM 13082 recorded more than 10 % improvement cane yield over the best standard at seven locations. In case of CCS %, none of the test entry recorded

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5 % improvement for CCS % over the best standard Co 09004 (13.33), however three entries viz., Co 13020 (13.43), Co 13016 (13.40) and Co 13008 (13.39) had recorded numerically higher CCS % over the best standard of the zone. The entry Co 13020 had recorded more than 5 % improvement over the best standard for CCS % at five locations, which was followed by Co 13006 and Co 13018 at four and three locations respectively. For sucrose %, none of the test entry recorded 5 % improvement over the best standard Co 09004 (18.77), however two test entries Co13020 (18.89) and Co 13016 (18.78) had recorded numerically higher sucrose % than the best standard in the zone. The entry Co 13006 recorded more than 5 % over the best standard for sucrose % at four locations followed by Co 13008 and Co 13016 at two locations each. The entry Co 13008 had recorded significantly higher for CCS t/ha, cane yield and CCS % over the best standard Co 86032 and showed 10% improvement for commercial sugar and cane yield at six locations and 5 % improvement for CCS % at two locations. For sucrose % it had showed on-par with the best standard. None of the entries was identified as qualifying entry across the locations. The data presented in the table 2.10.1 to 2.10.20.

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Table 2.10.1 CCS t/ha at harvest

S No	Entries	Coimbatore	Akola #	Kawardha	Kolhapur	Mandya #	Navsari #	Padegaon	Perumallapalle #	Pravara nagar	Pugalur	Pune	Rudrur	Sameerwadi #	Sanke shwar #	Thiruvalla	Mean	Rank
1	Co 13005	16.06	6.14	-	12.33	11.08	14.08	14.74	12.80	16.23	8.57	13.88	10.17	4.01	9.23	7.69	11.22	
2	Co 13006	18.00	8.64	-	11.48	15.02	14.43	13.83	14.30	19.58	9.58	14.30	9.31	9.77	16.17	11.15	13.25	
3	Co 13008	18.44	9.46	-	17.62	18.09*	14.74	21.31*	19.70*	16.17	9.58	18.11*	11.96	11.23*	16.35	7.81	15.04	1
4	Co 13009	18.05	10.20	-	16.12	17.76	15.02	20.12*	15.60	15.26	12.58	12.07	9.39	8.85	18.53*	8.32	14.13	3
5	Co 13011	13.90	11.97	-	14.61	14.95	15.14	17.09	11.20	13.90	9.94	17.52	7.58	6.92	14.04	4.91	12.41	
6	Co 13013	19.99	13.15	-	15.67	18.39*	15.71	17.95	13.30	11.71	10.48	12.48	11.23	6.99	17.29*	9.50	13.85	4
7	Co 13014	18.40	8.35	-	14.65	11.73	15.59	18.11	12.00	15.93	11.57	12.06	11.76	7.14	19.94*	9.36	13.33	
8	Co 13016	13.22	5.87	-	8.13	10.65	15.07	10.22	22.60*	11.97	6.91	7.39	12.77	8.50	7.14	2.90	10.24	
9	Co 13018	19.08	12.15	-	17.62	10.89	14.17	19.50*	19.70*	17.81	10.65	15.11	11.49	8.14	16.87*	8.57	14.41	2
10	Co 13020	13.49	14.30	-	12.81	17.87	14.20	16.67	20.70*	18.36	6.23	8.51	14.11	7.92	18.38*	6.45	13.57	
11	CoM 13082	16.10	12.12	-	14.35	14.28	15.75	15.12	10.90	13.47	6.46	14.26	6.63	8.23	13.43	7.06	12.01	
12	CoN 13073	15.11	14.75	-	13.21	14.95	19.32*	13.80	11.80	15.31	8.33	14.23	7.80	8.69	12.70	5.94	12.57	
13	CoN 13074	12.27	12.80	-	10.79	13.70	17.40*	12.89	17.10	17.52	6.12	12.46	7.01	13.91*	12.93	6.61	12.39	
14	CoSnk 13103	14.35	9.47	-	14.05	16.42	14.99	17.08	15.10	16.76	5.97	12.76	9.34	8.73	15.88	6.96	12.70	
15	CoSnk 13104	10.75	11.06	-	10.12	15.44	15.21	10.56	17.20	17.39	8.38	15.83	12.19	7.09	14.06	4.05	12.10	
16	CoSnk 13105	9.26	5.38	-	10.31	10.96	14.92	13.62	14.10	12.49	6.27	8.94	9.75	5.61	8.83	6.12	9.75	
17	CoSnk 13106	15.59	11.52	-	12.78	14.78	14.04	15.65	16.50	13.73	9.88	17.96*	10.83	8.26	16.50	5.69	13.12	
18	CoT 13366	13.67	8.25	-	8.26	13.22	12.79	9.46	11.90	17.67	11.95	11.63	12.30	9.02	9.15	10.48	11.41	
19	PI 13131	10.02	8.82	-	9.06	10.59	13.65	11.13	19.30*	11.57	9.39	6.63	8.59	4.85	4.39	5.25	9.52	
20	PI 13132	18.53	7.42	-	8.94	16.83	13.11	10.92	14.40	13.60	10.56	11.12	7.10	10.75*	12.36	10.62	11.88	
Standards																		
1	Co 86032	14.45	11.11	-	16.24	15.41	13.77	17.00	11.70	19.08	12.84	15.97	10.24	7.28	13.77	10.30	13.51	
2	Co 99004	18.20	10.67	-	9.90	15.21	13.58	11.68	16.10	15.93	10.04	14.13	12.49	6.31	12.10	8.75	12.51	
	GM	15.32	10.16		12.68	14.46	14.85	14.93	15.36	15.52	9.19	13.06	10.18	8.10	13.64	7.48		
	SE	4.50	1.24	-	1.24	-	0.94	0.91	-	0.71	0.67	0.67	0.94	1.14	1.05	0.48		
	CD	2.15	3.73	-	3.75	2.53	2.76	2.68	1.70	2.11	1.41	1.79	2.79	3.35	3.09	1.36		
	CV	14.05	17.30	-	13.81	8.40	9.06	8.62	6.10	6.55	7.39	6.35	13.10	19.91	10.88	9.10		
Qualifying Entries at each location																		
	1		CoN 13073			Co 13013	CoN 13073	Co 13008	Co 13016			Co 13008	Co 13020	CoN 13074	Co 13014		Co 13008	
	2		Co 13020			Co 13008	CoN 13074	Co 13009	Co 13020			CoSnk 13106		Co 13008	Co 13009			
	3		Co 13013			Co 13020	CoM 13082	Co 13018	Co 13008					PI 13132	Co 13020			

* Significant with best standard variety at 5% level. # Only top three entries were listed.

Qualifying Entries: Co 13006 (1), Co 13008 (6), Co 13009 (4), Co 13013 (4), Co 13014 (3), Co 13016 (2), Co 13018 (4), Co 13020 (5), CoM 13082 (2), CoN 13073 (3), CoN 13074 (3), CoSnk 13103 (2), CoSnk 13104 (1), CoSnk 13106 (3), CoT 13366 (1), PI 13131 (1) and PI 13132 (1)

Performance across locations: The entry Co 13008 (15.04 t/ha) had recorded 11.32 % improvement for CCS t/ha over the best standard Co 86032 (13.51 t/ha) across the zone. Other test entries Co 13018 (14.41 t/ha), Co 13009 (14.13 t/ha), Co 13013 (13.85 t/ha) and Co 13020 (13.57 t/ha) recorded numerically superior over the best standard Co 86032 in the zone. The entry Co 13008 had recorded more than 10 % improvement over the best standard for CCS t/ha at six locations in the zone, followed by Co 13020 at five locations, whereas CoN 13073, CoN 13074 and CoSnk 13106 at three locations each.

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Table 2.10.2 Cane yield t/ha at harvest

S No	Entries	Coimbatore #	Akola #	Kawar dha #	Kolha Pur	Man dya #	Nav sari #	Padegaon #	Perumalappal #	Pravara nagar	Pugalur	Pune	Rud rur	Sameerwadi #	Sanke shwar #	Thiruvalla	Mean	Rank
1	Co 13005	125.00	55.56	131.40	92.30	92.26	113.66	118.22	98.80	121.97	69.30	115.89	129.78*	41.25	76.20	59.45	96.07	
2	Co 13006	137.30*	72.22	109.92	79.03	112.88	115.53	98.69	114.00	130.28	77.96	92.78	111.42	73.54	102.19	81.25	100.60	
3	Co 13008	135.15*	77.30	133.91	125.20	137.48*	120.33	149.81*	148.20*	114.01	71.38	121.92	111.76	83.75	117.22	57.09	113.63	1
4	Co 13009	134.55*	84.93	150.13*	113.63	129.58	115.74	136.31	127.00	111.15	92.40	89.14	100.41	72.92	120.75	62.50	109.41	2
5	Co 13011	105.10	97.11	95.73	99.63	114.41	131.78	127.84	76.90	101.30	84.20	129.03	105.46	55.00	101.68	38.89	97.60	
6	Co 13013	144.95*	120.30	153.04*	106.77	138.60*	128.03	127.29	98.60	86.04	78.54	90.52	97.15	55.00	127.83	75.00	108.51	4
7	Co 13014	137.75*	83.81	138.90	105.19	90.55	124.91	127.46	87.60	113.77	91.71	94.02	118.50	60.83	136.17*	67.64	105.25	7
8	Co 13016	95.00	51.93	102.22	55.73	83.28	125.74	74.00	154.80*	87.25	52.21	54.16	118.10	61.88	48.44	20.42	79.01	
9	Co 13018	133.25	90.26	101.49	120.26	76.94	117.41	137.27	140.80*	136.57	81.31	117.08	100.62	68.54	124.07	65.00	107.39	5
10	Co 13020	92.60	120.33	124.46	86.59	140.70*	115.33	112.11	154.00*	121.17	47.82	66.84	122.87	61.25	131.15	47.78	103.00	
11	CoM 13082	137.60*	99.52	146.25*	114.07	139.33*	128.03	127.24	103.70	114.07	59.83	126.17	101.63	70.42	116.03	56.39	109.35	3
12	CoN 13073	112.45	110.56	144.19	94.71	114.61	146.57*	110.73	107.80	116.66	66.53	116.35	102.30	75.83	111.19	45.70	105.08	8
13	CoN 13074	114.35	103.96	147.16*	79.02	117.86	141.99*	101.18	128.00*	120.93	52.21	98.47	94.04	118.13*	116.20	47.08	105.37	6
14	CoSnk	106.60	85.00	105.84	95.02	122.05	124.08	116.33	111.40	111.49	48.05	96.28	110.08	62.92	112.54	53.75	97.43	
15	CoSnk	91.00	87.33	125.03	73.42	115.62	123.24	77.51	120.50	120.96	68.38	115.22	117.93	65.63	99.93	32.50	95.61	
16	CoSnk	73.60	43.19	101.86	77.04	88.29	124.08	99.61	119.10	97.78	56.60	66.38	105.06	49.17	70.28	49.45	81.43	
17	CoSnk	119.20	90.81	102.11	91.21	115.01	116.58	112.06	121.80	94.64	79.58	128.65	111.71	64.17	121.60	41.25	100.69	
18	CoT 13366	110.45	86.67	85.74	61.09	110.78	109.28	76.89	128.30*	131.52	96.67	94.51	114.67	75.42	74.44	73.48	95.33	
19	PI 13131	72.90	70.19	98.30	67.30	82.24	113.45	83.29	136.40*	86.27	72.88	51.84	90.70	38.96	33.31	35.84	75.59	
20	PI 13132	159.30*	54.52	43.11	63.82	128.70	108.66	79.60	129.00*	95.22	79.46	83.15	111.82	91.67*	88.06	80.97	93.14	
Standards																		
1	Co 86032	110.30	91.78	106.49	113.80	118.31	112.62	122.86	81.90	136.70	94.36	114.66	108.67	58.13	106.68	76.39	103.58	
2	Co 99004	123.25	93.85	113.10	66.93	114.84	108.03	81.49	110.00	115.37	72.42	105.54	117.49	50.11	81.92	66.67	94.73	
	GM	116.89	85.05	116.38	90.08	112.92	121.14	108.99	118.12	112.05	72.45	98.57	109.19	66.11	100.81	56.11		
	SE	22.29	9.30	-	8.85	-	6.70	5.31	-	2.06	5.10	5.40	5.88	9.09	8.79	3.24		
	CD	10.66	27.87	31.31	26.79	16.06	19.59	15.63	15.00	6.06	10.61	15.87	17.41	26.72	25.84	9.21		
	CV	13.14	15.46	13.31	13.90	6.84	7.90	6.90	8.00	2.60	7.04	7.74	7.61	19.77	12.33	8.17		
Qualifying Entries at each location																		
	1	PI 13132	Co 13020	Co 13013	Co 13008	Co 13020	CoN 13073	Co 13008	Co 13016			CoSnk 13106	Co 13005	CoN 13074	Co 13014			
	2	Co 13013	Co 13013	Co 13009		CoM 13082	CoN 13074	Co 13018	Co 13020			CoM 13082		PI 13132	Co 13020			
	3	Co 13014	CoN 13073	CoN 13074		Co 13013	Co 13011	Co 13009	Co 13008					Co 13008	Co 13013			

* Significant with best standard variety at 5% level. # Only top three entries were listed.

Qualifying Entries: Co 13005 (2) Co 13006 (2), Co 13008 (6), Co 13009 (5), Co 1301 (2), Co 13013 (7), Co 13014 (5), Co 13016 (2), Co 13018 (4), Co 13020 (5), CoM 13082 (7), CoN 13073 (4), CoN 13074 (5), CoSnk 13103 (1), CoSnk 13104 (2), CoSnk 13105 (1), CoSnk 13106 (3), CoT 13366 (2), PI 13131(1) and PI 13132 (3).

Performance across locations: None of the test entry had recorded 10 % improvement for cane yield over the best standard Co 86032 (103.58 t/ha) across the zone, however eight entries viz., Co 13008 (113.63 t/ha), Co 13009 (109.41 t/ha), CoM 13082 (109.35 t/ha), Co 13013 (108.51 t/ha), Co 13018 (107.39 t/ha), CoN 13074 (105.37 t/ha), Co 13014 (105.25 t/ha) and CoN 13073 (105.08 t/ha) recorded numerically higher cane yield as compared to the best standard. The entries Co 13013 and CoM 13082 recorded more than 10 % improvement in cane yield over the best standard at seven locations, which was followed by Co 13008 at six locations. Other entries Co 13009, Co 13014, Co 13020 and CoN 13074 were at five locations across zone.

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Table 2.10.3 CCS % at harvest

S No	Entries	Coimbatore	Akola	Kawar dha	Kolhapur	Man dya	Nav sari	Padegaon	Perumalappalle	Pravara nagar	Pugalur	Pune	Rudrur	Sameerwadi #	Sanke shwar	Thiruvalla	Mean	Rank
1	Co 13005	12.83	11.04	-	13.35	12.11	12.39	12.44	13.00	13.30	12.37	11.97	7.91	9.72	12.12	12.96	11.97	
2	Co 13006	13.14	11.94	-	14.52	13.25	12.48	14.01	12.50	15.03	12.30	15.42*	8.40	13.30	15.83	13.73	13.28	
3	Co 13008	13.65	12.26	-	14.09	13.60	12.25	14.23	13.30	14.18	13.42	14.85	10.67	13.33	13.96	13.68	13.39	3
4	Co 13009	13.42	11.97	-	14.16	13.81	12.97	14.75	12.30	13.73	13.62	13.52	9.36	12.16	15.34	13.31	13.17	
5	Co 13011	13.23	12.34	-	14.67	12.89	11.50	13.37	14.50	13.71	11.80	13.60	7.12	12.50	13.81	12.65	12.69	
6	Co 13013	13.79	10.93	-	14.74	13.59	12.25	14.10	13.40	13.62	13.34	13.80	11.62	12.69	13.53	12.65	13.15	
7	Co 13014	13.32	9.94	-	13.97	13.69	12.49	14.22	13.70	14.02	12.62	12.83	10.02	11.75	14.67	13.84	12.93	
8	Co 13016	13.99	11.38	-	14.64	13.17	11.97	13.82	14.60	13.72	13.26	13.67	10.86	13.71	14.67	14.18	13.40	2
9	Co 13018	14.30*	13.43	-	14.64	14.42	12.02	14.21	14.00	13.03	13.09	12.92	11.47	11.78	13.73	13.19	13.30	
10	Co 13020	14.59*	11.86	-	14.78	13.46	12.31	14.87	13.40	15.15	13.01	12.76	11.55	12.78	14.02	13.50	13.43	1
11	CoM 13082	11.68	12.18	-	12.58	12.39	12.30	11.89	10.50	11.80	10.80	11.30	6.62	11.71	11.58	12.50	11.42	
12	CoN 13073	13.46	13.33	-	13.97	13.20	13.18	12.47	11.00	13.12	12.53	12.24	7.62	11.67	11.44	12.96	12.30	
13	CoN 13074	10.73	12.32	-	13.66	11.70	12.25	12.69	13.30	14.49	11.72	12.66	7.44	11.77	11.16	14.02	12.14	
14	CoSnk 13103	13.53	11.14	-	14.79	13.97	12.07	14.69	13.60	15.03	12.45	13.27	8.56	13.83	14.08	13.02	13.15	
15	CoSnk 13104	11.81	12.65	-	13.79	13.45	12.35	13.62	14.30	14.37	12.26	13.75	10.34	10.82	14.05	12.47	12.86	
16	CoSnk 13105	12.50	12.48	-	13.34	12.67	12.05	13.68	11.80	12.78	11.10	13.45	9.23	11.15	12.61	12.34	12.23	
17	CoSnk 13106	13.07	12.52	-	14.00	13.01	12.04	13.96	13.60	14.52	12.43	13.98	9.68	12.84	13.65	13.78	13.08	
18	CoT 13366	12.38	9.51	-	13.52	12.11	11.70	12.31	9.30	13.44	12.36	12.31	10.69	11.90	12.26	14.24	12.00	
19	PI 13131	13.83	12.56	-	13.47	13.07	12.03	13.37	14.20	13.40	12.89	12.81	9.49	12.45	13.21	14.66*	12.96	
20	PI 13132	11.63	13.61	-	13.96	13.32	12.07	13.73	11.10	14.28	13.28	13.39	6.39	11.72	14.13	13.11	12.55	
Standards																		
1	Co 86032	13.11	12.11	-	14.28	13.16	12.24	13.82	14.30	13.96	13.60	13.93	9.41	12.46	12.92	13.47	13.06	
2	Co 99004	13.66	11.37	-	14.79	13.38	12.57	14.30	14.70	13.82	13.86	13.45	10.60	12.29	14.77	13.11	13.33	
	GM	13.08	11.95		14.08	13.16	12.25	13.66	13.02	13.84	12.64	13.27	9.32	12.20	13.52	13.34		
	SE	0.94	0.22	-	0.26	-	0.25	0.32	-	0.48	0.29	0.32	0.61	1.45	0.49	0.29		
	CD	0.45	NS	-	0.80	NS	0.72	0.95	0.60	1.43	0.61	0.95	1.82	NS	1.45	0.84		
	CV	3.42	2.62	-	2.64	5.04	2.85	3.34	2.50	4.98	2.35	3.16	9.32	17.29	5.16	3.15		
Qualifying Entries at each location																		
	1	Co 13020	PI 13132			Co 13018		Co 13020		Co 13020		Co 13006	Co 13013	CoSnk 13103	Co 13006	PI 13131	Co 13020	
	2		Co 13018					Co 13009		Co 13006		Co 13008	Co 13020	Co 13016		CoT 13366		
	3		CoN 13073					CoSnk 13103		CoSnk 13103			Co 13018	Co 13008		Co 13016		

* Significant with best standard variety at 5% level. # Only top three entries were listed.

Qualifying entries: Co 13006 (4), Co 13008 (2), Co 13009 (1), Co 13013 (1), Co 13016 (2), Co 13018 (3), Co 13020 (5), CoN 13073 (1), CoSnk 13103 (3), CoT 13366 (1), PI 13131(1) and PI 13132 (1).

Performance across locations: None of the test entry recorded 5 % improvement for CCS % over the best standard Co 09004 (13.33), however three entries viz., Co 13020 (13.43), Co 13016 (13.40) and Co 13008 (13.39) recorded numerically higher CCS % over the best standard of the zone. The entry Co 13020 recorded more than 5 % improvement over the best standard for CCS% at five locations, which was followed by Co 13006 (4), Co 13018 (3) and CoSnk 13103 (3).

Varietal Improvement Programme- AICRP (Sugarcane)
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Table 2.10.4 Sucrose % at harvest

S No	Entries	Coimbatore	Akola	Kawardha	Kolhapur	Man dya	Nav sari	Padegaon	Perumalappalle	Pravara nagar	Pugalur	Pune	Rudrur	Sameerwadi #	Sanke shwar	Thiruvalla	Mean	Rank
1	Co 13005	18.45	-	11.35	18.69	17.22	18.03	17.65	18.00	18.36	17.77	16.84	13.48	14.22	17.82	18.54	16.89	
2	Co 13006	18.77	-	10.73	20.55	18.70	17.89	19.75	17.20	21.14	17.75	21.50*	14.26	19.14	22.17	19.65	18.51	
3	Co 13008	19.42	-	12.70	19.85	19.18	18.21	19.75	18.40	19.95	19.20	20.65	16.24	19.08	19.98	19.65	18.73	
4	Co 13009	19.20	-	11.16	20.20	19.39	18.35	20.47	17.30	19.37	19.37	18.96	14.82	17.52	21.69	19.09	18.35	
5	Co 13011	18.96	-	10.74	20.55	18.34	17.72	18.91	19.40	19.41	17.39	18.97	12.85	17.96	19.76	18.09	17.79	
6	Co 13013	19.69	-	12.77	20.62	19.24	17.93	19.69	18.50	19.15	19.28	19.32	17.00	18.29	19.50	18.10	18.51	
7	Co 13014	19.03	-	11.17	19.73	19.27	18.10	19.81	18.80	19.84	18.17	18.10	15.82	16.91	20.68	19.86	18.24	
8	Co 13016	19.81	-	12.50	20.53	18.68	17.48	19.42	19.70	19.39	19.14	19.15	16.56	19.55	20.68	20.30	18.78	2
9	Co 13018	20.31*	-	12.91	20.53	20.27	17.82	19.88	19.20	18.29	19.08	18.15	17.07	17.06	19.76	18.87	18.51	
10	Co 13020	20.80*	-	13.53	20.94	19.12	18.21	20.81	18.60	21.37*	18.82	17.91	16.68	18.34	19.97	19.31	18.89	1
11	CoM 13082	16.78	-	11.93	17.65	17.57	18.04	16.68	14.80	16.91	15.74	15.92	12.27	17.01	17.01	17.88	16.16	
12	CoN 13073	19.30	-	12.00	19.73	18.78	18.70	17.81	15.40	18.85	18.07	17.21	13.23	16.71	17.09	18.54	17.24	
13	CoN 13074	15.90	-	9.77	19.13	16.75	18.16	17.88	18.50	20.40	16.93	17.80	11.77	17.15	16.17	20.08	16.89	
14	CoSnk 13103	19.30	-	12.73	20.96	19.61	17.97	20.49	18.70	21.30	18.25	18.69	14.39	19.69	20.10	18.63	18.63	
15	CoSnk 13104	17.01	-	12.27	19.40	19.03	17.92	19.01	19.40	20.18	17.88	19.28	15.88	15.58	19.93	17.88	17.90	
16	CoSnk 13105	17.90	-	13.75	18.89	17.91	17.78	18.93	16.60	18.18	16.30	18.88	14.98	15.48	18.38	17.65	17.26	
17	CoSnk 13106	18.69	-	13.69	19.76	18.46	18.13	19.49	18.80	20.32	18.10	19.55	15.37	18.47	19.46	19.74	18.43	
18	CoT 13366	17.69	-	11.52	19.00	17.22	17.63	17.23	14.50	18.48	17.67	17.36	16.24	17.26	17.82	20.42	17.15	
19	PI 13131	19.58	-	12.17	19.09	18.38	18.29	18.62	19.30	18.62	18.65	17.94	15.05	17.79	19.18	20.97*	18.12	
20	PI 13132	16.90	-	13.26	19.71	18.62	17.65	19.26	15.80	19.60	18.97	18.70	12.13	16.85	20.22	18.76	17.60	
Standards																		
1	Co 86032	18.69	-	13.46	20.17	18.46	18.38	19.28	19.40	19.49	19.38	19.70	15.03	17.84	18.82	19.31	18.39	
2	Co 99004	19.48	-	13.41	21.03	18.82	18.12	19.96	19.90	19.27	19.94	19.19	16.13	17.84	20.92	18.76	18.77	3
	GM	18.71		12.25	19.85	18.59	18.02	19.13	18.01	19.45	18.27	18.63	14.88	17.53	19.41	19.09		
	SE	1.20	-	-	0.30	-	0.21	0.39	-	0.62	0.41	0.39	0.57	1.26	0.54	0.43		
	CD	0.58	-	-	0.92	NS	0.60	1.14	0.40	1.84	0.87	1.16	1.69	NS	1.59	1.22		
	CV	3.07	-	-	2.17	4.53	1.62	2.86	1.10	4.55	2.3	2.98	5.44	10.18	3.95	3.20		
Qualifying Entries at each location																		
	1	Co 13020				Co 13018				Co 13020		Co 13006	Co 13018	CoSnk 13103	Co 13006	PI 13131		
	2									CoSnk 13103		Co 13008	Co 13013	Co 13016		CoT 13366		
	3									Co 13006				Co 13006		Co 13016		

* Significant with best standard variety at 5% level. # Only top three entries were listed.

Qualifying Entries: Co 13006 (4), Co 13008 (2), Co 13013 (1), Co 13016 (2), Co 13018 (2), Co 13020 (1), CoSnk 13103 (2), CoT 13366 (1) and PI 13131(1).

Performance across locations: None of the test entry recorded 5 % improvement for sucrose % over the best standard Co 99004 (18.77), however two test entries Co13020 (18.89) and Co 13016 (18.78) had recorded numerically higher sucrose % than the best standard in the zone. The entry Co 13006 recorded more than 5 % improvement over the best standard for sucrose % at four locations, followed by Co 13008 (2), Co 13016 (2), Co 13018 (2) and CoSnk 13102 (2).

Varietal Improvement Programme- AICRP (Sugarcane)

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Peninsular zone IVT - Midlate

Table 2.10.5 Brix % at harvest

S No	Entries	Coimbatore	Akola	Kawar dha	Kolhapur	Man dya	Nav sari	Padegaon	Perumalpal	Pravaranagar	Pugalur	Pune	Rudrur	Sameerwadi	Sanke shwar	Thiruvalla	Mean
1	Co 13005	20.62	16.24	19.60	19.69	18.75	20.67	19.15	19.80	18.71	19.82	18.50	20.05	16.51	20.88	20.50	19.30
2	Co 13006	20.72	17.72	19.50	22.19	20.00	19.89	21.15	18.40	22.52	20.00	23.17	21.10	21.44	23.39	21.75	20.86
3	Co 13008	21.22	20.25	20.50	21.19	20.50	21.81	20.40	20.30	21.26	21.24	22.10	20.25	21.14	22.13	21.90	21.08
4	Co 13009	21.24	17.22	17.70	22.19	20.50	19.85	21.15	19.50	20.76	21.12	20.67	19.80	19.66	23.39	21.20	20.40
5	Co 13011	21.05	18.82	18.04	21.69	20.00	22.66	20.40	19.50	20.16	20.42	20.46	20.55	20.06	21.88	20.00	20.38
6	Co 13013	21.69	21.60	20.50	21.69	20.75	20.81	20.65	19.90	20.36	21.81	21.02	19.65	20.57	21.88	20.00	20.86
7	Co 13014	21.01	21.56	20.08	21.19	20.50	20.59	20.65	20.00	21.52	20.37	20.02	21.05	18.94	22.13	22.10	20.78
8	Co 13016	21.43	18.93	20.90	21.69	20.25	20.21	20.65	20.30	20.85	21.59	20.83	20.75	21.46	22.13	22.50	20.96
9	Co 13018	22.12	18.88	21.48	21.69	21.50	21.21	20.90	20.50	19.36	21.94	19.87	20.40	19.36	22.13	20.85	20.81
10	Co 13020	22.82	22.71	22.72	22.69	20.75	21.61	21.90	20.30	22.91	21.33	19.57	20.55	20.42	21.88	21.35	21.57
11	CoM 13082	18.72	17.23	19.60	18.69	19.00	21.06	17.65	16.80	18.76	18.07	17.51	20.25	19.42	19.88	19.75	18.83
12	CoN 13073	21.45	19.53	20.04	21.19	20.50	20.35	19.65	17.20	21.07	20.30	18.86	20.20	18.52	20.63	20.50	20.00
13	CoN 13074	18.93	17.76	16.42	20.19	18.50	21.62	19.15	20.30	21.77	19.09	19.53	20.10	19.71	18.38	22.25	19.58
14	CoSnk 13103	21.21	22.31	22.18	22.69	20.75	21.59	21.40	20.10	23.06	21.23	20.55	21.00	21.54	22.13	20.60	21.49
15	CoSnk 13104	19.08	18.81	20.54	20.69	20.50	20.44	19.90	20.50	21.41	20.58	21.02	20.15	17.51	21.63	19.85	20.17
16	CoSnk 13105	19.84	18.81	22.99	20.44	19.25	20.97	19.40	18.70	19.86	19.05	20.63	20.85	16.01	21.13	19.50	19.83
17	CoSnk 13106	20.65	20.01	22.59	21.19	20.00	22.24	20.40	20.40	21.41	20.76	21.21	20.60	20.66	21.38	21.90	21.03
18	CoT 13366	19.53	21.06	19.32	20.19	18.75	21.65	18.15	19.70	19.16	19.50	19.14	20.20	19.66	20.38	22.70	19.94
19	PI 13131	21.17	20.46	20.42	20.69	19.50	22.81	19.40	20.40	19.82	21.14	19.50	20.00	19.62	21.88	23.20	20.67
20	PI 13132	19.33	19.71	21.29	21.19	19.50	20.47	20.40	18.20	20.76	20.90	20.23	20.55	18.86	22.38	20.75	20.30
	Standards																
1	Co 86032	20.53	22.66	21.79	21.69	19.50	22.46	20.15	20.20	20.41	21.25	21.88	20.35	19.76	21.63	21.45	21.05
2	Co 99004	21.41	21.71	22.00	22.94	20.00	20.38	20.90	20.70	20.11	22.31	21.72	20.10	20.36	22.63	20.75	21.20
	GM	20.72	19.73	20.46	21.26	19.97	21.15	20.16	19.62	20.73	20.63	20.36	20.39	19.60	21.63	21.15	
	SE	1.19	0.30	-	0.24	-	0.64	0.36	-	0.69	0.49	0.32	0.41	1.10	0.32	0.49	
	CD	0.57	0.91	-	0.73	NS	1.86	1.05	0.50	2.04	1.02	0.93	NS	NS	0.95	1.41	
	CV	2.74	2.18	-	1.60	3.98	4.24	2.51	1.20	4.75	2.38	2.20	2.85	7.97	2.12	3.32	

Varietal Improvement Programme- AICRP (Sugarcane)

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Table 2.10.6 Purity % at harvest

S No	Entries	Coimbatore	Akola	Kawardha	Kolhapur	Mandya	Navsari	Padegaon	Perumallapalle	Pravara nagar	Pugalur	Pune	Rudrur	Sameerwadi	Sanke shwar	Thiruvalla	Mean
1	Co 13005	89.55	95.13	82.50	94.91	91.60	87.21	92.16	91.30	91.75	89.63	91.03	66.92	86.16	85.35	89.65	88.32
2	Co 13006	90.59	94.58	81.69	92.60	93.30	90.01	93.36	93.40	93.89	88.75	92.79	67.40	89.23	94.78	89.58	89.73
3	Co 13008	91.48	87.80	84.73	93.65	93.40	83.50	96.8	91.00	93.87	90.37	93.46	79.96	90.26	90.31	88.98	89.97
4	Co 13009	90.38	96.56	86.27	91.03	94.40	92.48	96.76	88.70	93.29	91.68	91.72	74.69	86.6	92.73	89.27	90.44
5	Co 13011	90.07	92.73	85.03	94.73	91.50	78.26	92.65	99.40	94.22	85.14	92.73	62.37	89.57	90.32	89.64	88.56
6	Co 13013	90.76	78.10	86.15	95.05	92.60	86.18	95.35	93.00	94.04	88.41	91.93	86.27	88.92	89.15	89.67	89.71
7	Co 13014	90.61	73.73	79.30	93.07	93.80	87.97	95.98	93.80	92.2	89.18	90.41	75.07	89.30	93.47	89.14	88.47
8	Co 13016	92.46	87.44	81.05	94.62	92.00	86.66	94.02	97.10	92.96	88.67	91.93	79.64	91.15	93.48	89.51	90.18
9	Co 13018	91.84	98.21	81.72	94.62	94.10	84.31	95.10	93.60	94.34	86.97	91.34	83.47	88.19	89.24	89.70	90.45
10	Co 13020	91.12	79.65	83.10	92.31	91.80	84.31	95.03	91.80	93.30	88.24	91.50	83.58	89.79	91.24	89.69	89.10
11	CoM 13082	89.60	97.74	79.80	94.42	92.30	85.86	94.43	88.30	90.16	87.09	90.90	60.64	87.53	85.54	89.69	87.6
12	CoN 13073	90.00	95.37	81.24	93.07	91.40	91.9	90.65	89.30	89.48	88.99	91.22	65.47	87.50	82.83	89.65	87.87
13	CoN 13074	84.13	96.43	77.95	94.75	90.40	83.99	93.37	91.30	93.74	88.66	91.14	66.07	86.73	87.96	89.52	87.74
14	CoSnk 13103	91.00	77.41	81.83	92.36	94.30	83.27	95.71	93.00	92.36	85.95	90.91	68.35	91.37	90.82	89.66	87.89
15	CoSnk 13104	89.13	94.37	80.96	93.78	92.60	87.64	95.52	95.00	94.23	86.88	91.72	78.80	88.86	92.15	89.25	90.06
16	CoSnk 13105	90.20	93.57	83.78	92.43	92.80	85.05	97.56	89.00	91.55	85.56	91.49	71.97	87.26	87.00	89.68	88.59
17	CoSnk 13106	90.49	89.74	81.94	93.22	92.10	81.56	95.52	92.20	94.92	87.17	92.17	74.47	89.30	90.99	89.40	89.01
18	CoT 13366	90.57	72.74	79.97	94.1	91.70	81.51	94.9	73.60	93.54	90.59	90.67	80.21	87.81	87.44	89.24	86.57
19	PI 13131	92.50	88.66	80.51	92.28	94.00	80.22	95.97	94.90	92.69	88.23	92.00	75.01	90.66	87.66	89.69	89.00
20	PI 13132	87.32	96.15	81.82	93.01	95.30	86.34	94.37	87.10	94.25	90.72	92.46	58.89	89.19	90.31	89.63	88.46
	Standards																
1	Co 86032	91.04	80.87	82.29	92.98	94.50	81.87	95.66	95.90	95.51	91.20	90.04	73.79	90.30	87.00	89.27	88.81
2	Co 99004	90.98	79.83	82.50	91.67	94.00	89.00	95.48	96.20	96.00	89.38	88.28	80.15	87.39	92.45	89.63	89.53
	GM	90.26	88.49	82.10	93.39	92.90	85.41	94.83	91.77	93.29	88.52	91.45	73.33	88.78	89.65	89.51	
	SE	2.75	1.17	-	0.95	-	2.59	1.27	-	1.38	0.65	0.81	3.21	1.29	1.85	0.18	
	CD	1.32	3.51	-	NS	NS	NS	3.75	2.60	4.07	1.35	2.37	9.53	NS	5.44	NS	
	CV	1.46	1.87	-	1.44	2.11	4.29	1.90	1.30	2.10	0.74	1.25	6.20	2.06	2.92	0.29	

Varietal Improvement Programme- AICRP (Sugarcane)

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Table 2.10.7 Pol % Cane at harvest

S No	Entries	Coimbatore	Akola	Kawar dha	Kolhapur	Mandya	Navsari	Padegaon	Perumallapalle	Pravaranagar	Pugalur	Pune	Rudrur	Sameerwadi	Sanke shwar	Thiruvalla	Mean
1	Co 13005	15.01	15.45	-	-	17.22	13.79	13.72	-	-	-	12.58	-	10.38	13.4	-	13.94
2	Co 13006	15.4	16.75	-	-	18.7	13.65	15.05	-	-	-	15.97	-	13.97	16.96	-	15.81
3	Co 13008	15.94	17.78	-	-	19.18	13.78	15.11	-	-	-	15.6	-	13.93	15.07	-	15.8
4	Co 13009	16.05	16.63	-	-	19.39	13.97	15.71	-	-	-	14.16	-	12.79	16.28	-	15.62
5	Co 13011	15.61	17.45	-	-	18.34	13.39	14.73	-	-	-	14.05	-	13.11	14.78	-	15.18
6	Co 13013	16.21	16.87	-	-	19.24	13.54	15.07	-	-	-	14.21	-	13.35	14.4	-	15.36
7	Co 13014	15.69	15.89	-	-	19.27	13.76	15.3	-	-	-	13.4	-	12.34	15.74	-	15.17
8	Co 13016	16.65	16.54	-	-	18.68	13.21	14.79	-	-	-	14.09	-	14.27	15.49	-	15.47
9	Co 13018	16.7	18.54	-	-	20.27	13.56	15.27	-	-	-	13.49	-	12.45	14.96	-	15.66
10	Co 13020	17.21	18.09	-	-	19.12	13.71	15.92	-	-	-	13.23	-	13.38	15.22	-	15.74
11	CoM 13082	14.08	16.84	-	-	17.57	13.69	13.33	-	-	-	12.15	-	12.41	13.22	-	14.16
12	CoN 13073	15.81	18.62	-	-	18.78	13.19	13.92	-	-	-	12.92	-	12.19	13.02	-	14.81
13	CoN 13074	13.28	17.13	-	-	16.75	13.71	13.82	-	-	-	13.12	-	12.52	12.51	-	14.11
14	CoSnk 13103	15.76	17.27	-	-	19.61	13.73	16.02	-	-	-	14.02	-	14.37	15.36	-	15.77
15	CoSnk 13104	14.01	17.76	-	-	19.03	13.49	14.78	-	-	-	14.7	-	11.37	15.25	-	15.05
16	CoSnk 13105	14.63	17.59	-	-	17.91	13.53	15.09	-	-	-	14.01	-	11.3	13.99	-	14.76
17	CoSnk 13106	15.37	17.97	-	-	18.46	13.58	15.49	-	-	-	14.48	-	13.48	14.91	-	15.47
18	CoT 13366	14.48	15.32	-	-	17.22	13.39	13.74	-	-	-	13.05	-	12.6	13.67	-	14.18
19	PI 13131	15.93	18.14	-	-	18.38	13.93	14.42	-	-	-	13.28	-	12.98	14.48	-	15.19
20	PI 13132	14.08	18.95	-	-	18.62	13.2	15.34	-	-	-	13.89	-	12.3	15.43	-	15.23
Standards																	
1	Co 86032	15.31	18.33	-	-	18.46	13.92	15.09	-	-	-	14.64	-	13.02	14.34	-	15.39
2	Co 99004	15.79	17.33	-	-	18.82	13.59	15.39	-	-	-	14.19	-	13.02	15.56	-	15.46
	GM	15.41	17.33			18.59	13.61	14.87				13.87		12.8	14.73		
	SE	1.02	0.26	-	-	-	0.17	0.35	-	-	-	0.3	-	0.92	0.43	-	
	CD	0.49	NS	-	-	1.26	0.48	1.02	-	-	-	0.88	-	NS	1.26	-	
	CV	3.16	2.13	-	-	4.53	1.72	3.29	-	-	-	3.04	-	10.15	4.13	-	

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Peninsular zone IVT - Midlate

Table 2.10.8 Extraction % at harvest

S No	Entries	Coimbatore	Akola	Kawar dha	Kolhapur	Man dya	Nav sari	Padegaon	Perumallapalle	Pravaranagar	Pugalur	Pune	Rudrur	Sameerwadi	Sanke shwar	Thiruvalla	Mean
1	Co 13005	50.25	-	51.17	-	51.75	56.91	53.71	-	54.71	-	57.86	-	-	54.14	62.81	48.49
2	Co 13006	51.75	-	48.64	-	52.50	58.54	47.30	-	57.28	-	57.12	-	-	57.36	63.03	48.33
3	Co 13008	48.12	-	57.53	-	50.00	56.91	49.48	-	54.75	-	55.20	-	-	62.16	64.88	49.12
4	Co 13009	52.09	-	57.62	-	49.75	57.11	53.84	-	52.08	-	55.02	-	-	70.22	59.94	50.06
5	Co 13011	50.32	-	56.09	-	51.50	56.25	52.01	-	49.40	-	54.52	-	-	59.55	60.58	48.22
6	Co 13013	51.12	-	57.86	-	47.00	57.17	50.23	-	48.59	-	62.66	-	-	60.68	62.74	48.99
7	Co 13014	51.42	-	54.05	-	53.00	55.93	51.92	-	54.23	-	62.66	-	-	62.83	59.83	49.99
8	Co 13016	51.54	-	59.90	-	48.85	59.78	51.59	-	47.57	-	63.15	-	-	57.35	59.85	48.87
9	Co 13018	50.63	-	65.44	-	50.75	61.47	48.19	-	56.87	-	61.66	-	-	63.48	63.30	51.15
10	Co 13020	52.36	-	62.28	-	48.25	63.54	49.93	-	54.54	-	56.66	-	-	52.48	55.40	47.99
11	CoM 13082	53.23	-	64.65	-	51.25	59.76	48.49	-	54.73	-	51.85	-	-	60.47	62.41	49.68
12	CoN 13073	50.97	-	60.81	-	50.00	60.60	50.20	-	55.35	-	52.60	-	-	64.86	62.74	49.73
13	CoN 13074	54.44	-	62.12	-	53.00	62.65	51.39	-	53.75	-	62.93	-	-	49.20	56.79	49.29
14	CoSnk 13103	64.26	-	61.72	-	50.75	57.54	52.57	-	55.36	-	52.04	-	-	61.59	62.01	51.14
15	CoSnk 13104	52.37	-	63.81	-	52.00	60.92	54.01	-	56.42	-	51.07	-	-	62.34	62.01	50.45
16	CoSnk 13105	52.61	-	61.68	-	51.00	58.58	50.86	-	52.54	-	50.05	-	-	57.43	63.15	48.81
17	CoSnk 13106	70.16	-	63.39	-	51.50	56.84	52.22	-	53.98	-	61.83	-	-	60.83	62.81	52.97
18	CoT 13366	69.73	-	61.97	-	50.60	57.49	52.01	-	59.02	-	57.37	-	-	56.46	63.77	52.33
19	PI 13131	49.11	-	64.28	-	54.00	61.45	51.50	-	48.61	-	62.01	-	-	57.99	58.23	49.53
20	PI 13132	49.36	-	63.35	-	50.53	59.97	49.63	-	52.59	-	60.40	-	-	60.18	62.90	49.88
Standards																	
1	Co 86032	44.70	-	64.21	-	53.70	59.45	51.54	-	59.45	-	58.97	-	-	61.87	62.02	50.72
2	Co 99004	50.17	-	61.23	-	51.60	59.99	50.70	-	56.55	-	62.82	-	-	52.45	63.06	49.84
	GM	53.21		60.17		51.06	59.04	51.06		54.02		57.75			59.36	61.56	
	SE	N/A	-	-	-	-	1.49	1.84	-	1.05	-	0.91	-	-	3.98	1.99	
	CD	9.15	-	-	-	8.00	4.37	5.42	-	3.11	-	2.68	-	-	11.71	NS	
	CV	13.20	-	-	-	6.81	3.57	5.10	-	2.77	-	2.22	-	-	9.49	4.57	

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Table 2.10.9 Fibre % at harvest

S No	Entries	Coimbatore	Akola	Kawardha	Kolhapur	Mandya	Navsari	Padegaon	Perumallapalle	Pravara nagar	Pugalur	Pune	Rudrur	Sameerwadi	Sanke shwar	Thiruvalla	Mean
1	Co 13005	13.63	-	-	-	14.01	13.57	13.93	-	-	12.56	15.32	-	-	14.80	-	13.97
2	Co 13006	12.97	-	-	-	13.33	13.72	14.86	-	-	12.64	15.74	-	-	13.48	-	13.82
3	Co 13008	12.92	-	-	-	12.38	14.39	14.68	-	-	12.71	14.48	-	-	14.59	-	13.74
4	Co 13009	11.42	-	-	-	13.70	13.97	14.52	-	-	12.76	15.32	-	-	14.92	-	13.80
5	Co 13011	12.66	-	-	-	14.06	14.38	13.81	-	-	12.56	15.94	-	-	15.19	-	14.09
6	Co 13013	12.67	-	-	-	13.64	14.48	14.67	-	-	12.92	16.46	-	-	16.15	-	14.43
7	Co 13014	12.55	-	-	-	12.74	14.02	14.24	-	-	12.53	15.99	-	-	13.90	-	13.71
8	Co 13016	10.96	-	-	-	14.47	14.31	14.89	-	-	12.79	16.41	-	-	15.12	-	14.14
9	Co 13018	12.77	-	-	-	12.77	13.90	14.51	-	-	12.81	15.68	-	-	14.27	-	13.82
10	Co 13020	12.23	-	-	-	13.18	14.73	14.68	-	-	12.88	16.12	-	-	13.74	-	13.94
11	CoM 13082	11.04	-	-	-	12.25	14.16	12.57	-	-	12.78	13.66	-	-	12.26	-	12.67
12	CoN 13073	13.07	-	-	-	13.46	13.20	13.65	-	-	12.98	14.93	-	-	13.75	-	13.58
13	CoN 13074	11.47	-	-	-	14.20	14.50	14.18	-	-	13.12	16.32	-	-	12.66	-	13.78
14	CoSnk 13103	13.35	-	-	-	12.95	13.66	13.63	-	-	13.01	14.98	-	-	13.52	-	13.59
15	CoSnk 13104	12.63	-	-	-	13.43	14.69	13.91	-	-	12.77	13.76	-	-	13.52	-	13.53
16	CoSnk 13105	13.30	-	-	-	12.96	13.89	12.65	-	-	12.92	15.74	-	-	13.89	-	13.62
17	CoSnk 13106	12.78	-	-	-	13.65	15.08	12.82	-	-	13.10	15.96	-	-	13.42	-	13.83
18	CoT 13366	13.16	-	-	-	14.06	13.97	12.65	-	-	12.65	14.83	-	-	13.28	-	13.51
19	PI 13131	13.63	-	-	-	13.64	13.93	14.07	-	-	13.01	15.97	-	-	14.52	-	14.11
20	PI 13132	11.68	-	-	-	14.10	15.12	12.71	-	-	12.71	15.73	-	-	13.68	-	13.68
Standards																	
1	Co 86032	13.08	-	-	-	14.47	14.36	13.60	-	-	13.14	15.7	-	-	13.79	-	14.02
2	Co 99004	13.93	-	-	-	13.70	14.97	14.33	-	-	12.80	16.00	-	-	15.63	-	14.48
	GM	12.57				13.50	14.19	13.87			12.83	15.48			14.02		
	SE	N/A	-	-	-	-	0.34	0.40	-	-	0.23	0.32	-	-	0.79	-	
	CD	0.88	-	-	-	NS	1.00	1.17	-	-	0.49	0.96	-	-	2.33	-	
	CV	6.98	-	-	-	4.27	3.39	4.04	-	-	1.85	2.96	-	-	7.93	-	

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Table 2.10.10 Number of millable canes (*000/ha) at harvest

S No	Entries	Coimbatore	Akola	Kawardha	Kolhapur	Mandya	Navsari	Padegaon	Perumalappalle	Pravaranagar	Pugalur	Pune	Rudrur	Sameerwadi	Sanke shwar	Thiruvalla	Mean
1	Co 13005	96.13	69.44	-	85.53	92.63	99.06	91.32	68.00	97.04	76.73	87.5	101.17	48.33	49.68	52.50	87.45
2	Co 13006	110.61	72.22	-	88.77	95.87	103.53	91.90	83.00	100.31	86.74	75.75	95.44	83.96	64.90	71.25	88.68
3	Co 13008	102.65	59.26	-	107.29	122.58	114.41	116.20	98.20	86.32	72.35	88.34	79.94	76.67	69.73	47.64	85.52
4	Co 13009	93.68	76.85	-	89.93	98.54	116.93	94.33	75.60	92.44	81.11	76.08	88.38	69.17	72.82	71.39	80.26
5	Co 13011	83.63	74.81	-	81.13	109.80	118.88	88.66	52.30	79.52	80.90	96.00	85.46	58.14	66.85	47.50	87.92
6	Co 13013	107.16	75.19	-	93.98	110.52	123.35	96.99	71.70	75.46	108.42	77.84	84.87	65.63	75.39	64.31	79.43
7	Co 13014	93.72	64.44	-	84.49	80.41	110.79	90.86	51.70	51.09	102.58	73.25	87.33	74.79	79.91	66.67	72.88
8	Co 13016	86.10	51.30	-	64.58	70.25	113.30	70.25	105.20	77.56	82.98	57.34	103.76	66.25	46.69	24.72	96.60
9	Co 13018	127.50	75.00	-	101.16	78.41	102.97	101.16	95.90	107.02	140.74	96.50	84.91	96.67	87.11	57.36	84.88
10	Co 13020	70.87	70.37	-	77.55	130.58	113.58	86.46	97.30	102.85	86.53	68.00	96.98	65.42	73.13	48.75	84.60
11	CoM 13082	93.02	76.85	-	92.25	128.45	113.86	95.02	66.50	97.33	69.85	84.42	89.01	65.83	59.14	52.92	80.30
12	CoN 13073	78.13	73.33	-	69.33	106.20	116.65	72.69	70.50	94.51	69.64	87.00	103.57	68.54	70.86	43.20	83.53
13	CoN 13074	93.08	74.26	-	76.16	103.50	114.41	78.94	81.20	94.39	87.99	73.50	94.04	100.42	58.42	39.17	86.81
14	CoSnk 13103	105.86	85.00	-	83.45	110.50	106.88	88.77	91.90	92.49	87.36	86.00	97.80	66.88	62.53	49.86	78.03
15	CoSnk 13104	92.67	72.78	-	70.72	90.58	106.32	71.99	87.70	97.98	61.09	79.92	95.13	74.79	60.99	29.73	74.32
16	CoSnk 13105	81.34	62.04	-	71.53	85.36	116.93	74.65	73.70	79.93	67.55	68.34	94.64	55.21	56.05	53.20	81.57
17	CoSnk 13106	96.00	69.26	-	82.64	100.80	112.46	88.77	84.30	81.07	61.92	88.08	87.97	61.04	70.97	56.67	83.62
18	CoT 13366	115.14	72.22	-	72.92	85.96	101.57	76.50	73.50	111.39	102.58	79.80	86.35	70.42	59.55	62.78	68.31
19	PI 13131	74.93	70.19	-	62.38	82.54	108.83	69.33	106.10	74.14	59.42	45.50	81.14	46.04	43.20	32.64	88.09
20	PI 13132	106.00	68.15	-	72.57	110.24	103.81	75.69	88.80	81.35	101.75	80.42	104.30	106.88	61.40	71.95	87.45
	Standards																
1	Co 86032	96.29	76.48	-	94.79	105.40	112.46	92.25	63.40	114.62	99.25	92.69	93.32	72.71	78.89	61.11	89.55
2	Co 99004	94.32	67.00	-	62.27	93.65	104.64	69.68	65.10	84.33	89.24	77.59	101.54	73.54	56.98	70.83	79.34
	GM	95.40	70.75		81.16	99.67	110.71	85.56	79.62	89.69	85.31	79.08	92.59	71.24	64.78	53.46	
	SE	N/A	3.11	-	6.85	-	4.90	3.02	-	1.97	9.00	4.33	4.82	5.32	2.05	3.18	
	CD	17.08	9.31	-	20.73	11.21	14.34	8.89	9.20	5.80	18.71	12.74	14.28	15.65	6.02	9.05	
	CV	13.90	6.21	-	11.94	5.41	6.32	5.00	6.70	3.04	10.56	7.74	7.37	10.57	4.47	8.42	

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Table 2.10.11 Stalk length (cm) at harvest

S No	Entries	Coimbatore	Akola	Kawardha	Kolhapur	Mandya	Navsari	Padegaon	Perumallapalle	Pravara nagar	Pugalur	Pune	Rudrur	Sameerwadi	Sanke shwar	Thiruvalla	Mean
1	Co 13005	283	149	319	192	164	276	238	357	204	235	196	223	107	205	207	224.86
2	Co 13006	293	208	336	250	208	277	285	343	200	235	220	260	183	250	250	253.43
3	Co 13008	290	215	346	228	206	274	258	349	228	234	213	218	186	251	226	249.71
4	Co 13009	278	161	351	235	189	249	265	380	187	217	167	223	135	240	222	234.07
5	Co 13011	263	227	303	195	178	256	223	357	215	249	202	260	120	243	199	235.07
6	Co 13013	313	250	385	252	216	253	280	370	224	236	209	248	127	267	219	259.29
7	Co 13014	270	225	312	218	183	254	253	276	193	215	186	233	160	244	204	230.14
8	Co 13016	235	127	297	176	194	255	190	371	218	229	143	210	130	158	154	209.50
9	Co 13018	260	246	277	208	191	268	248	311	167	228	186	248	143	233	211	229.57
10	Co 13020	235	257	330	256	159	250	250	288	239	223	156	205	126	232	193	229.00
11	CoM 13082	275	240	339	205	194	253	290	297	222	201	189	273	146	217	169	238.64
12	CoN 13073	295	243	320	226	191	317	258	381	192	214	206	213	202	238	194	249.71
13	CoN 13074	273	211	338	202	164	305	248	321	153	246	217	218	169	260	210	237.50
14	CoSnk 13103	275	243	353	239	201	266	275	271	223	192	188	203	184	252	217	240.36
15	CoSnk 13104	230	168	302	192	183	250	218	376	199	200	186	208	129	184	191	216.07
16	CoSnk 13105	220	141	289	198	158	248	243	298	203	192	135	198	89	146	198	197.00
17	CoSnk 13106	260	219	309	232	206	264	263	303	193	250	188	215	160	234	186	235.43
18	CoT 13366	238	173	269	172	221	250	180	291	205	277	173	195	155	181	197	212.86
19	PI 13131	215	167	275	188	177	279	223	270	178	184	153	128	118	150	176	193.21
20	PI 13132	273	156	304	184	216	268	203	309	152	241	151	118	196	198	188	212.07
Standards																	
1	Co 86032	238	213	323	212	190	248	253	303	245	227	168	130	188	213	209	225.07
2	Co 99004	328	240	361	246	212	276	275	346	233	253	202	238	136	215	203	254.36
	GM	265.23	203.59	319.93	213.91	182.65	265.25	246.02	325.52	203.07	216.43	183.36	211.70	149.50	218.41	201.05	
	SE	32.77	4.32	-	6.90	-	12.72	5.59	-	0.67	0.21	5.30	7.80	14.62	12.35	8.39	
	CD	15.65	12.96	40.09	20.88	NS	37.20	16.43	18.40	1.97	0.44	15.59	23.11	42.98	36.32	23.84	
	CV	5.90	3.01	6.20	4.56	16.18	6.80	3.21	2.70	0.46	9.37	4.09	5.21	13.85	8.00	5.90	

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Table 2.10.12 Stalk diameter (cm) at harvest

S No	Entries	Coimbatore	Akola	Kawar dha	Kolhapur	Mandya	Navsari	Padegaon	Perumalpalale	Pravara nagar	Pugalur	Pune	Rudrur	Sameerwadi	Sanke shwar	Thiruvalla	Mean
1	Co 13005	2.97	3.02	2.99	2.02	3.44	2.45	3.15	3.30	2.45	2.87	3.05	3.70	3.00	3.08	3.21	2.98
2	Co 13006	2.74	2.71	2.62	2.06	3.25	2.48	3.20	2.65	2.39	2.70	2.99	3.05	2.90	2.79	2.98	2.77
3	Co 13008	2.90	3.04	3.00	2.55	3.31	2.56	3.70	3.05	2.39	2.85	2.89	3.20	3.10	2.91	2.71	2.94
4	Co 13009	2.88	3.33	3.32	2.23	3.76	2.63	3.40	3.30	2.45	2.90	3.05	2.45	3.60	2.92	3.12	3.02
5	Co 13011	3.13	3.13	3.08	2.22	3.42	2.59	3.35	2.90	2.43	2.63	3.03	3.05	2.60	2.87	2.92	2.89
6	Co 13013	3.00	3.20	3.10	2.16	3.61	2.69	3.35	2.85	2.51	2.45	2.95	3.05	2.70	2.81	3.12	2.90
7	Co 13014	3.07	3.22	3.43	2.01	3.48	2.69	3.25	3.20	2.42	2.78	3.02	3.00	3.40	3.07	2.49	2.97
8	Co 13016	3.13	3.31	3.18	1.96	3.60	2.71	3.25	2.75	2.54	2.85	2.82	2.65	2.80	2.93	2.77	2.88
9	Co 13018	2.86	2.91	2.90	2.00	3.48	2.67	3.00	3.00	2.40	2.46	2.90	2.55	2.80	2.96	3.04	2.80
10	Co 13020	3.04	3.50	3.13	2.24	3.39	2.67	3.55	3.25	2.43	3.09	2.74	2.40	3.10	3.35	2.64	2.97
11	CoM 13082	3.25	3.16	2.97	2.36	3.46	2.74	3.60	3.20	2.54	2.83	3.15	2.50	3.30	3.40	3.18	3.04
12	CoN 13073	2.78	3.52	3.30	3.18	3.47	2.82	3.45	3.20	2.46	2.86	3.02	3.55	2.90	2.88	2.76	3.08
13	CoN 13074	3.08	3.28	3.58	3.12	3.81	2.80	3.70	3.20	2.42	2.78	3.22	3.10	3.10	3.19	2.87	3.15
14	CoSnk 13103	2.77	2.70	2.75	1.96	3.70	2.70	2.85	2.95	2.47	2.69	2.85	3.35	2.80	3.00	3.01	2.84
15	CoSnk 13104	2.72	3.63	3.12	2.07	3.85	2.67	3.35	3.10	2.43	2.73	2.97	3.20	3.30	3.38	3.60	3.07
16	CoSnk 13105	2.74	3.42	3.19	2.17	3.54	2.68	3.50	3.20	2.53	2.70	3.02	2.85	2.90	3.29	2.87	2.97
17	CoSnk 13106	2.60	3.17	2.98	2.06	3.27	2.64	3.30	2.80	2.42	2.87	3.14	3.20	3.20	3.22	2.86	2.92
18	CoT 13366	2.67	3.25	3.03	1.95	3.36	2.56	3.00	3.00	2.54	2.74	3.03	3.20	2.90	2.94	2.46	2.84
19	PI 13131	2.69	3.28	3.02	1.98	3.26	2.61	3.10	2.70	2.43	2.74	3.05	2.40	3.00	2.76	2.74	2.78
20	PI 13132	3.04	3.19	3.07	2.01	3.48	2.53	3.30	3.00	2.43	2.57	2.85	2.60	2.50	3.00	2.97	2.84
Standards																	
1	Co 86032	2.91	3.05	2.95	2.19	3.18	2.50	3.45	2.75	2.42	2.72	2.87	2.85	2.50	2.77	3.01	2.81
2	Co 99004	2.95	3.00	3.39	2.08	3.48	2.53	3.25	2.60	2.42	2.46	2.72	2.40	2.60	2.84	2.97	2.78
	GM	2.91	3.18	3.10	2.21	3.48	2.63	3.32	3.00	2.45	2.74	2.97	2.92	2.95	3.02	2.92	
	SE	N/A	0.12	-	0.06	-	0.04	0.08	-	0.07	0.09	0.07	0.196	0.13	0.09	0.09	
	CD	0.23	0.35	0.27	0.19	NS	0.12	0.25	0.20	0.21	0.20	0.20	0.58	0.38	0.27	0.27	
	CV	7.79	5.14	4.33	3.96	5.51	2.15	3.57	2.60	4.16	3.55	3.16	9.471	6.30	4.36	4.64	

Varietal Improvement Programme- AICRP (Sugarcane)
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Table 2.10.13 Single cane weight (kg) at harvest

S No	Entries	Coimbatore	Akola	Kawar dha	Kolhapur	Man dya	Nav sari	Padegaon	Perumallapalle	Pravara nagar	Pugalur	Pune	Rud rur	Sameer wadi	Sanke shwar	Thiruvalla	Mean
1	Co 13005	1.74	0.80	1.92	1.08	1.01	1.08	1.29	1.55	1.20	1.34	1.32	1.75	0.66	1.64	1.29	1.31
2	Co 13006	1.66	1.00	1.48	0.98	1.20	1.12	1.07	1.35	1.33	1.30	1.34	1.40	0.94	1.66	1.39	1.28
3	Co 13008	1.73	1.30	2.11	1.17	1.34	1.15	1.29	1.50	1.29	1.35	1.40	1.50	1.06	1.75	1.26	1.41
4	Co 13009	1.89	1.10	2.55	1.31	1.37	1.12	1.45	1.70	1.19	1.82	1.30	1.25	0.98	1.73	1.31	1.47
5	Co 13011	1.62	1.30	1.85	1.27	1.04	1.18	1.44	1.45	1.25	1.35	1.38	1.40	0.57	1.60	1.13	1.32
6	Co 13013	1.78	1.60	2.53	1.14	1.44	1.12	1.31	1.40	1.28	1.30	1.29	1.20	0.58	1.83	1.29	1.41
7	Co 13014	1.93	1.30	2.45	1.23	1.14	1.20	1.40	1.70	1.16	1.24	1.38	1.65	1.06	1.83	1.01	1.45
8	Co 13016	1.43	1.00	2.02	0.83	1.24	1.19	1.05	1.50	1.21	1.23	0.99	1.20	0.65	1.14	0.80	1.17
9	Co 13018	1.27	1.20	1.64	1.19	1.00	1.18	1.36	1.25	1.11	1.10	1.23	1.25	0.62	1.59	1.23	1.21
10	Co 13020	1.69	1.70	2.15	1.13	1.03	1.12	1.30	1.60	1.21	1.52	1.02	1.35	0.72	2.00	1.00	1.37
11	CoM 13082	1.94	1.30	2.10	1.24	1.06	1.20	1.34	1.55	1.31	1.15	1.56	1.20	0.89	2.05	1.13	1.40
12	CoN 13073	1.85	1.50	2.95	1.37	1.09	1.57	1.53	1.55	1.19	1.30	1.36	1.50	0.91	1.64	1.12	1.50
13	CoN 13074	1.61	1.40	2.85	1.05	1.17	1.58	1.28	1.60	1.15	1.20	1.41	1.40	1.06	2.07	1.12	1.46
14	CoSnk 13103	1.32	1.00	1.73	1.17	1.07	1.28	1.31	1.25	1.21	1.05	1.18	1.30	0.80	1.88	1.41	1.26
15	CoSnk 13104	1.24	1.20	1.99	1.03	1.28	1.17	1.08	1.40	1.27	1.15	1.45	1.40	0.73	1.72	1.55	1.31
16	CoSnk 13105	1.18	0.70	2.14	1.11	1.00	1.07	1.33	1.60	1.26	1.05	1.02	1.20	0.36	1.34	1.31	1.18
17	CoSnk 13106	1.13	1.30	1.72	1.08	1.10	1.18	1.26	1.45	1.26	1.45	1.49	1.55	0.93	1.78	0.98	1.31
18	CoT 13366	1.27	1.20	1.74	0.81	1.29	1.15	1.01	1.10	1.06	1.70	1.24	1.60	0.85	1.33	0.82	1.21
19	PI 13131	1.24	1.00	1.71	1.02	1.01	1.23	1.20	1.25	1.24	1.10	1.15	1.20	0.60	0.89	0.88	1.11
20	PI 13132	1.68	0.80	1.91	0.86	1.17	1.21	1.05	1.30	1.27	1.20	1.05	1.35	0.67	1.52	1.07	1.21
Standards																	
1	Co 86032	1.40	1.20	1.99	1.17	1.16	1.13	1.33	1.30	1.34	1.12	1.34	1.25	0.54	1.42	1.12	1.25
2	Co 99004	1.86	1.40	2.62	1.06	1.24	1.12	1.17	1.85	1.26	1.38	1.39	1.25	0.81	1.53	1.36	1.42
	GM	1.57	1.20	2.10	1.10	1.16	1.20	1.27	1.46	1.23	1.29	1.29	1.37	0.77	1.63	1.16	
	SE	0.35	0.11	-	0.07	-	0.05	0.04	-	0.01	0.09	0.03	0.07	0.12	0.12	-	
	CD	0.17	0.32	0.63	0.23	NS	0.14	0.13	0.10	0.04	0.19	0.08	0.22	0.36	0.36	-	
	CV	10.66	12.61	14.90	9.52	22.27	5.68	4.86	4.60	1.82	7.36	3.17	7.90	22.73	10.74	-	

Varietal Improvement Programme- AICRP (Sugarcane)
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Table 2.10.14 Brix % at 10 months

S No	Entries	Coimbatore	Akola	Kawar dha	Kolhapur	Mandya	Navsari	Padegaon	Perumallapalle	Pravara nagar	Pugalur	Pune	Rudrur	Sameerwadi	Sanke shwar	Thiruvalla	Mean
1	Co 13005	17.44	17.01	-	16.75	18.75	18.97	16.44	19.10	18.06	17.23	16.34	15.45	15.15	17.79	17.25	17.27
2	Co 13006	18.08	17.66	-	18.75	20.50	19.04	18.19	18.10	18.06	16.66	20.41	17.30	19.25	18.29	16.85	18.37
3	Co 13008	19.35	16.31	-	18.75	20.50	20.25	18.69	19.75	18.31	17.88	19.85	17.80	17.12	17.79	17.05	18.53
4	Co 13009	19.91	17.68	-	18.00	19.25	19.61	17.69	17.60	18.01	17.54	20.35	18.30	17.42	16.54	16.60	18.18
5	Co 13011	17.60	17.28	-	17.75	17.75	19.35	17.44	17.45	17.61	17.06	17.54	17.05	17.50	16.79	16.10	17.45
6	Co 13013	19.20	19.81	-	17.75	20.25	18.89	17.69	18.85	18.36	18.72	20.96	19.00	16.42	17.29	15.75	18.50
7	Co 13014	18.68	15.81	-	18.75	19.50	19.30	18.69	19.25	17.16	18.15	18.95	19.00	15.39	17.79	17.60	18.14
8	Co 13016	19.97	18.83	-	18.75	20.25	18.97	18.44	19.85	18.76	18.82	19.64	18.75	18.59	18.79	18.35	19.05
9	Co 13018	19.38	16.71	-	18.00	21.25	19.00	17.94	20.20	18.46	18.13	19.44	18.50	16.67	18.54	15.25	18.39
10	Co 13020	19.32	17.96	-	17.75	20.25	19.14	18.19	20.00	18.16	17.84	18.86	17.90	17.89	17.04	16.60	18.35
11	CoM 13082	16.23	16.78	-	16.25	18.50	18.43	15.44	13.80	16.41	14.12	17.17	16.05	14.25	14.79	15.10	15.95
12	CoN 13073	18.44	18.68	-	16.75	17.50	19.45	16.19	15.95	17.21	16.04	18.34	16.05	16.75	15.04	16.75	17.08
13	CoN 13074	15.96	15.76	-	16.75	17.50	18.49	15.69	19.30	17.21	17.39	18.95	16.50	15.65	13.54	17.30	16.86
14	CoSnk 13103	19.25	18.51	-	18.75	20.25	18.40	18.94	19.70	19.46	18.75	19.86	18.15	18.97	18.54	15.75	18.81
15	CoSnk 13104	16.49	17.56	-	18.25	19.00	18.74	18.19	19.95	20.16	17.52	20.18	18.75	16.22	17.79	16.00	18.20
16	CoSnk 13105	18.00	16.36	-	18.25	18.25	18.57	17.94	17.90	17.91	16.91	19.57	17.10	15.62	17.54	17.35	17.66
17	CoSnk 13106	19.08	16.56	-	19.25	18.50	18.43	18.44	19.45	19.36	17.26	21.32	17.35	17.49	17.29	17.25	18.36
18	CoT 13366	17.83	16.96	-	16.75	18.00	18.81	16.44	18.95	18.21	17.68	18.81	17.90	15.87	18.04	16.50	17.63
19	PI 13131	19.51	17.41	-	17.75	18.25	19.30	17.44	20.40	18.26	17.70	19.66	16.60	17.77	17.79	17.10	18.21
20	PI 13132	17.11	15.51	-	18.75	19.00	20.09	18.69	14.65	21.11	18.23	19.68	16.30	16.10	18.79	18.00	18.00
Standards																	
1	Co 86032	19.26	18.16	-	18.75	19.50	19.22	17.94	19.95	16.81	17.26	20.42	18.60	17.42	17.79	16.50	18.40
2	Co 99004	19.59	16.01	-	20.25	18.50	19.87	19.19	19.74	18.16	19.48	19.64	19.20	19.93	20.04	15.75	18.95
	GM	18.44	17.24		18.07	19.14	19.11	17.72	18.63	18.24	17.56	19.36	17.62	16.97	17.44	16.67	
	SE	1.20	0.55	-	0.33	-	0.36	0.43	-	0.67	0.48	0.26	0.89	0.84	0.54	0.63	
	CD	0.573	1.63	-	1.01	2.07	1.05	1.27	0.10	1.98	1.00	0.75	N.S.	2.48	1.58	NS	
	CV	3.109	4.47	-	2.61	5.20	2.64	3.45	2.70	5.22	2.75	1.87	7.16	7.03	4.36	5.41	

Varietal Improvement Programme- AICRP (Sugarcane)
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Table 2.10.15 Sucrose % at 10 months

S No	Entries	Coimbatore	Akola	Kawardha	Kolhapur	Man dya	Nav sari	Padegaon	Perumalpal	Pravara nagar	Pugalur	Pune	Rudur	Sameerwadi	Sanke shwar	Thiruvalla	Mean
1	Co 13005	15.24	-	-	16.19	17.22	16.82	15.08	17.77	16.25	14.87	14.71	12.76	12.77	14.11	15.37	15.32
2	Co 13006	15.97	-	-	17.89	19.27	16.94	16.43	16.14	16.65	14.51	18.18	14.25	15.95	16.38	15.16	16.44
3	Co 13008	17.37	-	-	17.87	18.12	17.84	17.51	17.72	17.10	16.14	17.77	14.09	14.67	15.45	15.27	16.69
4	Co 13009	17.99	-	-	16.96	18.48	17.82	15.18	16.30	15.97	15.69	18.35	14.55	15.08	12.60	14.95	16.15
5	Co 13011	15.12	-	-	17.04	18.62	16.33	15.97	17.15	16.16	14.94	15.91	13.64	14.50	12.94	14.61	15.61
6	Co 13013	17.29	-	-	17.10	19.28	18.33	16.65	15.86	16.28	16.54	18.79	14.38	13.73	13.77	14.11	16.32
7	Co 13014	16.85	-	-	17.01	18.62	17.46	17.71	18.25	14.81	16.32	16.95	14.50	12.57	14.71	15.73	16.27
8	Co 13016	18.52	-	-	17.89	18.80	17.73	17.27	19.53	17.00	16.58	17.89	14.04	16.44	15.75	16.52	17.23
9	Co 13018	17.36	-	-	17.09	19.92	17.47	16.61	19.29	17.03	15.80	17.16	13.69	13.55	15.42	13.78	16.47
10	Co 13020	16.71	-	-	17.04	18.92	16.57	16.97	18.44	16.33	15.85	16.71	13.35	15.24	13.40	14.93	16.19
11	CoM 13082	13.89	-	-	15.70	16.88	16.75	13.31	11.12	14.66	11.99	15.13	12.48	11.27	10.19	13.67	13.62
12	CoN 13073	16.03	-	-	16.15	14.87	18.23	14.19	13.84	15.38	13.63	15.77	12.48	13.54	8.59	15.05	14.44
13	CoN 13074	13.30	-	-	16.20	15.60	18.34	13.17	17.38	14.59	15.16	17.19	12.70	12.07	8.64	15.37	14.59
14	CoSnk 13103	17.52	-	-	17.12	19.16	17.18	17.20	18.09	17.18	17.12	17.61	13.95	16.49	14.93	14.11	16.74
15	CoSnk 13104	14.25	-	-	17.53	18.05	17.47	16.17	19.16	18.09	14.95	17.87	13.55	14.17	14.84	14.34	16.19
16	CoSnk 13105	16.14	-	-	17.53	16.89	16.78	16.88	15.56	16.32	14.88	17.32	12.43	13.04	14.60	15.50	15.68
17	CoSnk 13106	17.12	-	-	18.36	16.98	17.12	16.78	18.23	17.91	13.78	19.11	12.78	15.60	14.74	15.48	16.46
18	CoT 13366	16.04	-	-	16.13	16.54	16.18	14.79	12.05	16.26	15.71	16.48	12.51	12.62	15.05	14.81	15.01
19	PI 13131	17.81	-	-	17.08	16.65	17.87	16.17	17.79	16.21	15.56	17.52	11.72	16.00	14.72	15.27	16.18
20	PI 13132	14.92	-	-	18.39	19.17	17.78	17.27	13.30	19.71	16.09	17.62	14.18	13.11	15.50	16.18	16.40
	Standards																
1	Co 86032	17.45	-	-	17.98	19.07	16.84	16.75	18.55	15.18	15.25	18.45	13.92	15.13	14.71	14.82	16.47
2	Co 99004	17.80	-	-	19.20	18.48	16.13	18.17	19.25	16.81	17.56	17.16	12.81	17.32	17.10	14.26	17.08
	GM	16.40			17.25	17.98	17.27	16.19	16.85	16.45	15.41	17.26	13.40	14.31	14.01	14.97	
	SE	1.38	-	-	0.43	-	0.48	1.73	-	0.78	0.4	0.28	0.61	1.02	0.54	0.52	
	CD	0.66	-	-	1.31	2.22	1.40	5.08	1.10	2.31	0.84	0.81	N.S.	3.00	1.60	NS	
	CV	4.03	-	-	3.54	5.95	3.90	15.07	2.70	6.76	2.63	2.26	6.53	10.10	5.50	4.92	

Varietal Improvement Programme- AICRP (Sugarcane)

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Table 2.10.16 Purity % at 10 months

S No	Entries	Coimbatore	Akola	Kawardha	Kolhapur	Man dya	Nav sari	Padegaon	Perumallapalle	Pravara nagar	Pugalur	Pune	Rud rur	Sameerwadi	Sanke shwar	Thiruvalla	Mean
1	Co 13005	87.38	91.77	-	-	91.6	88.70	91.70	93.04	89.97	86.32	90.06	82.35	84.27	79.43	88.18	88.06
2	Co 13006	88.32	93.45	-	-	93.8	89.02	90.26	89.17	92.31	87.07	89.07	82.14	83.00	89.95	89.02	88.97
3	Co 13008	89.71	92.09	-	-	93.8	88.20	93.65	89.72	91.86	90.27	89.5	79.21	85.65	87.01	88.59	89.17
4	Co 13009	90.36	92.72	-	-	94.1	90.87	89.48	92.61	88.63	89.45	90.17	79.40	86.07	76.18	89.08	88.39
5	Co 13011	85.91	91.80	-	-	95.3	84.31	91.52	98.28	91.72	87.54	90.68	79.93	82.70	77.13	89.71	88.19
6	Co 13013	90.06	80.21	-	-	95.0	97.06	94.13	84.13	88.61	88.33	89.67	75.53	83.78	79.65	88.61	87.29
7	Co 13014	90.18	96.73	-	-	95.3	90.48	94.75	94.80	86.31	89.91	89.45	76.13	81.54	82.70	88.44	88.98
8	Co 13016	92.74	86.24	-	-	92.6	93.53	93.64	98.39	87.07	88.09	91.09	74.72	88.27	83.83	89.13	89.18
9	Co 13018	89.59	92.00	-	-	93.5	92.16	92.57	95.49	92.25	87.15	88.26	73.84	80.73	83.14	89.27	88.46
10	Co 13020	86.49	82.19	-	-	93.2	86.59	93.29	92.2	87.76	88.85	88.61	74.58	85.13	78.51	88.97	86.64
11	CoM 13082	85.54	91.35	-	-	91.0	90.89	86.16	80.58	89.48	84.91	88.14	77.69	79.10	68.97	89.43	84.87
12	CoN 13073	86.81	86.33	-	-	84.8	93.76	87.45	86.77	89.38	85.01	85.95	77.57	80.68	56.73	88.93	83.86
13	CoN 13074	83.32	97.79	-	-	88.9	99.18	83.83	90.06	84.79	87.18	90.75	76.82	77.07	63.77	87.93	85.49
14	CoSnk 13103	91.04	78.48	-	-	94.4	93.35	90.78	91.83	91.29	91.31	88.67	76.70	86.89	80.50	88.61	87.99
15	CoSnk 13104	86.41	72.99	-	-	94.8	93.27	88.98	96.05	89.59	85.33	88.57	72.09	87.25	83.39	88.66	86.72
16	CoSnk 13105	89.67	86.04	-	-	92.2	90.36	94.16	86.93	91.15	87.98	88.48	72.52	83.41	83.12	88.39	87.26
17	CoSnk 13106	89.71	90.42	-	-	91.4	92.85	90.95	93.73	92.52	79.82	89.63	73.40	89.11	85.26	88.83	88.28
18	CoT 13366	89.96	80.12	-	-	91.7	86.02	89.92	63.59	89.30	88.85	87.64	69.69	79.38	83.43	88.79	83.72
19	PI 13131	91.26	80.30	-	-	91.1	92.59	92.71	87.21	88.76	87.90	89.14	70.48	79.97	82.67	88.34	86.34
20	PI 13132	87.17	95.65	-	-	93.5	88.51	92.35	90.79	93.37	88.26	89.51	86.77	81.44	82.49	88.95	89.14
Standards																	
1	Co 86032	90.62	91.36	-	-	94.0	87.75	93.35	92.98	90.34	88.36	90.37	75.11	86.80	82.70	88.87	88.66
2	Co 99004	90.83	98.47	-	-	93.4	81.21	94.67	97.52	92.60	90.12	87.35	66.59	86.93	85.33	89.48	88.81
	GM	88.78	88.57			92.70	90.48	91.38	90.27	89.96	87.64	89.13	76.06	83.60	79.81	88.83	
	SE	2.37	3.58	-	-	-	2.89	1.77	-	2.25	0.72	0.72	2.13	2.65	2.88	0.49	
	CD	1.13	10.73	-	-	3.80	NS	5.21	5.30	4.63	1.50	1.14	6.32	NS	8.48	NS	
	CV	1.27	5.72	-	-	1.97	4.50	2.74	2.80	3.53	0.83	2.11	3.97	4.45	5.11	0.78	

Varietal Improvement Programme- AICRP (Sugarcane)
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Peninsular zone IVT - Midlate

Table 2.10.17 CCS % at 10 months

S No	Entries	Coimbatore	Akola	Kawar dha	Kolhapur	Man dya	Nav sari	Padegaon	Perumalpalale	Pravara nagar	Pugalur	Pune	Rudrur	Sameerwadi	Sanke shwar	Thiruvalla	Mean
1	Co 13005	10.49	10.99	-	11.56	12.11	11.66	10.61	12.93	11.33	10.17	10.4	8.52	8.63	9.22	13.15	10.84
2	Co 13006	11.04	11.71	-	12.72	13.25	11.76	11.47	11.51	11.74	9.96	12.79	9.49	10.67	11.40	13.12	11.62
3	Co 13008	12.10	10.58	-	12.69	13.60	12.34	12.43	12.68	12.13	11.27	12.53	9.19	9.99	10.59	13.10	11.80
4	Co 13009	12.57	11.56	-	11.98	13.81	12.49	11.02	11.83	11.06	10.91	12.99	9.51	10.32	8.05	12.94	11.50
5	Co 13011	10.31	11.01	-	12.13	12.89	11.04	11.22	12.77	11.37	10.28	11.29	8.95	9.71	8.32	12.59	10.99
6	Co 13013	12.07	10.46	-	12.20	13.59	13.23	11.86	11.00	11.27	11.44	13.26	9.14	9.24	9.02	11.94	11.41
7	Co 13014	11.76	11.01	-	11.82	13.69	12.21	12.64	13.39	10.12	11.38	11.95	9.27	8.35	9.84	13.56	11.50
8	Co 13016	13.09	11.05	-	12.71	13.17	12.59	12.26	14.55	11.89	11.45	12.72	8.86	11.37	10.60	14.11	12.17
9	Co 13018	12.09	10.81	-	12.12	14.42	12.32	11.34	14.19	12.02	10.85	12.02	8.58	8.98	10.34	11.89	11.57
10	Co 13020	11.44	9.84	-	12.14	13.46	11.35	12.03	13.36	11.38	10.99	11.73	8.41	10.35	8.72	12.77	11.28
11	CoM 13082	9.46	10.71	-	11.20	12.39	11.75	9.09	7.535	9.94	8.13	10.59	8.05	7.35	6.10	11.75	9.57
12	CoN 13073	11.00	10.94	-	11.52	13.20	12.97	9.77	9.75	10.70	9.25	10.9	8.06	8.95	4.39	13.05	10.32
13	CoN 13074	8.94	11.15	-	11.57	11.70	13.35	8.88	12.46	9.88	10.42	12.2	8.15	7.76	4.88	13.14	10.32
14	CoSnk 13103	12.29	9.44	-	11.92	13.97	12.19	12.05	13.08	12.49	12.02	12.36	8.95	11.31	9.84	12.30	11.73
15	CoSnk 13104	9.75	7.94	-	12.49	13.45	12.39	11.21	14.13	12.59	10.16	12.54	8.37	9.74	9.97	12.47	11.23
16	CoSnk 13105	11.24	9.64	-	12.49	12.67	11.73	12.01	10.97	11.45	10.26	12.15	7.70	8.76	9.79	13.28	11.01
17	CoSnk 13106	11.92	10.48	-	13.05	13.01	12.12	11.77	13.30	12.65	9.04	13.49	7.98	10.83	10.02	13.19	11.63
18	CoT 13366	11.19	8.94	-	11.50	12.11	11.05	10.31	6.97	11.30	10.89	11.51	7.54	8.26	10.11	12.58	10.30
19	PI 13131	12.50	9.20	-	12.18	13.07	12.64	11.44	12.56	11.23	10.73	12.33	7.12	11.16	9.84	13.12	11.37
20	PI 13132	10.25	10.63	-	13.22	13.32	12.32	12.19	9.57	13.98	11.12	12.42	9.72	8.70	10.35	13.83	11.54
Standards																	
1	Co 86032	12.21	11.65	-	12.80	13.16	11.61	11.88	13.49	10.61	10.55	13.07	8.79	10.37	9.84	12.66	11.62
2	Co 99004	12.47	11.44	-	13.61	13.38	10.69	12.97	14.95	11.88	12.25	11.96	7.47	11.88	11.62	12.23	12.06
	GM	11.37	10.51		12.26	13.16	12.08	11.38	12.14	11.50	10.61	12.15	8.54	9.67	9.22	12.85	
	SE	1.07	0.47	-	0.37	-	0.35	0.42	-	0.65	0.28	0.22	0.44	0.82	0.48	0.66	
	CD	0.51	1.42	-	1.12	NS	1.03	1.25	0.90	1.93	0.59	0.65	1.30	2.43	1.42	NS	
	CV	4.51	6.39	-	4.27	5.04	4.12	5.27	3.50	5.07	2.70	2.59	7.32	12.13	7.43	7.35	

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Table 2.10.18 Number of shoots ('000/ha) at 240 days

S No	Entries	Coimbatore	Akola	Kawar dha	Kolhapur	Man dya	Nav sari	Padegaon	Perumalappalle	Pravara nagar	Pugalur	Pune	Rudrur	Sameerwadi	Sanke shwar	Thiruvalla	Mean
1	Co 13005	78.58	79.63	-	-	116.94	114.51	107.52	109.85	106.91	81.32	89.88	96.82	16.90	72.20	57.78	86.83
2	Co 13006	93.17	81.11	-	-	120.18	122.15	105.32	105.50	103.74	95.70	78.26	90.93	-	74.15	75.84	95.50
3	Co 13008	87.50	63.70	-	-	163.71	143.51	118.63	98.10	91.21	97.58	89.92	77.70	46.18	72.71	50.97	92.42
4	Co 13009	74.65	89.07	-	-	115.76	138.78	95.72	80.25	97.10	87.36	77.42	84.71	35.30	79.61	73.61	86.87
5	Co 13011	71.99	81.85	-	-	127.51	139.99	88.43	88.10	82.94	84.23	98.09	83.03	26.97	67.88	52.22	84.09
6	Co 13013	84.84	88.33	-	-	153.16	149.69	104.63	109.00	81.63	110.09	79.50	80.96	26.50	73.33	68.75	93.11
7	Co 13014	84.61	72.04	-	-	104.72	148.97	95.49	88.40	100.47	108.63	75.00	84.21	45.49	82.90	72.78	89.52
8	Co 13016	68.87	56.30	-	-	94.56	140.72	81.25	106.80	79.50	94.66	59.42	99.68	43.98	53.69	28.47	77.53
9	Co 13018	108.91	84.44	-	-	102.72	145.33	108.56	113.15	115.86	156.17	98.84	80.88	57.87	92.46	64.72	102.30
10	Co 13020	72.10	77.22	-	-	152.20	151.76	87.50	105.30	107.30	90.70	69.67	93.13	26.62	79.50	53.61	89.74
11	CoM 13082	81.71	85.56	-	-	142.20	145.33	107.41	125.00	101.04	75.48	86.04	85.76	35.30	69.22	56.11	92.01
12	CoN 13073	70.60	81.85	-	-	131.32	144.60	79.51	116.65	96.66	77.35	88.75	98.46	44.21	68.09	47.92	88.15
13	CoN 13074	76.62	84.81	-	-	127.81	145.81	81.48	108.80	99.33	92.16	75.84	89.01	33.91	62.64	44.31	86.35
14	CoSnk 13103	84.02	89.44	-	-	126.70	143.51	92.82	99.85	97.02	101.54	88.50	92.88	40.51	67.78	54.58	90.70
15	CoSnk 13104	73.03	83.15	-	-	112.57	135.26	80.90	99.20	100.83	80.27	83.17	89.12	42.82	65.93	35.28	83.19
16	CoSnk 13105	66.09	67.04	-	-	107.35	144.96	81.71	78.70	87.18	78.40	70.25	87.92	24.65	58.42	59.17	77.83
17	CoSnk 13106	73.26	78.15	-	-	125.11	144.48	94.56	91.55	84.99	78.60	89.67	82.07	30.44	72.71	62.50	85.24
18	CoT 13366	92.01	82.78	-	-	110.27	136.35	81.60	100.20	116.74	110.92	81.09	81.63	34.95	61.50	68.75	89.14
19	PI 13131	65.62	77.41	-	-	106.85	141.20	76.16	104.65	79.94	76.73	48.92	76.21	41.78	50.09	36.39	75.53
20	PI 13132	87.50	73.70	-	-	144.55	139.50	83.80	96.95	87.10	115.30	83.92	97.93	48.96	63.46	77.78	92.34
Standards																	
1	Co 86032	77.89	80.93	-	-	149.71	142.66	104.98	105.30	123.60	106.13	92.67	88.08	43.29	84.13	66.53	97.38
2	Co 99004	92.36	71.30	-	-	117.96	135.26	78.36	100.30	96.72	103.62	80.50	94.29	38.66	61.40	75.42	88.17
	GM	80.27	78.63			125.18	140.65	92.56	101.44	97.17	95.59	81.15	87.97	37.39	69.72	58.34	
	SE	14.14	4.26	-	-	-	5.99	2.55	-	1.64	8.66	4.68	4.59	8.91	4.12	3.04	
	CD	6.75	12.76	-	-	11.73	17.54	7.49	11.50	4.84	18.01	13.75	13.61	NS	12.12	8.65	
	CV	8.41	7.66	-	-	4.50	6.06	3.89	6.40	2.39	9.07	8.15	7.39	33.57	8.36	7.38	

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Table 2.10.19 Number of tillers ('000/ha) at 120 days

S No	Entries	Coimbatore	Akola	Kawar dha	Kolhapur	Man dya	Nav sari	Padegaon	Perumallapalle	Pravara nagar	Pugalur	Pune	Rudrur	Sameerwadi	Sanke shwar	Thiruvalla	Mean
1	Co 13005	111.13	67.04	-	118.87	141.56	121.77	122.57	159.95	113.44	110.51	155.88	76.07	41.78	67.68	51.39	104.26
2	Co 13006	125.62	64.44	-	123.84	139.74	129.57	124.31	118.90	115.10	114.88	137.75	79.56	60.30	86.50	67.50	106.29
3	Co 13008	117.65	60.37	-	136.69	195.96	151.80	130.56	106.70	96.79	120.72	146.18	58.80	61.46	115.91	42.08	110.12
4	Co 13009	108.68	77.41	-	121.76	152.91	143.43	119.44	121.20	103.85	130.94	139.72	73.86	45.02	111.80	67.92	108.42
5	Co 13011	98.63	71.48	-	107.52	131.24	149.49	103.13	137.75	88.66	109.46	126.49	74.97	44.79	81.35	47.78	98.05
6	Co 13013	122.16	79.26	-	127.55	192.56	160.61	126.39	115.10	83.63	131.36	126.88	69.92	41.09	89.38	63.89	109.27
7	Co 13014	108.72	60.19	-	128.13	139.87	161.62	124.31	93.30	103.78	119.89	120.31	68.31	59.49	97.50	65.00	103.60
8	Co 13016	101.10	57.22	-	76.97	110.79	148.63	91.32	160.45	83.51	108.63	90.04	77.92	47.11	59.76	29.72	88.80
9	Co 13018	132.02	83.15	-	116.44	155.78	152.81	114.24	137.75	122.95	167.43	136.50	75.63	66.32	95.55	61.25	115.56
10	Co 13020	85.88	63.33	-	105.09	198.20	162.78	106.25	136.35	116.92	136.98	129.17	81.99	42.82	112.83	49.59	109.16
11	CoM 13082	108.02	90.37	-	131.83	196.60	156.13	127.08	94.40	105.23	99.66	156.70	75.72	46.06	93.80	55.00	109.76
12	CoN 13073	93.13	67.59	-	77.31	136.54	162.34	89.58	140.30	104.18	112.80	137.69	84.86	52.20	98.02	44.17	100.05
13	CoN 13074	108.09	69.07	-	103.01	135.87	160.90	98.61	140.50	106.58	125.73	117.59	71.07	48.45	67.16	35.14	99.13
14	CoSnk 13103	120.86	85.56	-	114.58	136.62	150.07	110.07	116.85	103.72	109.88	168.84	82.23	59.61	99.56	49.03	107.68
15	CoSnk 13104	107.67	88.70	-	96.99	128.54	140.54	97.22	125.75	109.99	104.88	134.21	64.43	61.81	97.09	32.64	99.32
16	CoSnk 13105	96.34	75.37	-	98.84	125.49	148.34	100.00	159.50	97.04	116.13	94.04	68.15	48.73	99.15	53.34	98.60
17	CoSnk 13106	111.00	79.44	-	110.76	136.74	161.33	107.64	124.10	96.38	116.34	129.11	65.55	48.38	101.72	57.78	103.31
18	CoT 13366	130.12	70.19	-	92.36	127.44	148.63	96.53	120.75	127.89	141.99	126.50	66.09	37.15	72.20	65.97	101.70
19	PI 13131	89.94	76.85	-	89.47	129.52	159.46	92.01	141.90	83.58	107.38	101.62	53.89	49.54	84.75	36.81	92.62
20	PI 13132	121.00	58.52	-	90.97	164.17	144.01	92.01	100.35	95.76	156.38	116.32	81.62	68.63	79.50	72.50	102.98
	Standards																
1	Co 86032	111.29	70.93	-	117.13	177.26	152.09	119.10	123.65	132.49	123.85	157.31	58.20	51.50	94.11	64.72	110.97
2	Co 99004	109.33	67.96	-	73.61	123.98	144.30	90.97	121.15	101.30	100.71	133.38	75.22	42.71	78.58	68.47	95.12
	GM	109.93	72.02		107.26	148.97	150.48	108.33	127.12	104.22	121.21	131.01	72.00	51.13	90.18	53.71	
	SE	15.36	3.98	-	7.20	-	7.85	6.64	-	2.00	9.41	7.08	3.79	6.01	7.96	3.12	
	CD	7.34	11.93	-	21.79	21.10	22.98	19.53	13.40	5.90	19.57	20.83	11.23	17.67	23.40	8.89	
	CV	12.14	7.82	-	9.49	6.81	7.45	8.67	7.20	2.72	7.77	7.64	7.45	16.63	12.48	8.23	

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Table 2.10.20 Germination % at 30 days

S No	Entries	Coimbatore	Akola	Kawardha	Kolhapur	Man dya	Nav sari	Padegaon	Perumallapalle	Pravara nagar	Pugalur	Pune	Rudrur	Sameerwadi	Sanke shwar	Thiruvalla	Mean
1	Co 13005	58.27	37.00	-	38.95	36.57	44.51	32.29	53.10	43.42	60.00	35.88	42.12	48.00	33.32	49.22	43.76
2	Co 13006	68.46	40.57	-	38.37	34.72	41.86	31.25	65.40	43.36	56.04	39.12	52.53	52.00	30.20	46.23	45.72
3	Co 13008	35.36	39.00	-	49.65	54.63	49.89	45.83	69.60	54.25	82.50	42.94	43.00	67.00	65.25	48.45	53.38
4	Co 13009	51.97	35.57	-	45.23	58.10	42.56	44.79	77.55	43.26	76.46	46.30	46.15	54.00	53.57	61.78	52.66
5	Co 13011	55.49	37.43	-	42.44	38.77	45.44	35.42	71.15	40.44	63.96	41.28	44.57	48.00	44.89	42.23	46.54
6	Co 13013	58.07	45.86	-	49.19	37.50	55.25	46.88	64.35	33.43	83.96	43.29	43.27	56.00	39.22	49.89	50.44
7	Co 13014	63.38	34.86	-	44.07	56.48	51.23	37.50	55.15	49.83	73.75	42.65	42.45	59.00	60.51	55.89	51.91
8	Co 13016	65.91	40.57	-	45.12	33.68	48.03	42.19	78.60	33.00	76.04	38.89	44.42	63.00	48.94	29.67	49.15
9	Co 13018	52.78	39.86	-	38.02	41.44	48.04	28.65	69.05	52.68	90.00	34.14	43.29	55.00	46.28	48.34	49.11
10	Co 13020	58.30	48.14	-	45.12	56.25	51.92	44.79	82.60	50.06	75.00	52.32	44.59	73.00	58.08	42.33	55.89
11	CoM 13082	49.25	37.29	-	49.07	56.48	47.24	45.31	59.85	41.59	36.04	48.38	44.50	60.00	29.39	44.67	46.36
12	CoN 13073	49.33	34.86	-	41.86	35.19	52.58	34.90	65.75	41.39	63.54	43.29	45.14	54.00	38.18	45.89	46.14
13	CoN 13074	41.33	44.57	-	42.79	36.81	54.64	35.94	64.90	42.72	88.96	46.65	48.59	44.00	34.02	45.45	47.96
14	CoSnk 13103	43.56	38.57	-	44.07	35.30	54.70	39.58	65.40	36.72	68.33	49.31	48.67	66.00	35.52	46.56	48.02
15	CoSnk 13104	51.00	39.43	-	37.44	44.68	49.92	28.65	76.35	50.03	64.17	40.97	44.00	53.00	39.80	35.00	46.75
16	CoSnk 13105	42.11	51.14	-	46.16	55.67	45.90	45.31	75.50	44.26	70.21	44.79	44.01	51.00	41.65	50.67	50.60
17	CoSnk 13106	52.44	45.71	-	51.98	43.17	44.04	49.48	68.35	40.22	56.88	46.29	49.44	52.00	38.53	49.34	49.13
18	CoT 13366	42.00	31.14	-	39.19	34.72	46.63	34.38	47.90	51.95	92.71	39.59	39.75	42.00	38.18	65.34	46.11
19	PI 13131	52.89	31.43	-	44.53	45.60	46.73	41.15	68.70	30.72	81.67	44.96	37.09	52.00	48.71	42.89	47.79
20	PI 13132	48.80	28.43	-	43.14	50.46	55.33	35.94	85.00	46.80	92.08	39.81	48.96	62.00	36.45	65.89	52.79
	Standards																
1	Co 86032	61.73	49.29	-	46.28	34.38	47.24	44.27	62.65	53.11	71.88	43.17	36.96	52.00	43.85	64.78	50.83
2	Co 99004	53.50	48.14	-	43.95	35.53	46.63	36.46	72.00	35.24	78.75	42.74	48.14	56.00	38.76	62.00	49.85
	GM	52.54	39.95		43.94	43.46	48.65	39.13	68.13	43.57	72.86	43.03	44.62	55.41	42.88	49.66	
	SE	9.08	4.14	-	3.43	-	2.09	2.81	-	1.53	5.64	1.18	2.21	3.18	4.06	2.41	
	CD	4.34	12.41	-	NS	10.38	6.12	8.26	7.30	4.52	11.74	3.46	6.54	9.34	11.95	6.86	
	CV	4.45	14.65	-	11.05	11.48	6.04	10.15	5.40	4.99	7.75	3.87	7.00	8.11	13.40	6.87	

2.10.21. Assessment of entries by monitoring team

Entry / Locations	Perumalapalle	Pugalur	Coimbatore	Thiruvalla	Mandya	Sankeshwar	Sameerwadi	Kohlapur
Co 13005	On-par	Better	Better	On-par	Poor	On-par	Poor	On-par
Co 13006	Poor	On-par	On-par	On-par	On-par	On-par	Better	Better
Co 13008	On-par	Better	Better	On-par	Better	Better	Better	Better
Co 13009	Poor	On-par	On-par	On-par	On-par	Poor	On-par	Better
Co 13011	Poor	On-par	On-par	Poor	On-par	On-par	Poor	Better
Co 13013	Better	On-par	Better	Poor	Better	On-par	On-par	Better
Co 13014	On-par	On-par	Better	On-par	On-par	On-par	Better	On-par
Co 13016	On-par	Poor	Poor	Poor	Poor	Poor	On-par	Poor
Co 13018	On-par	Poor	On-par	Poor	Poor	On-par	Poor	Poor
Co 13020	Poor	On-par	Poor	Poor	Better	On-par	On-par	On-par
CoM 13082	On-par	Poor	Better	Poor	Better	Better	Poor	On-par
CoN 13073	On-par	Better	Better	Poor	On-par	On-par	Better	Better
CoN 13074	On-par	Poor	On-par	Poor	On-par	On-par	Better	Poor
CoSnk 13103	Poor	Poor	Better	On-par	On-par	On-par	Better	Better
CoSnk 13104	On-par	Poor	On-par	Poor	On-par	Better	On-par	On-par
CoSnk 13105	On-par	On-par	Poor	On-par	Poor	Poor	Poor	On-par
CoSnk 13106	On-par	Poor	On-par	Poor	On-par	On-par	On-par	Better
CoT 13366	On-par	On-par	On-par	On-par	On-par	Poor	On-par	On-par
PI 13131	On-par	Poor	On-par	Poor	Poor	Poor	Poor	Poor
PI 13132	On-par	On-par	Better	Poor	On-par	On-par	Better	Poor
Best standard	Co 86032	Co 86032	Co 86032, Co 99004	Co 86032	Co 86032	Co 86032	Co 86032	Co 86032

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Entries	Navsari	Pune	Padegaon	Pravaranagar	Akola	Pawarkheda	Rudrur
Co 13005	On par	On par	On par	On par	Poor		Better
Co 13006	On par	On par	On par	On par	Poor	P	On par
Co 13008	On par	On par	On par	Better	Poor		On par
Co 13009	On par	On par	On par	On par	Poor		Better
Co 13011	On par	On par	On par	On par	Better		On par
Co 13013	Better	Better	On par	On par	On par		On par
Co 13014	On par	On par	On par	Better	Better	O	On par
Co 13016	On par	Poor	Better	Poor	Poor		Better
Co 13018	On par	On par	On par	On par	Better		On par
Co 13020	On par	Poor	On par	Better	On par		Better
CoM 13082	On par	On par	On par	On par	On par		Better
CoN 13073	On par	On par	On par	Better	On par	O	On par
CoN 13074	On par	Better	On par	Better	Better		On par
CoSnk 13103	Better	On par	On par	On par	Better		On par
CoSnk 13104	Better	Better	On par	Better	On par		On par
CoSnk 13105	On par	Better	On par	On par	Poor		Better
CoSnk 13106	On par	On par	On par	On par	On par		On par
CoT 13366	On par	On par	Better	Better	Better		On par
PI 13131	Better	Poor	On par	On par	Better	R	On par
PI 13132	On par	Poor	Better	Better	Poor		On par
Co 860324(C)	Best	Best	Best	Best	Best		Best
Co 99004(C)	On par	On par	On par	Better	Better		Better

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

Six AICRP(S) trials have been planned in the zone during 2016-17. The number of trials conducted at each center during 2016-17 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
1	Anakapalle	C	C	C	C	C	C
2	Cuddalore	C	C	C	C	C	C
3	Nayagarh	C	C	C	C	C	C
4	Nellikuppam	C	C	C	C	C	C
5	Vuyyuru	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 12321, CoA 12322, CoA 12323, CoOr 12346 and CoV 12356
Standards (3)	Co 6907, CoC 01061 and CoA 92081
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
Bud rate	12 buds/ metre
Planting time	February, 2016
Crop duration	10 months

Results of the previous year

The entries were evaluated at five centres along with three standards. The entry CoA 12323 was the best in the zone for CCS yield (15.68 t/ha) and CoA 12322 for cane yield (125.55 t/ha). However, for juice quality the standard CoC 01061 was best in the zone with CCS % of 12.58 and sucrose content of 17.65 %. The best entry CoA 12323 recorded a CCS % of 12.47 % and sucrose % of 17.57 %, respectively.

Results of the current year

The entry CoA 12323 was the best performer across locations for CCS yield (14.63 t/ha) and recorded the second highest cane yield (121.38 t/ha), while CoA 12322 was the best in the trial for cane yield of (121.57 t/ha). The standard CoC 01061 recorded the highest mean CCS % of 12.26% and sucrose content of 17.45 % across locations followed by the entries CoV 12356 (12.15 %) and CoA 12323 (12.13 %) for CCS and CoA 12323 (17.28 %) and CoV 12356 (17.21 %) for sucrose respectively. Based on the yield and juice quality parameters CoA 12323 was identified as qualifying entry across the locations as it recorded more than 10% improvement in cane yield and numerically superior performance for juice sucrose compared to the best standard CoA 92081. 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 pale	Cuddalore	Nayagarh #	Nellikuppam	Vuyyuru	Mean	Rank
1	CoA 12321	11.88	17.06*	13.45	14.87	10.40	13.53	3
2	CoA 12322	12.65	17.45*	14.68*	15.17	10.37	14.06	2
3	CoA 12323	12.44	16.04*	13.86	20.23	10.59	14.63	1
4	CoOr 12346	11.16	14.94	16.60*	10.64	8.08	12.28	
5	CoV 12356	13.63	15.71*	13.89	13.95	10.37	13.51	
	Standards							
1	Co 6907	10.80	11.99	11.61	13.68	8.40	11.30	
2	CoC 01061	11.04	14.20	12.37	15.80	11.74	13.03	
3	CoA 92081	11.67	14.29	12.36	19.29	8.51	13.22	
	GM	11.91	15.21	13.60	15.45	9.81		
	SE	0.69	0.62	0.57	1.01	0.66		
	CD	2.12	1.31	1.73	2.17	2.00		
	CV	10.14	4.97	7.28	8.03	11.70		
Qualifying entries at each location								
	1	CoV 12356	CoA 12322	CoOr 12346	-	-	CoA 12323	
	2	-	CoA 12321	CoA 12322	-	-	-	
	3	-	CoA 12323	CoV 12356	-	-	-	

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: CoA 12321 (1), CoA 12322 (2), CoA 12323 (2) CoOr 12346 (1) and CoV 12356 (2)

Performance of the entries across locations: The entry CoA 12323 (14.63 t/ha) was the best in the trial followed by CoA 12322 (14.06 t/ha) and CoA 12321 (13.53 t/ha) while the best standard CoA 92081 recorded 13.22 t/ha. The entry CoA 12323 recorded more than 10 % improvement over the best standard at Nayagarh centre and occupied fourth position. The qualifying entry CoA 12323 recorded 10.68 % improvement over the best standard CoA 92081 across the locations.

Table 3.1.2 Cane yield (t/ha) at harvest

S. No .	Entry	Anaka palle	Cuddalore	Nayagarh #	Nellikup pam	Vuyyuru	Mean	Rank
1	CoA 12321	94.87	135.92*	111.23	140.74	115.43	119.64	3
2	CoA 12322	102.94	137.17*	120.49	141.78	105.45	121.57	1
3	CoA 12323	92.67	124.81	117.33	177.95*	94.14	121.38	2
4	CoOr 12346	89.13	117.85	134.54*	92.46	75.82	101.96	
5	CoV 12356	100.56	122.74	117.44	125.58	90.53	111.37	
	Standards							
1	Co 6907	84.16	99.81	99.28	117.19	87.76	97.64	
2	CoC 01061	85.56	111.47	106.44	125.87	101.95	106.26	
3	CoA 92081	88.61	114.56	106.58	157.06	81.89	109.74	
	GM	92.31	120.54	114.17	134.83	94.12		
	SE	5.43	5.04	4.77	8.10	6.94		
	CD	16.51	10.68	14.46	17.39	21.05		
	CV	10.18	5.12	7.24	7.36	12.80		
	Qualifying entries at each location							
	1	CoA 12322	CoA 12322	CoOr 12346	CoA 12323	CoA 12321	CoA 12322	
	2	CoV 12356	CoA 12321	CoA 12322	-	-	CoA 12323	
	3	-	-	CoV 12356	-	-	-	

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: CoA 12321 (2), CoA 12322 (3), CoA 12323 (2) CoOr 12346 (1) and CoV 12356 (2)

Performance of the entries across locations: The entry CoA 12322 was the best in the trial which recorded the highest cane yield of (121.57 t/ha) followed by CoA 12323 (121.38 t/ha) and CoA 12321 (119.64 t/ha). The best standard CoA 92081 recorded (109.74 t/ha) cane yield. The entry CoA 12323 recorded more than 10 % improvement over the best standard at Nayagarh centre and occupied fourth position. The entries CoA 12322 and CoA 12323 recorded 10.77 % and 10.60 % improvement over the best standard CoA 92081 across the locations.

Table 3.1.3 CCS % at 10th month

S. No.	Entry	Anakap alle	Cuddalore	Nayagarh	Nellikuppam	Vuyyuru	Mean	Rank
1	CoA 12321	12.52	12.55	12.12*	10.56	9.02	11.35	
2	CoA 12322	12.29	12.72	12.08	10.70	9.87	11.53	
3	CoA 12323	13.39	12.85	11.81	11.36	11.22	12.13	3
4	CoOr 12346	12.58	12.68	12.34*	11.51	10.67	11.96	
5	CoV 12356	13.54	12.80	11.83	11.11	11.46	12.15	2
	Standards							
1	Co 6907	12.82	12.02	11.69	11.67	9.59	11.56	
2	CoC 01061	12.91	12.74	11.54	12.57	11.55	12.26	1
3	CoA 92081	13.18	12.47	11.60	12.28	10.39	11.98	
	GM	12.90	12.60	11.88	11.47	10.47		
	SE	0.22	0.10	0.11	0.09	0.20		
	CD	0.65	0.21	0.35	0.20	0.62		
	CV	2.89	0.98	1.66	0.98	3.40		
	Qualifying entries at each location							
	1	-	-	CoOr 12346	-	-	-	
	2	-	-	-	-	-	-	
	3	-	-	-	-	-	-	

*Significant over the best standard

No. of locations where an entry recorded 5 % improvement over the best standard: CoOr 12346 (1)

Performance of the entries across locations: The standard CoC 01061 recorded the highest mean CCS % of 12.26 followed by the entries CoV 12356 (12.15 %) and CoA 12323 (12.13 %).

Table 3.1.4 Sucrose % at 10th month

S. No.	Entry	Anaka palle	Cuddalore	Naya garh	Nellikuppam	Vuyyuru	Mean	Rank
1	CoA 12321	18.36	17.38	17.33*	15.39	13.33	16.36	
2	CoA 12322	17.66	17.71	17.30*	15.52	14.32	16.50	
3	CoA 12323	19.17	17.87	16.96	16.46	15.92	17.28	2
4	CoOr 12346	18.30	17.58	17.63*	16.63	15.34	17.10	
5	CoV 12356	19.11	17.76	17.04	16.10	16.02	17.21	3
	Standards							
1	Co 6907	18.55	16.87	16.84	16.86	13.60	16.54	
2	CoC 01061	18.55	17.73	16.57	18.03	16.37	17.45	1
3	CoA 92081	19.12	17.38	16.71	17.74	14.86	17.16	
	GM	18.60	17.54	17.05	16.59	14.97		
	SE	0.25	0.15	0.36	0.13	0.26		
	CD	0.77	0.31	0.41	0.28	0.80		
	CV	2.36	1.02	1.37	0.96	3.00		
	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 location.

Performance of the entries across locations: The standard CoC 01061 recorded the highest sucrose % of 17.45 across the locations followed by the entries CoA 12323 (17.28 %) and CoV 12356 (17.21 %).

Table 3.1.5 Brix % at 10th month

S. No.	Entry	Anaka palle	Cuddalore	Nayagarh	Nelliku ppam	Vuyyuru	Mean
1	CoA 12321	21.37	20.68	19.15	17.70	16.57	19.09
2	CoA 12322	19.70	20.64	19.19	17.69	17.21	18.89
3	CoA 12323	21.24	20.82	18.92	18.69	18.32	19.60
4	CoOr 12346	20.95	20.53	19.45	18.80	18.12	19.57
5	CoV 12356	20.50	21.02	19.15	18.30	17.86	19.37
	Standards						
1	Co 6907	21.01	19.88	18.91	19.06	15.63	18.90
2	CoC 01061	20.72	20.67	18.46	20.06	18.80	19.74
3	CoA 92081	21.77	20.60	18.72	20.02	17.29	19.68
	GM	20.91	20.61	18.99	18.79	17.48	
	SE	20.85	0.17	0.16	0.14	0.31	
	CD	20.99	0.36	0.48	0.30	0.95	
	CV	20.96	1.02	1.45	0.92	3.10	

Table 3.1.6 Purity % at 10th month

S. No.	Entry	Anaka palle	Cuddalore	Nayagarh	Nelliku ppam	Vuyyuru	Mean
1	CoA 12321	85.93	89.12	90.48	86.98	80.45	86.59
2	CoA 12322	89.65	88.95	90.14	87.73	83.21	87.94
3	CoA 12323	90.32	90.42	89.66	88.03	86.91	89.07
4	CoOr 12346	87.44	89.89	90.68	88.46	84.66	88.23
5	CoV 12356	93.30	90.42	89.00	87.98	89.70	90.08
	Standards						
1	Co 6907	88.32	87.81	89.09	88.49	87.04	88.15
2	CoC 01061	89.60	90.35	89.62	89.88	79.08	87.71
3	CoA 92081	87.83	88.82	89.27	88.60	94.68	89.84
	GM	89.05	89.47	89.74	88.27	85.72	
	SE	1.14	0.80	0.61	0.09	0.83	
	CD	3.46	2.12	NS	0.20	2.52	
	CV	2.22	1.20	1.19	0.13	1.70	

Table 3.1.7 Pol % cane at harvest

S. No.	Entry	Anaka palle	Cuddalore	Nayagarh	Nelliku ppam	Vuyyuru	Mean
1	CoA 12321	14.42	13.62	-	12.64	-	13.56
2	CoA 12322	13.84	13.58	-	12.75	-	13.39
3	CoA 12323	14.98	13.75	-	13.53	-	14.09
4	CoOr 12346	14.24	13.72	-	13.66	-	13.87
5	CoV 12356	15.16	13.91	-	13.22	-	14.10
	Standards						
1	Co 6907	14.36	12.89	-	13.83	-	
2	CoC 01061	14.42	13.84	-	14.81	-	13.69
3	CoA 92081	14.94	13.02	-	14.57	-	14.36
	GM	14.55	13.54	-	13.63	-	14.18
	SE	0.18	0.23	-	0.11	-	
	CD	0.57	0.48	-	0.23	-	
	CV	2.22	2.05	-	0.96	-	

Table 3.1.8 Extraction % at harvest

S. No.	Entry	Anakapalle	Cuddalore	Nayagarh	Nellikuppam	Vuyyuru	Mean
1	CoA 12321	60.07	49.14	51.22	-	-	53.48
2	CoA 12322	64.94	50.18	53.48	-	-	56.20
3	CoA 12323	63.02	50.66	52.29	-	-	55.32
4	CoOr 12346	61.77	49.76	54.74	-	-	55.42
5	CoV 12356	62.82	50.21	51.81	-	-	54.95
	Standards						
1	Co 6907	57.29	49.38	49.39	-	-	52.02
2	CoC 01061	56.27	50.42	50.84	-	-	52.51
3	CoA 92081	59.03	50.02	49.50	-	-	52.85
	GM	60.65	49.97	51.66	-	-	
	SE	1.41	0.21	0.72	-	-	
	CD	4.29	0.45	2.18	-	-	
	CV	4.03	0.52	2.41	-	-	

Table 3.1.9 Fibre % at harvest

S. No.	Entry	Anakapalle	Cuddalore	Nayagarh	Nellikuppam	Vuyyuru	Mean
1	CoA 12321	16.43	13.62	15.45	12.87	-	14.59
2	CoA 12322	16.63	13.27	14.76	12.83	-	14.37
3	CoA 12323	16.88	12.98	14.55	12.81	-	14.31
4	CoOr 12346	17.17	13.53	13.12	12.84	-	14.17
5	CoV 12356	15.71	13.48	13.63	12.9	-	13.93
	Standards	16.43	13.62	15.45	12.87		14.59
1	Co 6907	17.61	13.15	14.46	13.01	-	14.56
2	CoC 01061	17.24	12.95	14.00	12.87	-	14.27
3	CoA 92081	16.86	12.68	14.87	12.89	-	14.33
	GM	16.82	13.21	14.36	12.88	-	
	SE	0.54	0.27	0.23	0.06	-	
	CD	1.63	0.58	0.71	0.13	-	
	CV	5.53	2.54	2.83	0.59	-	

Table 3.1.10 NMC ('000/ha) at harvest

S. No.	Entry	Anakapalle	Cuddalore	Nayagarh	Nellikuppam	Vuyyuru	Mean
1	CoA 12321	96.29	116.85	111.86	149.95	75.00	109.99
2	CoA 12322	87.65	117.93	120.97	146.30	69.14	108.40
3	CoA 12323	69.75	110.68	132.21	143.52	62.04	103.64
4	CoOr 12346	79.52	115.42	139.44	144.59	58.95	107.58
5	CoV 12356	78.91	107.45	121.78	148.46	71.30	105.58
	Standards						
1	Co 6907	90.12	109.60	114.07	147.53	74.07	107.08
2	CoC 01061	92.90	118.42	118.32	153.08	83.03	113.15
3	CoA 92081	82.51	105.16	119.29	143.83	65.12	103.18
	GM	84.71	112.69	122.24	147.16	69.83	
	SE	2.73	5.70	5.24	8.61	4.41	
	CD	8.31	12.08	15.88	18.46	13.38	
	CV	5.58	6.19	7.42	7.16	10.90	

Table 3.1.11 Stalk length (cm)

S. No.	Entry	Anakapalle	Cuddalore	Nayagarh	Nellikuppam	Vuyyuru	Mean
1	CoA 12321	242.78	280.00	304.00	256.67	239.90	264.67
2	CoA 12322	265.49	294.33	294.00	266.67	249.60	274.02
3	CoA 12323	279.50	277.33	279.70	238.33	232.40	261.45
4	CoOr 12346	237.85	271.33	321.30	193.33	223.90	249.54
5	CoV 12356	266.63	265.33	223.30	251.67	214.90	244.37
	Standards						
1	Co 6907	239.11	264.00	226.70	220.00	246.90	239.34
2	CoC 01061	286.74	273.33	240.30	255.00	235.80	258.23
3	CoA 92081	273.85	263.33	226.70	258.33	201.70	244.78
	GM	261.49	273.62	264.50	242.50	230.64	
	SE	6.22	6.51	10.97	14.32	8.61	
	CD	18.91	13.82	33.28	30.72	26.12	
	CV	4.12	2.92	7.18	7.23	6.50	

Table 3.1.12 Stalk diameter (cm)

S. No.	Entry	Anakapalle	Cuddalore	Nayagarh	Nellikuppam	Vuyyuru	Mean
1	CoA 12321	2.82	2.87	2.33	2.73	2.65	2.68
2	CoA 12322	2.94	2.78	2.10	2.67	2.64	2.63
3	CoA 12323	2.98	2.75	2.13	3.27	3.32	2.89
4	CoOr 12346	2.72	2.62	2.33	1.67	2.03	2.27
5	CoV 12356	2.99	2.71	2.30	2.40	2.61	2.60
	Standards						
1	Co 6907	2.30	2.61	2.20	2.20	2.57	2.38
2	CoC 01061	2.25	2.37	1.77	1.53	2.26	2.04
3	CoA 92081	2.95	2.63	2.13	2.87	2.75	2.67
	GM	2.74	2.67	2.16	2.42	2.60	
	SE	0.05	0.08	0.10	0.12	0.11	
	CD	0.14	0.17	0.30	0.26	0.32	
	CV	2.88	3.75	7.90	6.12	7.10	

Table 3.1.13 Single cane weight (kg)

S. No.	Entry	Anakapalle	Cuddalore	Nayagarh	Nellikuppam	Vuyyuru	Mean
1	CoA 12321	1.21	1.23	1.28	1.27	1.24	1.25
2	CoA 12322	1.16	1.31	1.24	0.87	1.38	1.19
3	CoA 12323	1.73	1.19	1.35	1.48	1.71	1.49
4	CoOr 12346	1.23	1.25	1.56	0.52	0.79	1.07
5	CoV 12356	1.53	1.37	1.24	1.27	1.11	1.30
	Standards						
1	Co 6907	1.07	1.10	1.14	0.93	0.91	1.03
2	CoC 01061	0.96	1.06	1.04	0.77	0.91	0.95
3	CoA 92081	1.25	1.26	1.21	1.25	1.03	1.20
	GM	1.27	1.22	1.26	1.05	1.14	
	SE	0.06	0.07	0.03	0.05	0.06	
	CD	0.19	0.16	0.09	0.11	0.14	
	CV	8.81	7.39	4.20	5.86	7.00	

Table 3.1.14 CCS % at 8 months

S. No.	Entry	Anakapalle	Cuddalore	Nayagarh	Nellikuppam	Vuyyuru	Mean
1	CoA 12321	9.74	10.48	-	9.68	-	9.97
2	CoA 12322	10.23	10.45	-	9.86	-	10.18
3	CoA 12323	10.80	10.64	-	10.63	-	10.69
4	CoOr 12346	9.83	10.31	-	11.20	-	10.45
5	CoV 12356	9.31	10.70	-	10.41	-	10.14
	Standards						
1	Co 6907	9.21	10.15	-	11.22	-	10.19
2	CoC 01061	10.24	10.53	-	12.23	-	11.00
3	CoA 92081	10.17	10.21	-	11.43	-	10.60
	GM	9.94	10.43	-	10.83	-	
	SE	0.38	0.15	-	0.13	-	
	CD	1.16	0.32	-	0.27	-	
	CV	6.65	1.76	-	1.44	-	

Table 3.1.15 Sucrose % at 8 months

S. No.	Entry	Anakapalle	Cuddalore	Nayagarh	Nellikuppam	Vuyyuru	Mean
1	CoA 12321	14.62	15.36	-	14.22	-	14.73
2	CoA 12322	15.05	15.31	-	14.44	-	14.93
3	CoA 12323	15.79	15.41	-	15.56	-	15.59
4	CoOr 12346	14.66	15.18	-	16.26	-	15.37
5	CoV 12356	14.27	15.57	-	15.21	-	15.02
	Standards						
1	Co 6907	13.79	14.84	-	16.34	-	
2	CoC 01061	15.42	15.30	-	17.61	-	14.99
3	CoA 92081	15.24	14.96	-	16.63	-	16.11
	GM	14.86	15.24	-	15.78	-	15.61
	SE	0.33	0.18	-	0.17	-	
	CD	0.98	0.38	-	0.37	-	
	CV	3.79	1.45	-	1.34	-	

Table 3.1.16 Brix % at 8 months

S. No.	Entry	Anakapalle	Cuddalore	Nayagarh	Nellikuppam	Vuyyuru	Mean
1	CoA 12321	17.81	19.45	-	16.62	-	17.96
2	CoA 12322	17.61	19.47	-	16.76	-	17.95
3	CoA 12323	18.28	19.98	-	18.05	-	18.77
4	CoOr 12346	17.63	19.15	-	18.55	-	18.44
5	CoV 12356	18.07	20.10	-	17.58	-	18.58
	Standards	17.81	19.45		16.62		17.96
1	Co 6907	16.74	19.22	-	18.77	-	18.24
2	CoC 01061	18.88	19.97	-	19.76	-	19.54
3	CoA 92081	18.5	19.3	-	19.07	-	18.96
	GM	17.94	19.58	-	18.15	-	
	SE	0.32	0.25	-	0.17	-	
	CD	0.96	0.53	-	0.37	-	
	CV	3.06	1.57	-	1.15	-	

Table 3.1.17 Purity % at 8 months

S. No.	Entry	Anakapalle	Cuddalore	Nayagarh	Nellikuppam	Vuyyuru	Mean
1	CoA 12321	82.25	84.38	-	85.60	-	84.08
2	CoA 12322	85.63	85.24	-	86.14	-	85.67
3	CoA 12323	86.51	85.30	-	86.19	-	86.00
4	CoOr 12346	83.21	85.19	-	87.66	-	85.35
5	CoV 12356	79.04	85.65	-	86.52	-	83.74
	Standards						
1	Co 6907	82.53	83.51	-	87.05	-	84.36
2	CoC 01061	81.73	85.27	-	89.13	-	85.38
3	CoA 92081	82.38	84.45	-	87.19	-	84.67
	GM	82.91	84.87	-	86.94	-	
	SE	2.78	0.46	-	0.22	-	
	CD	8.45	0.98	-	0.46	-	
	CV	5.81	0.67	-	0.30	-	

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

S. No.	Entry	Anakapalle	Cuddalore	Nayagarh	Nellikuppam	Vuyyuru	Mean
1	CoA 12321	101.44	122.95	118.11	166.10	82.01	118.12
2	CoA 12322	91.97	120.84	129.76	166.75	81.17	118.10
3	CoA 12323	76.85	119.66	142.83	166.05	67.80	114.64
4	CoOr 12346	84.47	119.96	160.33	155.55	72.63	118.59
5	CoV 12356	87.04	117.83	130.64	167.29	79.84	116.53
	Standards						
1	Co 6907	95.57	113.84	120.90	159.26	83.75	114.66
2	CoC 01061	105.04	125.60	127.01	164.51	98.97	124.23
3	CoA 92081	87.96	109.17	128.46	163.27	68.11	111.39
	GM	91.29	118.73	132.26	163.60	79.28	
	SE	2.98	4.43	5.59	9.65	4.78	
	CD	9.07	9.39	16.96	20.70	14.49	
	CV	5.66	4.56	7.32	7.05	10.40	

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

S. No.	Entry	Anakapalle	Cuddalore	Nayagarh	Nellikuppam	Vuyyuru	Mean
1	CoA 12321	117.69	133.07	112.15	183.95	111.21	131.61
2	CoA 12322	112.04	132.40	123.13	186.82	111.73	133.22
3	CoA 12323	95.06	127.96	136.45	184.18	93.83	127.50
4	CoOr 12346	115.95	129.31	155.44	176.23	118.00	138.99
5	CoV 12356	98.97	124.77	125.00	188.58	106.48	128.76
	Standards						
1	Co 6907	119.96	125.26	125.39	184.53	109.36	132.90
2	CoC 01061	135.60	135.17	114.53	187.07	134.57	141.39
3	CoA 92081	98.56	117.60	124.22	173.46	93.11	121.39
	GM	111.73	128.19	127.04	183.10	109.79	
	SE	4.82	5.16	6.09	10.71	7.34	
	CD	14.66	10.95	18.45	22.97	22.25	
	CV	7.47	4.93	8.30	7.16	11.80	

Table 3.1.20 Germination % at 30 days

S. No.	Entry	Anakapalle	Cuddalore	Nayagarh	Nellikuppam	Vuyyuru	Mean
1	CoA 12321	64.35	62.39	57.33	87.85	57.41	65.87
2	CoA 12322	53.78	61.12	53.33	90.39	55.02	62.73
3	CoA 12323	44.83	73.90	61.60	72.45	54.24	61.40
4	CoOr 12346	47.61	50.57	62.07	72.69	61.73	58.93
5	CoV 12356	43.75	51.32	53.60	78.82	51.39	55.78
	Standards						
1	Co 6907	52.77	55.15	55.13	80.67	56.56	60.06
2	CoC 01061	60.11	74.38	52.23	74.42	52.24	62.68
3	CoA 92081	52.62	48.51	49.37	65.86	54.09	54.09
	GM	52.48	59.67	55.58	77.89	55.34	
	SE	3.26	3.36	2.33	5.72	2.86	
	CD	9.91	7.12	7.06	12.26	NS	
	CV	10.76	6.90	7.26	8.99	8.90	

Table 3.1.21 Assessment of entries by monitoring team

	Nellikuppam	Cuddalore	Vuyyuru	Anakapalle	Nayagarh
CoA 12321	Poor	On par	Better	Better	Better
CoA 12322	On par	Better	Better	Better	Better
CoA 12323	Better	Poor	On par	On par	On par
CoOr 12346	On par	Poor	Poor	Better	Better
CoV 12356	On par	Poor	Poor	Better	On par
Standards					
Co 6907					
CoC 01061	Best	Best	Best	Best	Best
CoA 92081					

3.2 ADVANCED VARIETAL TRIAL (EARLY – RATOON)

Centres (5)	Anakapalle, Cuddalore, Nayagarh, Nellikuppam and Vuyyuru
Entries (5)	CoA 12321, CoA 12322, CoA 12323, CoOr 12346 and CoV 12356
Standards (3)	Co 6907, CoC 01061 and CoA 92081
Design	RBD
Replications	Three
Plot size	Gross : 8 Rows x 6m x 0.9 m Net : 6 Rows x 5m x 0.9 m
Planting time	April / May, 2016
Crop duration	9 months

Results of the previous year

The entries were evaluated at five centres along with three standards. The entry CoA 12323 was the best in the zone for CCS yield (15.68 t/ha) and CoA 12322 for cane yield (125.55 t/ha). However, for juice quality the standard CoC 01061 was best in the zone with CCS % of 12.58 and sucrose content of 17.65 %. The best entry CoA 12323 recorded a CCS % of 12.47 and sucrose % of 17.57 respectively.

Results of the current year

The entry CoA 12323 was the best performer across locations for CCS yield (12.43 t/ha) and CoA 12322 for cane yield (106.61 t/ha). The next best entries for yield were CoA 12321 (103.67 t/ha) and CoA 12323 (102.96 t/ha), respectively. For juice quality, CoA 12323 was the top ranking entry across locations with CCS % of 12.41 and sucrose content of 17.74 % followed by CoV 12356 (12.13 % and 17.37 %) and the standard CoC 01061 (12.00 % and 17.20 %) respectively. 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 12321	10.21	15.21*	9.80	13.73	10.09	11.81	3
2	CoA 12322	12.08	15.47*	9.54	11.91	10.04	11.81	3
3	CoA 12323	10.25	15.08*	10.05	15.25	11.52	12.43	1
4	CoOr 12346	9.43	14.08	10.94*	8.48	6.42	9.87	
5	CoV 12356	11.04	14.66*	9.68	12.68	11.75	11.96	2
Standards								
1	Co 6907	9.20	11.29	9.61	12.35	8.64	10.22	
2	CoC 01061	8.96	12.74	9.72	13.55	11.18	11.23	
3	CoA 92081	9.88	13.21	9.34	12.34	9.61	10.88	
	GM	10.13	13.97	9.84	12.54	9.91		
	SE	0.79	0.67	0.25	0.97	0.58		
	CD	2.42	1.41	0.75	2.08	1.76		
	CV	13.59	5.84	4.38	9.49	10.20		
Qualifying entries at each location								
	1	CoA 12322	CoA 12322	CoOr 12346	CoA 12323	-	CoA 12323	
	2	CoV 12356	CoA 12321	-	-	-	-	
	3	-	CoA 12323	-	-	-	-	

#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: CoA 12321 (1), CoA 12322 (2), CoA 12323 (2) CoOr 12346 (1) and CoV 12356 (2)

Performance of the entries across locations: The entry CoA 12323 (12.43 t/ha) was the best in the trial followed by CoV 12356 (11.96 t/ha), CoA 12321 and CoA 12322 (11.81 t/ha) while the best standard CoC 01061 recorded 11.23 t/ha. The entry CoV 12356 recorded more than 10 % improvement over the best standard at Cuddalore centre and occupied fourth position. The entry CoA 12323 recorded 10.69 % improvement over the best standard CoC 01061 across the locations.

Table 3.2.2 Cane yield (t/ha) at harvest

S. No.	Entry	Anakapalle	Cuddalore	Naya garh	Nellikuppam	Vuyyuru	Mean	Rank
1	CoA 12321	87.15	121.21*	81.29	137.03	91.67	103.67	2
2	CoA 12322	99.17*	122.49*	81.32	140.58	89.51	106.61	1
3	CoA 12323	76.21	118.57*	84.91	153.94*	81.17	102.96	3
4	CoOr 12346	74.43	110.92	90.72*	91.69	51.23	83.80	
5	CoV 12356	86.31	115.24	83.08	124.62	88.27	99.50	
Standards								
1	Co 6907	74.71	94.38	82.35	111.50	74.38	87.46	
2	CoC 01061	73.53	100.52	83.63	131.56	84.67	94.78	
3	CoA 92081	78.21	105.59	78.77	122.69	80.86	93.22	
	GM	81.22	111.12	83.26	126.70	80.22		
	SE	5.43	4.88	1.98	9.80	4.25		
	CD	16.51	10.34	5.99	21.02	12.90		
	CV	11.57	5.37	4.11	9.47	9.2		
Qualifying entries at each location								
	1	CoA 12322	CoA 12322	-	CoA 12323	-	CoA 12322	
	2	CoA 12321	CoA 12321	-	-	-	-	
	3	CoV 12356	CoA 12323	-	-	-	-	

No. of locations where an entry recorded 10 % improvement over the best standard: CoA 12321 (2), CoA 12322 (2), CoA 12323 (2) and CoV 12356 (1)

Performance of the entries across locations: The entry CoA 12322 was the best in the trial which recorded the highest cane yield of (106.61 t/ha) followed by CoA 12321 (103.67 t/ha) and CoA 12323 (102.96 t/ha). The best standard CoC 01061 recorded 94.78 t/ha. The entry CoA 12322 recorded 12.49 % improvement over the best standard CoC 01061 across the locations.

Table 3.2.3 CCS % at 9th month

S. No.	Entry	Anaka palle	Cuddalore	Naya garh	Nellikuppam	Vuyyuru	Mean	Rank
1	CoA 12321	11.77	12.55	12.06	10.02	11.04	11.49	
2	CoA 12322	12.14	12.63	11.73	8.47	11.24	11.24	
3	CoA 12323	13.42	12.72	11.83	9.90	14.20	12.41	1
4	CoOr 12346	12.59	12.69	12.07	9.25	12.53	11.83	
5	CoV 12356	12.80	12.72	11.66	10.18	13.31	12.13	2
Standards								
1	Co 6907	12.32	11.96	11.67	11.07	11.63	11.73	
2	CoC 01061	12.24	12.67	11.63	10.29	13.18	12.00	3
3	CoA 92081	12.62	12.51	11.86	10.06	11.89	11.79	
	GM	12.49	12.56	11.81	9.91	12.38		
	SE	0.44	0.10	0.08	0.05	0.27		
	CD	1.34	0.22	0.24	0.10	0.83		
	CV	6.10	1.02	1.16	0.60	3.80		
Qualifying entries at each location								
	1	CoA 12323	-	-	-	CoA 12323		
	2	-	-	-	-	-		
	3	-	-	-	-	-		

No. of locations where an entry recorded 5 % improvement over the best standard: CoA 12323 (2)

Performance of the entries across locations: CoA 12323 was the top ranking entry across locations with CCS % of 12.41 followed by CoV 12356 (12.13) and the standard CoC 01061 (12.00).

Table 3.2.4 Sucrose % at 9th month

S. No.	Entry	Anakapalle	Cuddalore	Naya garh	Nellikuppam	Vuyyuru	Mean	Rank
1	CoA 12321	17.50	17.51	17.39	14.74	15.73	16.57	
2	CoA 12322	18.04	17.73	17.11	12.84	16.02	16.35	
3	CoA 12323	19.66	17.86	17.17	14.42	19.61	17.74	1
4	CoOr 12346	18.37	17.65	17.51	13.79	17.64	16.99	
5	CoV 12356	18.74	17.74	17.03	15.00	18.32	17.37	2
Standards								
1	Co 6907	18.22	16.72	16.95	15.96	16.28	16.83	
2	CoC 01061	18.15	17.73	16.86	15.00	18.24	17.20	3
3	CoA 92081	18.66	17.14	17.51	14.60	16.47	16.88	
	GM	18.42	17.51	17.19	14.54	17.29		
	SE	0.57	0.11	0.11	0.07	0.33		
	CD	1.73	0.24	0.32	0.16	1.01		
	CV	5.35	0.80	1.07	0.61	3.30		
Qualifying entries at each location								
	1	CoA 12323	-	-	-	CoA 12323		
	2	-	-	-	-	-		
	3	-	-	-	-	-		

No. of locations where an entry recorded 5 % improvement over the best standard: CoA 12323 (2)

Performance of the entries across locations: CoA 12323 was the top ranking entry across locations with sucrose % of 17.74 followed by CoV 12356 (17.37) and the standard CoC 01061 (17.20).

Table 3.2.5 Brix % at 9th month

S. No.	Entry	Anaka palle	Cuddalore	Naya garh	Nelliku ppam	Vuyyuru	Mean
1	CoA 12321	20.96	20.52	19.56	17.28	18.27	19.32
2	CoA 12322	21.56	20.70	19.70	15.94	18.57	19.29
3	CoA 12323	22.84	20.77	19.59	16.57	21.29	20.21
4	CoOr 12346	21.18	20.36	19.96	16.60	19.99	19.62
5	CoV 12356	21.74	21.03	19.66	17.65	19.75	19.97
Standards							
1	Co 6907	21.57	19.80	19.35	17.96	18.23	19.38
2	CoC 01061	21.61	20.83	19.17	17.26	19.91	19.76
3	CoA 92081	22.08	20.42	19.43	16.65	18.01	19.32
	GM	21.69	20.55	19.55	16.99	19.25	
	SE	0.54	0.16	0.23	0.09	0.28	
	CD	1.64	0.34	NS	0.19	0.84	
	CV	4.31	0.96	2.20	0.63	2.50	

Table 3.2.6 Purity % at 9th month

S. No.	Entry	Anaka palle	Cuddalore	Naya garh	Nelliku ppam	Vuyyuru	Mean
1	CoA 12321	83.44	89.42	88.95	85.34	86.12	86.65
2	CoA 12322	83.66	89.71	86.94	80.55	86.19	85.41
3	CoA 12323	86.07	90.42	87.74	87.06	92.08	88.67
4	CoOr 12346	86.83	89.88	87.77	83.06	88.26	87.16
5	CoV 12356	86.18	90.18	86.64	84.99	92.77	88.15
Standards							
1	Co 6907	84.42	88.22	87.61	88.90	89.33	87.70
2	CoC 01061	83.99	90.34	87.96	86.94	91.62	88.17
3	CoA 92081	84.51	89.12	88.34	87.71	91.42	88.22
	GM	84.89	89.66	87.74	85.57	89.72	
	SE	1.06	0.65	0.84	0.05	0.68	
	CD	3.24	1.39	NS	0.10	2.07	
	CV	2.17	0.89	1.65	0.07	1.30	

Table 3.2.7 Pol % cane at harvest

S. No.	Entry	Anaka palle	Cuddalore	Naya garh	Nelliku ppam	Vuyyuru	Mean
1	CoA 12321	13.80	13.27	-	12.24	-	13.10
2	CoA 12322	14.35	13.38	-	10.68	-	12.80
3	CoA 12323	15.41	13.76	-	12.01	-	13.73
4	CoOr 12346	14.31	13.57	-	11.48	-	13.12
5	CoV 12356	14.86	14.02	-	12.48	-	13.79
Standards							
1	Co 6907	14.10	12.92	-	13.28	-	13.43
2	CoC 01061	14.22	13.94	-	12.48	-	13.55
3	CoA 92081	14.60	13.10	-	12.14	-	13.28
	GM	14.46	13.50	-	12.10	-	
	SE	0.48	0.26	-	0.06	-	
	CD	1.47	0.55	-	0.13	-	
	CV	5.80	2.34	-	0.61	-	

Table 3.2.8 Extraction % at harvest

S. No.	Entry	Anakapalle	Cuddalore	Nayagarh	Nellikuppam	Vuyyuru	Mean
1	CoA 12321	54.29	49.48	51.75	-	-	51.84
2	CoA 12322	58.21	50.57	52.62	-	-	53.80
3	CoA 12323	55.44	50.62	52.13	-	-	52.73
4	CoOr 12346	55.32	50.34	54.18	-	-	53.28
5	CoV 12356	50.54	50.88	52.09	-	-	51.17
Standards							
1	Co 6907	52.21	49.22	52.31	-	-	51.25
2	CoC 01061	51.54	50.42	51.69	-	-	51.22
3	CoA 92081	56.50	49.62	50.34	-	-	52.15
	GM	54.26	50.14	52.14	-	-	
	SE	2.82	0.27	0.79	-	-	
	CD	8.57	0.57	NS	-	-	
	CV	9.00	0.65	2.62	-	-	

Table 3.2.9 Fibre % at harvest

S. No.	Entry	Anakapalle	Cuddalore	Nayagarh	Nellikuppam	Vuyyuru	Mean
1	CoA 12321	16.14	13.78	14.76	11.95	-	14.16
2	CoA 12322	15.42	13.31	14.78	11.82	-	13.83
3	CoA 12323	16.60	13.27	14.95	11.74	-	14.14
4	CoOr 12346	17.17	13.36	13.42	11.76	-	13.93
5	CoV 12356	15.71	13.41	14.47	11.79	-	13.85
Standards							
1	Co 6907	17.61	13.14	14.46	11.81	-	14.26
2	CoC 01061	16.66	13.45	13.93	11.79	-	13.96
3	CoA 92081	16.74	12.84	14.99	11.85	-	14.11
	GM	16.51	13.32	14.47	11.81	-	
	SE	0.52	0.21	0.12	0.05	-	
	CD	1.56	0.44	0.37	0.10	-	
	CV	5.40	1.92	1.47	0.47	-	

Table 3.2.10 NMC ('000/ha) at harvest

S. No.	Entry	Anakapalle	Cuddalore	Nayagarh	Nellikuppam	Vuyyuru	Mean
1	CoA 12321	88.48	102.89	102.22	159.88	70.37	104.77
2	CoA 12322	89.52	103.09	111.99	168.52	57.10	106.04
3	CoA 12323	71.19	101.26	107.50	167.84	50.31	99.62
4	CoOr 12346	70.68	112.69	118.54	142.28	54.32	99.70
5	CoV 12356	80.76	97.43	105.94	160.80	76.24	104.23
Standards							
1	Co 6907	71.91	107.05	106.18	158.95	63.27	101.47
2	CoC 01061	80.69	107.39	104.86	150.62	77.16	104.14
3	CoA 92081	70.37	97.96	100.08	161.11	67.28	99.36
	GM	77.95	103.72	107.16	158.75	64.51	
	SE	4.62	5.46	3.14	9.41	3.45	
	CD	14.04	11.59	9.52	20.18	10.46	
	CV	10.26	6.45	5.07	7.26	9.40	

Table 3.2.11 Stalk length (cm)

S. No.	Entry	Anakapalle	Cuddalore	Nayagarh	Nelliku ppam	Vuyyuru	Mean
1	CoA 12321	214.78	275.00	326.70	219.00	214.50	250.00
2	CoA 12322	224.29	283.50	346.70	193.33	260.40	261.64
3	CoA 12323	212.57	272.00	323.30	217.33	230.00	251.04
4	CoOr 12346	220.03	272.67	356.70	60.00	219.30	225.74
5	CoV 12356	230.56	265.33	293.30	195.00	238.20	244.48
Standards							
1	Co 6907	210.85	270.00	306.70	186.67	276.10	250.06
2	CoC 01061	222.28	271.67	293.30	168.00	237.10	238.47
3	CoA 92081	228.37	261.67	313.30	210.00	245.00	251.67
	GM	220.47	271.48	320.00	181.17	240.08	
	SE	5.47	6.15	9.95	11.70	11.07	
	CD	16.62	13.04	30.18	25.09	33.56	
	CV	4.29	2.78	5.39	7.91	8.00	

Table 3.2.12 Stalk diameter (cm)

S. No.	Entry	Anakapalle	Cuddalore	Nayagarh	Nelliku ppam	Vuyyuru	Mean
1	CoA 12321	2.74	2.84	2.50	2.53	2.70	2.66
2	CoA 12322	2.77	2.82	2.30	2.40	2.78	2.61
3	CoA 12323	3.03	2.75	2.40	3.33	3.21	2.94
4	CoOr 12346	2.75	2.74	2.70	1.93	2.11	2.45
5	CoV 12356	2.98	2.71	2.20	2.40	2.67	2.59
Standards							
1	Co 6907	2.37	2.65	2.10	2.40	2.46	2.40
2	CoC 01061	2.17	2.35	2.10	2.27	2.39	2.26
3	CoA 92081	2.86	2.70	2.30	2.73	2.94	2.71
	GM	2.71	2.70	2.33	2.50	2.66	
	SE	0.04	0.08	0.08	0.16	0.11	
	CD	0.12	0.18	0.27	0.35	0.33	
	CV	2.60	3.84	6.57	7.88	7.20	

Table 3.2.13 Single cane weight (kg)

S. No.	Entry	Anakapalle	Cuddalore	Nayagarh	Nellik uppam	Vuyyuru	Mean
1	CoA 12321	1.03	1.24	1.28	1.18	1.28	1.20
2	CoA 12322	1.10	1.21	1.25	1.11	1.52	1.24
3	CoA 12323	1.09	1.25	1.33	1.40	1.53	1.32
4	CoOr 12346	0.90	1.19	1.55	0.34	0.77	0.95
5	CoV 12356	1.07	1.20	1.26	1.10	1.06	1.14
Standards							
1	Co 6907	0.89	1.11	1.24	0.67	1.00	0.98
2	CoC 01061	0.83	1.05	1.11	0.79	0.92	0.94
3	CoA 92081	0.97	1.29	1.11	1.17	1.21	1.15
	GM	0.99	1.19	1.27	0.97	1.16	
	SE	0.08	0.07	0.04	0.04	0.06	
	CD	0.24	0.14	0.11	0.08	0.17	
	CV	13.71	6.78	4.76	4.46	8.40	

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

S. No.	Entry	Anakapalle	Cuddalore	Nayagarh	Nelliku ppam	Vuyyuru	Mean
1	CoA 12321	95.06	112.58	119.81	164.51	91.98	116.79
2	CoA 12322	98.56	109.88	120.05	173.76	93.42	119.13
3	CoA 12323	82.24	113.70	120.97	177.47	75.72	114.02
4	CoOr 12346	77.36	117.47	128.25	170.25	71.40	112.95
5	CoV 12356	87.34	110.87	116.25	169.19	84.67	113.66
Standards							
1	Co 6907	83.13	116.38	114.90	175.93	93.72	116.81
2	CoC 01061	90.64	124.58	112.84	166.98	116.67	122.34
3	CoA 92081	78.08	103.02	111.96	172.53	83.33	109.78
	GM	86.55	113.56	118.13	171.33	88.86	
	SE	5.68	5.07	3.13	10.59	3.86	
	CD	17.27	10.74	9.48	22.71	11.71	
	CV	11.37	5.47	4.58	7.57	7.50	

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

S. No.	Entry	Anakapalle	Cuddalore	Nayagarh	Nelliku ppam	Vuyyuru	Mean
1	CoA 12321	108.59	128.08	116.70	184.74	118.52	131.33
2	CoA 12322	113.88	123.24	117.69	190.86	113.07	131.75
3	CoA 12323	93.93	120.89	120.09	196.60	83.03	122.91
4	CoOr 12346	92.18	127.56	127.09	188.25	97.84	126.58
5	CoV 12356	101.11	126.18	114.44	185.04	104.73	126.30
Standards							
1	Co 6907	101.44	125.26	111.07	190.20	104.63	126.52
2	CoC 01061	105.79	136.97	110.41	184.37	128.29	133.17
3	CoA 92081	91.97	115.79	109.87	192.84	97.74	121.64
	GM	101.11	125.50	115.92	189.11	105.98	
	SE	8.16	5.22	3.17	11.99	4.19	
	CD	24.82	11.06	9.63	25.73	12.70	
	CV	13.98	5.09	4.74	7.77	6.80	

Table 3.2.16 Assessment of entries by monitoring team

	Nellikuppam	Cuddalore	Vuyyuru	Anakapalle	Nayagarh
CoA 12321	On par	On par	Better	On par	Better
CoA 12322	On par	Better	Better	Better	Better
CoA 12323	On par	Poor	Poor	Poor	Better
CoOr 12346	Poor	Poor	Poor	Poor	Better
CoV 12356	Poor	Poor	On par	On par	Poor
Standards					
Co 6907					
CoC 01061	Best	Best	Best	Best	
CoA 92081					Best

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

Centres (5)	Anakapalle, Cuddalore, Nayagarh, Nellikuppam and Vuyyuru
Entries (5)	CoA12321, CoA12322, CoA12323, CoOr12346 and CoV12356
Standards (3)	Co 6907, CoC 01061 and CoA 92081
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

Five early maturing clones and three standards have been evaluated under AVT I Plant during 2015-16, AVT II Plant and AVT Ratoon during 2016-17 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 CoA 12323 (14.28 t/ha) ranked first in the zone for CCS yield and it recorded 12.55 % improvement over the best standards CoC 01061 and CoA 92081 (12.69 t/ha). The entries CoA 12322 (13.77 t/ha) and CoA 12321 (13.65 t/ha) recorded numerically superior CCS yield than the best standard.

Cane Yield (t/ha):

For cane yield, the entry CoA 12322 ranked first in the zone with an overall mean of 117.91 t/ha followed by the entries CoA 12323 (116.54 t/ha) and CoA 12321 (115.43 t/ha) respectively. All these three entries recorded more than 10 % improvement over the best standard CoA 92081 (103.81 t/ha).

Commercial Cane Sugar (%):

The entry CoA 12323 ranked first with a mean CCS % of 12.34 followed by the standards CoC 01061 (12.28) and CoA 92081 (12.11).

Sucrose (%):

The entry CoA 12323 ranked first with a mean sucrose % of 17.53 followed by the standards CoC 01061 (17.43) and CoA 92081 (17.21).

Overall performance:

Based on the pooled mean of two plant and one ratoon crops at five centres, CoA 12323 was identified as the qualifying entry combining both quality and yield. It recorded 12.55% improvement over the best standard for CCS yield, 12.26 % for cane yield and numerically superior than the best standard for both CCS % and sucrose %. The entry CoA 12322 recorded 13.58 % improvement over the best standard for yield.

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 12321	15.11	11.88	10.21	12.40	15.45	17.06	15.21	15.91	14.64	13.45	9.80	12.63
2	CoA 12322	14.93	12.65	12.08	13.22	15.92	17.45	15.47	16.28	15.40	14.68	9.54	13.21
3	CoA 12323	17.60	12.44	10.25	13.43	15.46	16.04	15.08	15.53	15.50	13.86	10.05	13.14
4	CoOr 12346	13.53	11.16	9.43	11.37	15.54	14.94	14.08	14.85	17.11	16.60	10.94	14.88
5	CoV 12356	11.92	13.63	11.04	12.20	15.06	15.71	14.66	15.14	13.72	13.89	9.68	12.43
	Standards												
1	Co 6907	10.58	10.80	9.20	10.19	11.66	11.99	11.29	11.65	13.46	11.61	9.61	11.56
2	CoC 01061	13.62	11.04	8.96	11.21	13.73	14.20	12.74	13.56	13.01	12.37	9.72	11.70
3	CoA 92081	15.01	11.67	9.88	12.19	14.32	14.29	13.21	13.94	12.91	12.36	9.34	11.54
	GM	14.04	11.91	10.13		14.64	15.21	13.97		14.47	13.60	9.84	
S. No.	Clone	Nellikuppam				Vuyyuru				GM	Rank		
		IP	IIP	R	Mean	IP	IIP	R	Mean	(Wt. Avg.)			
1	CoA 12321	15.65	14.87	13.73	14.75	13.66	10.40	10.09	11.38	13.65	3		
2	CoA 12322	14.93	15.17	11.91	14.00	13.04	10.37	10.04	11.15	13.77	2		
3	CoA 12323	17.76	20.23	15.25	17.75	12.06	10.59	11.52	11.39	14.28	1		
4	CoOr 12346	9.48	10.64	8.48	9.53	10.10	8.08	6.42	8.20	12.01			
5	CoV 12356	13.00	13.95	12.68	13.21	13.32	10.37	11.75	11.81	13.06			
	Standards												
1	Co 6907	14.43	13.68	12.35	13.49	8.98	8.40	8.64	8.67	11.13			
2	CoC 01061	15.84	15.80	13.55	15.06	12.00	11.74	11.18	11.64	12.69			
3	CoA 92081	14.01	19.29	12.34	15.21	11.64	8.51	9.61	9.92	12.69			
	GM	14.39	15.45	12.54		11.85	9.81	9.91					

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 12321	114.33	94.87	87.15	98.78	123.23	135.92	121.21	126.79	121.57	111.23	81.29	104.70
2	CoA 12322	118.56	102.94	99.17	106.89	126.70	137.17	122.49	128.79	121.64	120.49	81.32	107.82
3	CoA 12323	126.79	92.67	76.21	98.56	122.13	124.81	118.57	121.84	124.46	117.33	84.91	108.90
4	CoOr 12346	108.33	89.13	74.43	90.63	121.88	117.85	110.92	116.88	137.69	134.54	90.72	120.98
5	CoV 12356	101.18	100.56	86.31	96.02	119.38	122.74	115.24	119.12	115.71	117.44	83.08	105.41
	Standards												
1	Co 6907	87.33	84.16	74.71	82.07	98.12	99.81	94.38	97.44	112.31	99.28	82.35	97.98
2	CoC 01061	102.33	85.56	73.53	87.14	108.30	111.47	100.52	106.76	109.20	106.44	83.63	99.76
3	CoA 92081	108.15	88.61	78.21	91.66	114.82	114.56	105.59	111.66	107.18	106.58	78.77	97.51
	GM	108.38	92.31	81.22		116.82	120.54	111.12		118.72	114.17	83.26	
S. No.	Clone	Nellikuppam				Vuyyuru				GM	Rank		
		IP	II P	R	Mean	IP	II P	R	Mean	(Wt. Aver.)			
1	CoA 12321	137.96	140.74	137.03	138.58	117.80	115.43	91.67	108.30	115.43	3		
2	CoA 12322	141.90	141.78	140.58	141.42	118.93	105.45	89.51	104.63	117.91	1		
3	CoA 12323	154.46	177.95	153.94	162.12	98.56	94.14	81.17	91.29	116.54	2		
4	CoOr 12346	93.29	92.46	91.69	92.48	94.86	75.82	51.23	73.97	98.99			
5	CoV 12356	127.78	125.58	124.62	125.99	100.31	90.53	88.27	93.04	107.92			
	Standards												
1	Co 6907	122.80	117.19	111.50	117.16	85.70	87.76	74.38	82.61	95.45			
2	CoC 01061	135.30	125.87	131.56	130.91	90.43	101.95	84.67	92.35	103.38			
3	CoA 92081	123.03	157.06	122.69	134.26	89.20	81.89	80.86	83.98	103.81			
	GM	129.57	134.83	126.70		99.47	94.12	80.22					

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	CoA12321	13.21	12.52	11.77	12.50	12.53	12.55	12.55	12.54	12.02	12.12	12.06	12.07
2	CoA12322	12.59	12.29	12.14	12.34	12.56	12.72	12.63	12.64	12.66	12.08	11.73	12.16
3	CoA12323	13.88	13.39	13.42	13.56	12.65	12.85	12.72	12.74	12.09	11.81	11.83	11.91
4	CoOr12346	12.46	12.58	12.59	12.54	12.75	12.68	12.69	12.71	12.43	12.34	12.07	12.28
5	CoV12356	11.78	13.54	12.80	12.71	12.62	12.80	12.72	12.71	11.86	11.83	11.66	11.78
	Standards												
1	Co 6907	12.11	12.82	12.32	12.42	11.87	12.02	11.96	11.95	11.99	11.69	11.67	11.78
2	CoC 01061	13.31	12.91	12.24	12.82	12.68	12.74	12.67	12.70	11.92	11.54	11.63	11.70
3	CoA 92081	13.88	13.18	12.62	13.23	12.47	12.47	12.51	12.48	12.04	11.60	11.86	11.83
	GM	12.90	12.90	12.49		12.52	12.60	12.56		12.13	11.88	11.81	
S. No.	Clone	Nellikuppam				Vuyyuru				GM (Wt. Aver.)	Rank		
		IP	II P	R	Mean	IP	II P	R	Mean				
1	CoA12321	11.34	10.56	10.02	10.64	11.58	9.02	11.04	10.55	11.66			
2	CoA12322	10.53	10.70	8.47	9.90	10.97	9.87	11.24	10.69	11.55			
3	CoA12323	11.49	11.36	9.90	10.92	12.25	11.22	14.20	12.56	12.34	1		
4	CoOr12346	10.16	11.51	9.25	10.31	10.64	10.67	12.53	11.28	11.82			
5	CoV12356	10.17	11.11	10.18	10.49	13.26	11.46	13.31	12.68	12.07			
	Standards												
1	Co 6907	11.74	11.67	11.07	11.49	10.54	9.59	11.63	10.59	11.65			
2	CoC 01061	11.71	12.57	10.29	11.52	13.27	11.55	13.18	12.67	12.28	2		
3	CoA 92081	11.39	12.28	10.06	11.24	13.05	10.39	11.89	11.78	12.11	3		
	GM	11.07	11.47	9.91		11.95	10.47	12.38					

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

Varietal Improvement Programme-AICRP (Sugarcane)
Principal Investigator's Report (2016-17)
East Coast Zone-AVT (Early) -2 Plant +1 Ratoon

S. No.	Clone	Anakapalle				Cuddalore				Nayagarh			
		IP	II P	R	Mean	IP	II P	R	Mean	IP	II P	R	Mean
1	CoA 12321	19.08	18.36	17.50	18.31	17.26	17.38	17.51	17.38	17.23	17.33	17.39	17.32
2	CoA 12322	18.18	17.66	18.04	17.96	17.33	17.71	17.73	17.59	17.92	17.30	17.11	17.44
3	CoA 12323	19.89	19.17	19.66	19.57	17.66	17.87	17.86	17.80	17.13	16.96	17.17	17.09
4	CoOr 12346	17.92	18.30	18.37	18.20	17.87	17.58	17.65	17.70	17.47	17.63	17.51	17.54
5	CoV 12356	16.98	19.11	18.74	18.28	17.39	17.76	17.74	17.63	16.98	17.04	17.03	17.02
	Standards												
1	Co 6907	17.44	18.55	18.22	18.07	16.77	16.87	16.72	16.79	16.88	16.84	16.95	16.89
2	CoC 01061	19.07	18.55	18.15	18.59	17.74	17.73	17.73	17.73	16.72	16.57	16.86	16.72
3	CoA 92081	19.96	19.12	18.66	19.25	17.16	17.38	17.14	17.23	17.02	16.71	17.51	17.08
	GM	18.57	18.60	18.42		17.40	17.54	17.51		17.17	17.05	17.19	
S. No.	Clone	Nellikuppam				Vuyyuru				GM (Wt. Aver.)	Rank		
		IP	II P	R	Mean	IP	II P	R	Mean				
1	CoA 12321	16.06	15.39	14.74	15.40	16.26	13.33	15.73	15.11	16.70			
2	CoA 12322	15.06	15.52	12.84	14.47	15.52	14.32	16.02	15.29	16.55			
3	CoA 12323	16.16	16.46	14.42	15.68	17.01	15.92	19.61	17.51	17.53	1		
4	CoOr 12346	14.59	16.63	13.79	15.00	15.36	15.34	17.64	16.11	16.91			
5	CoV 12356	14.57	16.10	15.00	15.22	18.08	16.02	18.32	17.47	17.12			
	Standards												
1	Co 6907	16.47	16.86	15.96	16.43	14.69	13.60	16.28	14.86	16.61			
2	CoC 01061	16.54	18.03	15.00	16.52	18.18	16.37	18.24	17.60	17.43	2		
3	CoA 92081	16.02	17.74	14.60	16.12	17.83	14.86	16.47	16.39	17.21	3		
	GM	15.68	16.59	14.54		16.62	14.97	17.29					

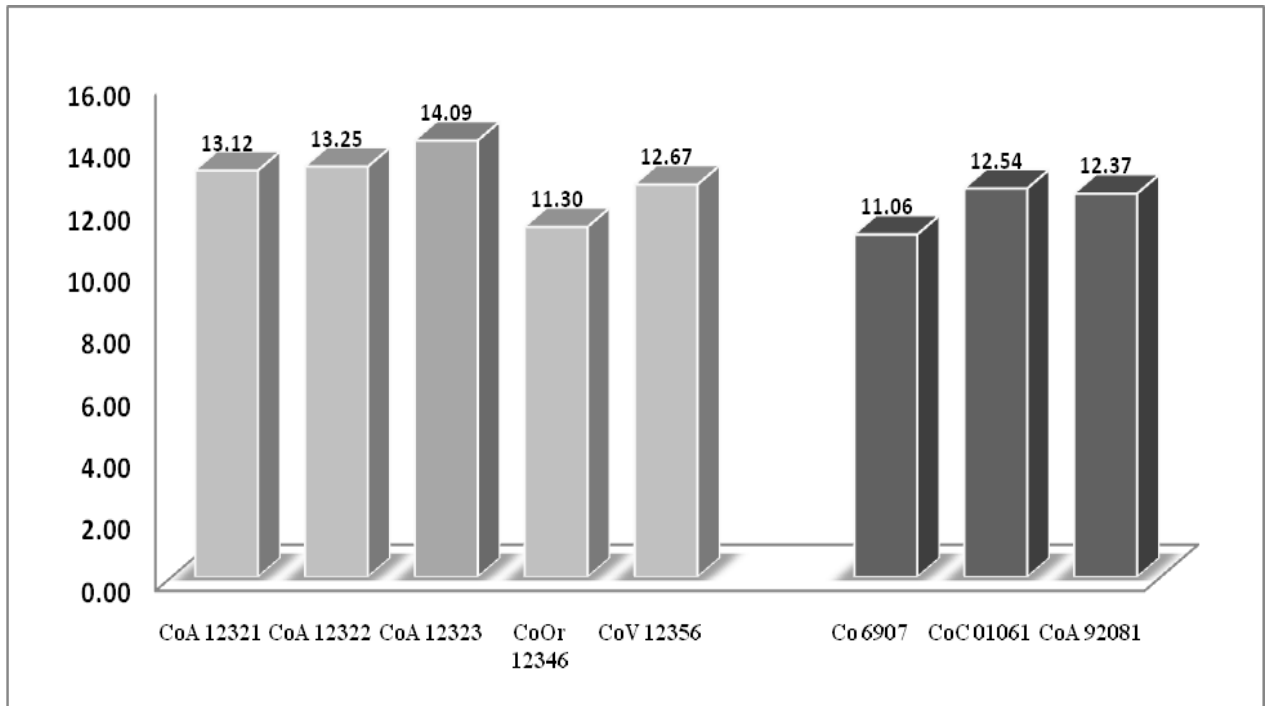


Fig.3.3.1. Mean performance of (2P+1R) of AVT early clones for CCS (t/ha)

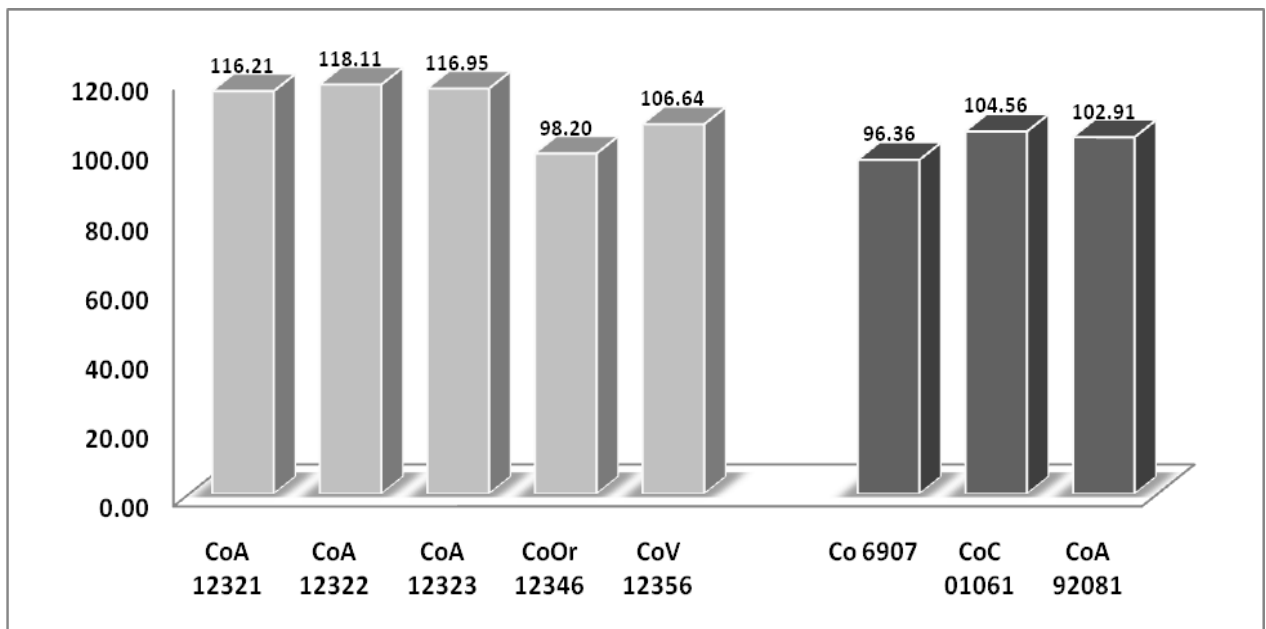


Fig.3.3.2 Mean performance of (2P+1R) of AVT early clones for Cane Yield (t/ha)

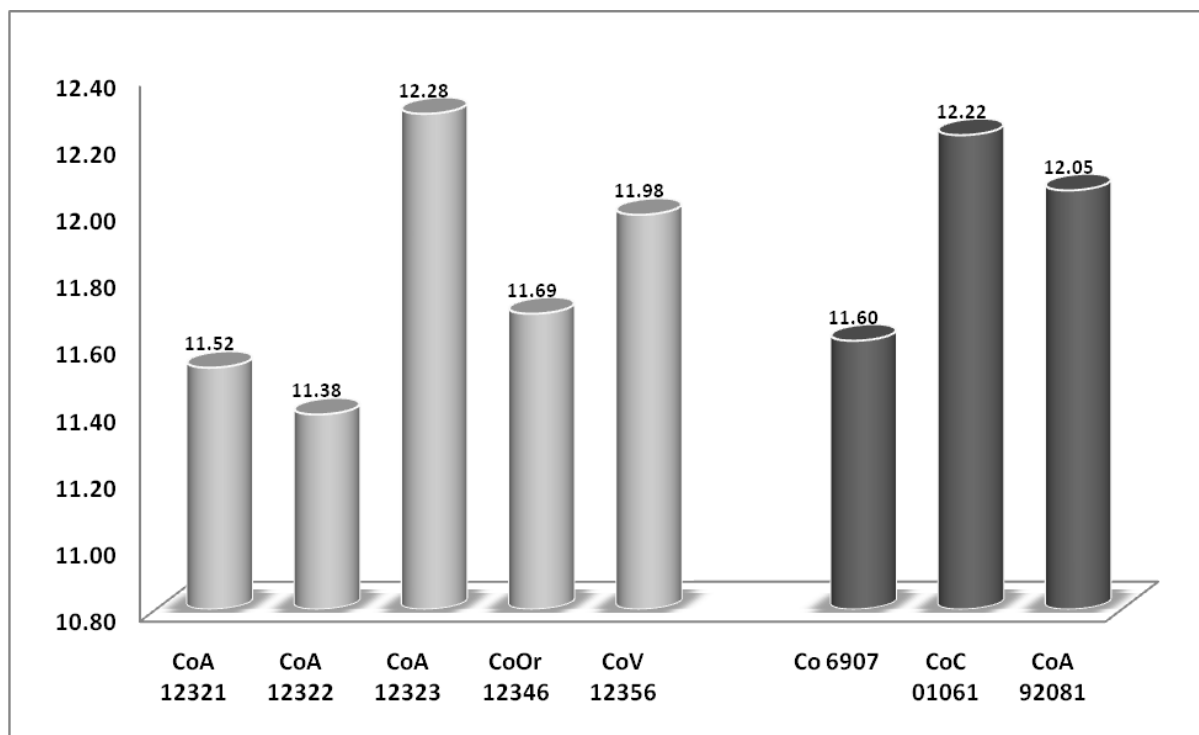


Fig.3.3.3. Mean performance of (2P+1R) of AVT early clones for CCS (%)

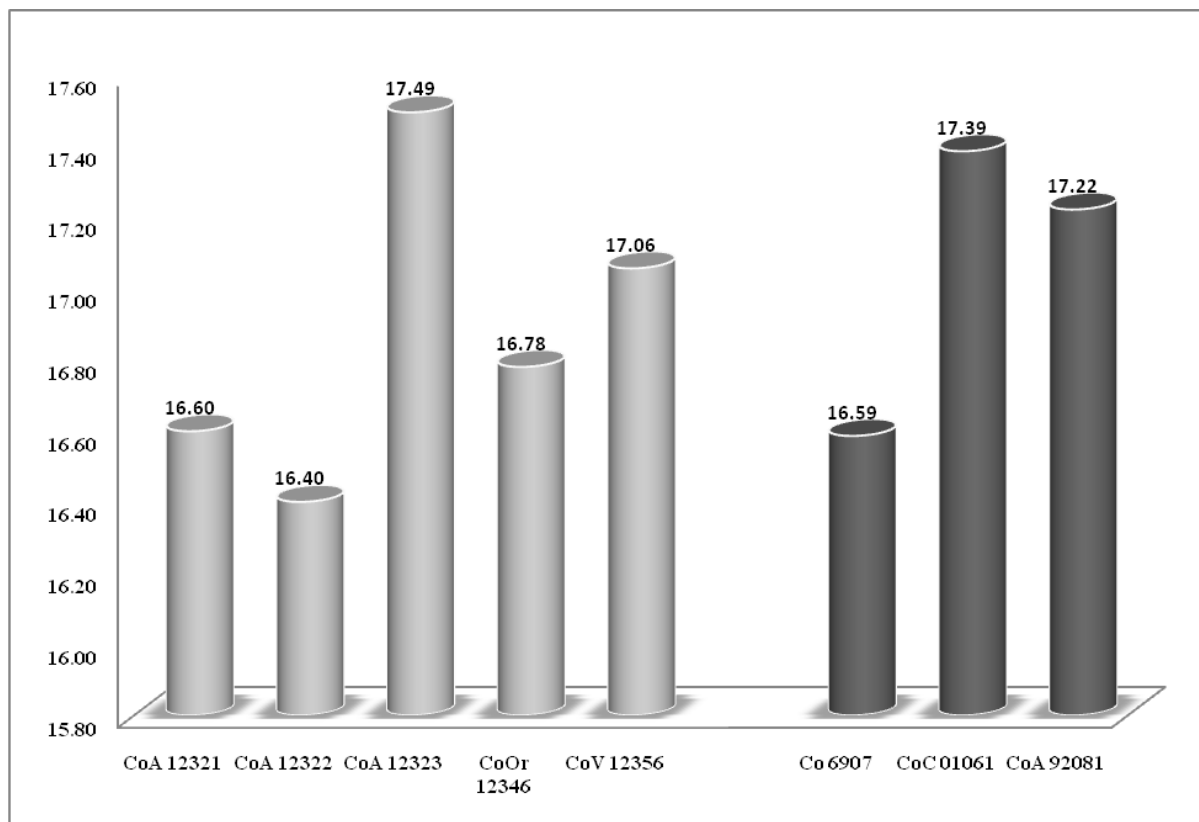


Fig.3.3.4 Mean performance of (2P+1R) of AVT early clones for Sucrose (%)

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

Five entries, CoA 12321, CoA 12322, CoA 12323, CoOr 12346 and CoV 12356 and three standards *viz.*, Co 6907, CoC 01061, CoA 92081 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 1 to 3.

Results based on index of simultaneous selection of high CCS (t/ha) and stable genotypes revealed that three entries, CoA 12321, CoA 12322 and CoV 12356 were at first, second and third rank, respectively. Such ranking differed with the ranking based only on mean data of CCS (t/ha) presented in Table 1. Considering top three entries for high CCS (t/ha) and stable genotype, CoA 12321, CoA 12322 and CoV 12356 were superior among the entries. These entries were better than the best standard CoA 92081.

Results based an index of simultaneous selection for high cane yield (t/ha) and stable genotypes revealed that standard Co 6907 and two entries CoV 12356 and CoA 12322 were at first, second and third rank, respectively. Such a ranking differed with the ranking based only on mean data of cane yield (Table 2). Considering top two entries with high cane yielding and stable genotypes, only CoA 12322 and CoV 12356 were superior among entries.

Results based on index of simultaneous selection for high sucrose (%) and stable genotypes revealed that standard CoA 92081 and two entries CoOr 12346 and CoA 12323 were at first, second and third rank, respectively. Such a ranking differed with the ranking based only on mean data of sucrose content (Table 3). Considering top two high sucrose and stable genotypes, two entries CoOr 12346 and CoA 12323 were superior among entries however CoOr was inferior to the best standard CoA 92081.

CoA 12322, 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 12322 was nearly equal to the best standard, CoC 6907.

Table 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 12321	1.61	13.41	3.37	1	3	1
CoA 12322	1.35	13.57	6.41	2	2	3
CoA 12323	1.25	14.25	14.28	4	1	7
CoOr 12346	0.98	11.77	31.95	8	7	8
CoV 12356	1.34	12.96	5.70	3	4	2
Standards						
Co 6907	1.15	11.11	6.73	7	8	4
CoC 01061	1.15	12.63	11.50	6	5	6
CoA 92081	1.17	12.56	9.76	5	6	5

Table 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 12321	1.26	115.43	353.98	4	3	5
CoA 12322	1.37	117.91	238.15	2	1	3
CoA 12323	1.15	116.54	1056.82	6	2	7
CoOr 12346	0.96	98.99	1892.83	8	7	8
CoV 12356	1.31	107.92	211.31	3	4	2
Standards						
Co 6907	1.65	95.45	84.72	1	8	1
CoC 01061	1.17	103.38	311.49	5	6	4
CoA 92081	1.14	103.81	383.35	7	5	6

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 12321	1.23	16.70	3.56	6	6	4
CoA 12322	1.21	16.55	3.73	7	8	5
CoA 12323	1.28	17.53	3.45	3	1	3
CoOr 12346	1.29	16.91	2.94	2	5	2
CoV 12356	1.23	17.12	3.84	5	4	6
Standards						
Co 6907	1.17	16.61	4.45	8	7	8
CoC 01061	1.25	17.43	3.91	4	2	7
CoA 92081	1.33	17.21	2.73	1	3	1

3.4 ADVANCED VARIETAL TRIAL (EARLY – I PLANT)

Centres (5)	Anakapalle, Cuddalore, Nayagarh, Nellikuppam and Vuyyuru
Entries (5)	CoA 13322, CoA 13323, CoC 13336, CoC 13337 and CoV 13356
Standards (2)	CoC 01061 and CoA 92081
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 , 2016
Crop duration	10 months

Results of the previous year

The IVT trial had been conducted by five centres with eight entries. CoA 13322 was the top ranking entry in the zone for both cane yield (120.85 t/ha) and CCS t/ha (14.69) followed by the entries CoC 13336 and CoV 13356 respectively. However for juice quality, the standard CoC 01061 was the top ranking entry in the zone with a CCS % of 12.44 and sucrose content of 17.62 %.

Results of the current 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 was CoV 13356 (14.27 t/ha). For juice quality (CCS% and sucrose %) the entry CoV 13356 was the 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.

Table 3.4.1 CCS (t/ha) at harvest

S. No.	Entry	Anakapalle	Cuddalore	Nayagarh	Nellikuppam	Vuyyuru	Mean	Rank
1	CoA 13322	10.72	16.06*	12.89*	16.88	12.57	13.82	
2	CoA 13323	6.95	15.66	12.19	20.04*	10.19	13.01	
3	CoC 13336	12.23	18.23*	12.41	18.76*	13.74	15.07	1
4	CoC 13337	13.92	17.93*	12.87*	14.69	10.68	14.02	3
5	CoV 13356	14.29	15.66	12.83*	13.92	14.67	14.27	2
Standards								
1	CoC 01061	10.57	14.49	11.67	15.16	13.51	13.08	
2	CoA 92081	12.50	14.56	11.68	15.20	9.61	12.71	
	GM	11.60	16.08	12.36	16.38	12.14		
	SE	0.76	0.59	0.26	1.09	0.62		
	CD (0.05)	2.35	1.29	0.79	2.38	1.90		
	CV	11.40	4.49	3.61	8.18	8.80		
Qualifying entries at each location								
	1	CoV 13356	CoC 13336	CoA 13322	CoA 13323	-	CoC 13336	
	2	CoC 13337	CoC 13337	CoC 13337	CoC 13336	-	-	
	3	-	CoA 13322	-	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) CoC 13337 (3) and CoV13356 (1)

Performance of the entries across locations: The entry CoC 13336 (15.07 t/ha) was the best in the trial followed by CoV 13356 (14.27 t/ha) and CoC 13337 (14.02 t/ha) while the best standard CoC 01061 recorded 13.08 t/ha. The entry CoC 13336 recorded 15.24 % improvement over the best standard CoC 01061 across the locations.

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

S. No.	Entry	Anakapalle	Cuddalore	Nayagarh	Nellikuppam	Vuyyuru	Mean	Rank
1	CoA 13322	96.43	127.15	108.85*	159.23*	106.48	119.63	3
2	CoA 13323	67.65	122.63	100.69	165.89*	100.41	111.45	
3	CoC 13336	94.06	140.71*	105.97	153.39*	107.72	120.37	2
4	CoC 13337	136.72*	139.92*	103.89	143.52	87.96	122.40	1
5	CoV 13356	112.66	122.83	111.42*	119.21	100.31	113.29	
Standards								
1	CoC 01061	92.04	113.22	100.45	126.55	110.19	108.49	
2	CoA 92081	106.75	116.78	99.61	128.19	91.26	108.52	
	GM	100.90	126.18	104.41	142.28	100.62		
	SE	3.48	4.74	2.58	9.13	5.31		
	CD (0.05)	10.73	10.32	7.96	19.90	NS		
	CV	5.97	4.60	4.29	7.86	9.10		
Qualifying entries at each location								
	1	CoC 13337	CoC 13336	CoV 13356	CoA 13323	-	CoC 13337	
	2	-	CoC 13337	-	CoA 13322	-	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), CoA 13323 (1), CoC 13336 (1) CoC 13337 (2) and CoV13356 (1)

Performance of the entries across locations: The entry CoC 13337 was the best in the trial which recorded the highest cane yield of (122.40 t/ha) followed by CoC 13336 (120.37 t/ha) and CoA 13322 (119.63 t/ha). Both the standards viz; CoA 92081(108.52 t/ha) and CoC 01061 (108.49 t/ha) were on par for cane yield. The entries CoC 13337, CoC 13336 and CoA 13322 recorded 12.79 %, 10.92 % and 10.24 % improvement over the best standard CoA 92081 across the locations.

Table 3.4.3 CCS % at 10th month

S. No.	Entry	Anaka pale	Cuddalore	Nayagarah	Nellikuppam	Vuyyuru	Mean	Rank
1	CoA 13322	11.11	12.63	11.87	10.61	11.82	11.61	
2	CoA 13323	10.30	12.77	12.11*	12.08	10.16	11.48	
3	CoC 13336	12.93	12.96*	11.71	12.23*	12.77	12.52	2
4	CoC 13337	10.18	12.82	12.06	10.22	12.16	11.49	
5	CoV 13356	12.71	12.75	11.52	11.68	14.60*	12.65	1
Standards								
1	CoC 01061	11.50	12.80	11.63	11.98	12.29	12.04	3
2	CoA 92081	11.72	12.47	11.72	11.85	10.53	11.66	
	GM	11.49	12.74	11.80	11.52	12.05		
	SE	0.57	0.07	0.12	0.10	0.26		
	CD 0.05)	1.77	0.15	0.38	0.22	0.81		
	CV	8.65	0.68	1.83	1.09	3.80		
Qualifying entries at each location								
	1	CoC 13336	-	-	-	CoV 13356	CoV 13356	
	2	CoV 13356	-	-	-	-		
	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 (2)

Performance of the entries across locations: CoV 13356 was the top ranking entry across locations with CCS % of 12.65 followed by CoC 13336 (12.52 %) while the best standard CoC 01061 recorded 12.04 %.

Table 3.4 .4 Sucrose % at 10th month

S. No.	Entry	Anakapalle	Cuddalore	Nayagarh	Nellikuppam	Vuyyuru	Mean	Rank
1	CoA 13322	16.00	17.60	17.11	15.32	16.55	16.52	
2	CoA 13323	15.05	17.66	17.46*	17.46	14.76	16.48	
3	CoC 13336	18.65	17.97*	16.87	17.62*	17.90	17.80	2
4	CoC 13337	15.06	17.75	17.34*	14.89	17.11	16.43	
5	CoV 13356	18.18	17.72	16.92	16.93	19.88*	17.93	1
Standards								
1	CoC 01061	16.65	17.71	16.87	17.25	17.26	17.15	3
2	CoA 92081	17.07	17.35	17.03	17.08	15.04	16.71	
	GM	16.67	17.68	17.09	16.65	16.93		
	SE	0.73	0.08	0.10	0.15	0.31		
	CD (0.05)	2.27	0.18	0.31	0.32	0.97		
	CV	7.64	0.57	1.02	1.09	3.20		
Qualifying entries at each location								
	1	CoC 13336	-	-	-	CoV 13356		
	2	CoV 13356	-	-	-	-		
	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 (2)

Performance of the entries across locations: CoV 13356 was the top ranking entry across locations with sucrose % of 17.93 followed by CoC 13336 (17.80 %) and the standard CoC 01061 (17.15 %).

Table 3.4.5 Brix % at 10th month

S. No.	Entry	Anaka palle	Cuddalore	Nayagarh	Nelliku ppam	Vuyyuru	Mean
1	CoA 13322	17.97	20.27	19.02	17.31	18.54	18.62
2	CoA 13323	17.39	20.52	19.63	19.74	17.79	19.01
3	CoC 13336	20.99	20.92	18.70	19.78	20.09	20.10
4	CoC 13337	17.88	20.75	19.37	17.09	19.35	18.89
5	CoV 13356	20.08	20.74	19.78	19.27	20.91	20.16
Standards							
1	CoC 01061	18.86	20.77	19.24	19.36	19.27	19.50
2	CoA 92081	19.58	20.31	19.45	19.17	17.62	19.23
	GM	18.96	20.61	19.31	18.82	19.08	
	SE	0.69	0.11	0.19	0.16	0.27	
	CD (0.05)	2.11	0.26	0.59	0.35	0.84	
	CV	6.26	0.71	1.71	1.06	2.50	

Table 3.4.6 Purity % at 10th month

S. No.	Entry	Anaka palle	Cuddalore	Nayagarh	Nelliku ppam	Vuyyuru	Mean
1	CoA 13322	89.07	88.88	89.95	88.52	89.29	89.14
2	CoA 13323	86.29	89.91	88.97	88.45	82.95	87.31
3	CoC 13336	88.71	90.17	89.22	89.08	89.11	89.26
4	CoC 13337	84.42	90.07	89.53	87.12	88.41	87.91
5	CoV 13356	90.52	90.16	85.61	87.87	95.07	89.85
Standards							
1	CoC 01061	88.23	89.95	87.73	89.10	89.57	88.92
2	CoA 92081	87.17	88.14	87.57	89.06	85.34	87.46
	GM	87.77	89.61	88.37	88.46	88.53	
	SE	1.65	0.62	1.21	0.05	0.95	
	CD (0.05)	5.07	1.35	NS	0.11	2.93	
	CV	3.25	0.85	2.38	0.07	1.90	

Table 3.4.7 Pol % cane at harvest

S. No.	Entry	Anaka palle	Cuddalore	Nayagarh	Nelliku ppam	Vuyyuru	Mean
1	CoA 13322	12.69	13.63	12.59	-	-	12.97
2	CoA 13323	11.80	13.86	14.37	-	-	13.34
3	CoC 13336	14.77	13.95	14.49	-	-	14.40
4	CoC 13337	11.78	13.91	12.24	-	-	12.64
5	CoV 13356	14.27	13.74	13.92	-	-	13.98
Standards							
1	CoC 01061	12.88	13.82	14.20	-	-	13.63
2	CoA 92081	13.36	13.51	14.04	-	-	13.64
	GM	13.08	13.77	13.69	-	-	
	SE	0.55	0.12	0.13	-	-	
	CD (0.05)	1.71	0.26	0.28	-	-	
	CV	7.33	1.07	1.14	-	-	

Table 3.4.8 Extraction % at harvest

S. No.	Entry	Anaka palle	Cuddalore	Nayagar h	Nelliku ppam	Vuyyuru	Mean
1	CoA 13322	60.74	52.25	51.60	-	-	54.86
2	CoA 13323	60.08	53.14	52.19	-	-	55.14
3	CoC 13336	66.45	53.91	53.92	-	-	58.09
4	CoC 13337	60.11	52.68	51.42	-	-	54.74
5	CoV 13356	61.32	52.37	52.97	-	-	55.55
Standards							
1	CoC 01061	53.33	52.64	52.80	-	-	52.92
2	CoA 92081	58.27	51.78	51.37	-	-	53.81
	GM	60.04	52.68	52.32	-	-	
	SE	1.85	0.35	0.42	-	-	
	CD (0.05)	5.69	0.77	1.29	-	-	
	CV	5.33	0.82	1.39	-	-	

Table 3.4.9 Fiber % at harvest

S. No.	Entry	Anaka palle	Cuddalore	Nayagarh	Nelliku ppam	Vuyyuru	Mean
1	CoA 13322	15.68	13.08	14.40	12.81	-	13.99
2	CoA 13323	16.63	12.80	14.96	12.68	-	14.27
3	CoC 13336	15.73	12.70	14.48	12.75	-	13.92
4	CoC 13337	16.79	12.91	13.50	12.79	-	14.00
5	CoV 13356	16.45	12.95	13.69	12.77	-	13.97
Standards							
1	CoC 01061	17.61	12.75	13.79	12.72	-	14.22
2	CoA 92081	16.71	12.97	14.21	12.78	-	14.17
	GM	16.51	12.88	14.15	12.76	-	
	SE	0.45	0.12	0.18	0.08	-	
	CD (0.05)	1.39	0.27	0.57	0.18	-	
	CV	4.74	1.17	2.26	0.78	-	

Table 3.4.10 NMC ('000/ha) at harvest

S. No.	Entry	Anaka palle	Cuddalore	Nayagarh	Nelliku ppam	Vuyyuru	Mean
1	CoA 13322	85.17	110.87	107.66	141.91	66.05	102.33
2	CoA 13323	57.51	99.61	113.45	136.11	70.06	95.35
3	CoC 13336	79.21	117.22	126.49	141.36	65.74	106.00
4	CoC 13337	111.73	116.94	119.27	130.25	67.28	109.09
5	CoV 13356	103.39	99.75	117.10	144.82	72.22	107.46
Standards							
1	CoC 01061	113.58	111.29	111.08	141.40	93.42	114.15
2	CoA 92081	93.93	100.70	115.17	135.99	72.84	103.73
	GM	92.07	108.05	115.75	138.83	72.52	
	SE	2.91	4.70	3.23	8.35	4.36	
	CD (0.05)	8.96	10.23	9.96	18.19	13.44	
	CV	5.47	5.33	4.84	7.37	10.40	

Table 3.4.11 Stalk length (cm)

S. No.	Entry	Anaka palle	Cuddalore	Nayagarh	Nellikuppam	Vuyyuru	Mean
1	CoA 13322	238.28	277.33	207.30	225.33	234.40	236.53
2	CoA 13323	268.42	272.33	209.30	234.00	238.70	244.55
3	CoC 13336	271.80	295.67	242.70	231.67	251.10	258.59
4	CoC 13337	289.10	290.33	238.70	254.00	235.70	261.57
5	CoV 13356	252.26	265.33	224.00	244.00	234.40	244.00
Standards							
1	CoC 01061	298.14	275.33	187.30	223.33	231.90	243.20
2	CoA 92081	259.40	265.67	197.30	225.67	228.90	235.39
	GM	268.20	277.43	215.23	234.00	236.44	
	SE	6.11	6.90	9.80	14.15	7.35	
	CD (0.05)	18.85	15.05	30.20	30.83	NS	
	CV	3.95	3.05	7.90	7.41	5.40	

Table 3.4.12 Stalk diameter (cm)

S. No.	Entry	Anaka palle	Cuddalore	Nayagarh	Nellikuppam	Vuyyuru	Mean
1	CoA 13322	3.00	2.87	2.92	2.47	2.99	2.85
2	CoA 13323	2.74	2.86	2.52	3.00	2.81	2.79
3	CoC 13336	2.35	2.97	2.40	2.60	2.89	2.64
4	CoC 13337	2.80	3.06	2.33	2.73	2.62	2.71
5	CoV 13356	2.97	2.70	2.65	2.33	2.81	2.69
Standards							
1	CoC 01061	2.21	2.50	2.55	2.13	2.35	2.35
2	CoA 92081	2.87	2.72	2.62	2.47	2.51	2.64
	GM	2.71	2.81	2.57	2.53	2.71	
	SE	0.05	0.06	0.09	0.17	0.08	
	CD (0.05)	0.15	0.13	0.29	0.36	0.24	
	CV	3.03	2.63	6.20	8.02	4.90	

Table 3.4.13 Single cane weight (kg)

S. No.	Entry	Anaka palle	Cuddalore	Nayagarh	Nellikuppam	Vuyyuru	Mean
1	CoA 13322	1.12	1.26	1.38	1.15	1.71	1.32
2	CoA 13323	1.17	1.23	1.41	1.26	1.51	1.32
3	CoC 13336	1.29	1.34	1.90	1.43	1.70	1.53
4	CoC 13337	1.28	1.26	1.65	1.30	0.94	1.29
5	CoV 13356	1.09	1.03	1.88	0.88	1.19	1.21
Standards							
1	CoC 01061	0.82	0.99	1.50	0.72	0.97	1.00
2	CoA 92081	1.23	1.23	1.44	1.25	1.01	1.23
	GM	1.14	1.19	1.59	1.14	1.29	
	SE	0.06	0.07	0.10	0.04	0.02	
	CD (0.05)	0.19	0.16	0.30	0.08	0.07	
	CV	9.08	7.43	10.73	4.10	3.20	

Table 3.4.14 CCS % at 8 months

S. No.	Entry	Anakapalle	Cuddalore	Naya garh	Nelliku ppam	Vuyyuru	Mean
1	CoA 13322	10.62	10.67	-	10.34	9.75	10.35
2	CoA 13323	9.71	10.89	-	11.51	9.19	10.33
3	CoC 13336	10.12	10.76	-	11.48	11.38	10.94
4	CoC 13337	8.86	10.81	-	9.72	10.31	9.93
5	CoV 13356	10.13	10.18	-	11.03	12.02	10.84
Standards							
1	CoC 01061	10.32	10.73	-	11.09	10.87	10.75
2	CoA 92081	10.83	10.36	-	11.25	9.92	10.59
	GM	10.08	10.63	-	10.92	10.49	
	SE	0.43	0.12	-	0.12	0.23	
	CD (0.05)	1.33	0.26	-	0.27	0.70	
	CV	7.43	1.40	-	1.40	3.80	

Table 3.4.15 Sucrose % at 8 months

S. No.	Entry	Anakapalle	Cuddalore	Naya garh	Nelliku ppam	Vuyyuru	Mean
1	CoA 13322	15.45	15.33	-	15.00	13.87	14.91
2	CoA 13323	14.35	15.56	-	16.68	13.46	15.01
3	CoC 13336	15.02	15.75	-	16.57	16.05	15.85
4	CoC 13337	13.35	15.54	-	14.20	14.82	14.48
5	CoV 13356	15.06	15.05	-	16.01	16.49	15.65
Standards							
1	CoC 01061	15.06	15.52	-	16.02	15.28	15.47
2	CoA 92081	15.98	15.11	-	16.23	14.14	15.37
	GM	14.90	15.41	-	15.82	14.87	
	SE	0.55	0.15	-	0.17	0.27	
	CD (0.05)	1.71	0.32	-	0.37	0.82	
	CV	6.43	1.17	-	1.31	3.10	

Table 3.4.16 Brix % at 8 months

S. No.	Entry	Anakapalle	Cuddalore	Naya garh	Nellikuppa m	Vuyyuru	Mean
1	CoA 13322	17.69	18.50	-	17.06	16.02	17.32
2	CoA 13323	16.98	19.13	-	18.98	16.46	17.89
3	CoC 13336	17.90	19.23	-	18.69	18.24	18.52
4	CoC 13337	16.36	18.90	-	16.41	17.52	17.30
5	CoV 13356	18.01	18.23	-	18.27	17.64	18.04
Standards							
1	CoC 01061	17.36	19.08	-	18.09	17.26	17.95
2	CoA 92081	18.85	18.75	-	18.29	16.43	18.08
	GM	17.59	18.83	-	17.97	17.08	
	SE	0.54	0.21	-	0.18	0.22	
	CD (0.05)	1.67	0.45	-	0.38	0.67	
	CV	5.35	1.35	-	1.20	2.20	

Table 3.4.17 Purity % at 8 months

S. No.	Entry	Anakapalle	Cuddalore	Naya garh	Nellikuppam	Vuyyuru	Mean
1	CoA 13322	87.33	84.97	-	87.89	86.57	86.69
2	CoA 13323	84.30	85.26	-	87.90	81.76	84.81
3	CoC 13336	83.82	85.67	-	88.64	88.01	86.54
4	CoC 13337	81.65	85.24	-	86.53	84.57	84.50
5	CoV 13356	83.62	83.71	-	87.65	93.47	87.11
Standards							
1	CoC 01061	86.78	85.27	-	88.54	88.58	87.29
2	CoA 92081	84.83	84.51	-	88.77	85.32	85.86
	GM	84.62	84.95	-	87.99	86.90	
	SE	1.56	0.37	-	0.25	0.88	
	CD (0.05)	4.80	0.81	-	0.54	2.72	
	CV	3.19	0.54	-	0.34	1.80	

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

S. No.	Entry	Anakapalle	Cuddalore	Nayagarh	Nelliku ppam	Vuyyuru	Mean
1	CoA 13322	86.52	116.97	113.32	151.59	79.01	109.48
2	CoA 13323	60.18	110.77	117.87	154.34	79.63	104.56
3	CoC 13336	81.58	115.06	133.09	154.34	73.15	111.44
4	CoC 13337	114.61	120.05	124.70	146.96	81.79	117.62
5	CoV 13356	106.58	109.76	121.90	163.92	80.86	116.60
Standards							
1	CoC 01061	116.66	118.65	119.52	163.58	101.24	123.93
2	CoA 92081	97.84	110.09	122.02	155.90	86.11	114.39
	GM	94.85	114.48	121.77	155.80	83.11	
	SE	2.32	3.55	2.86	9.64	5.17	
	CD (0.05)	7.14	7.73	8.81	21.01	NS	
	CV	4.23	3.80	4.07	7.58	10.70	

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

S. No.	Entry	Anakapalle	Cuddalore	Nayagarh	Nelliku ppam	Vuyyuru	Mean
1	CoA 13322	93.01	127.09	107.37	172.42	102.06	120.39
2	CoA 13323	69.65	116.90	118.21	170.70	94.14	113.92
3	CoC 13336	86.73	128.71	132.20	168.31	89.51	121.09
4	CoC 13337	119.65	127.98	122.28	155.63	104.01	125.91
5	CoV 13356	111.52	120.18	118.78	171.91	100.00	124.48
Standards							
1	CoC 01061	122.73	127.59	117.68	187.65	116.56	134.44
2	CoA 92081	104.53	115.79	125.06	167.90	100.21	122.70
	GM	101.12	123.46	120.23	170.65	100.93	
	SE	2.71	5.16	3.88	10.63	6.95	
	CD (0.05)	8.34	11.23	11.94	23.15	NS	
	CV	4.63	5.12	5.58	7.63	11.90	

Table 3.4.20 Germination % at 30 days

S. No.	Entry	Anakapalle	Cuddalore	Nayagarh	Nellikuppam	Vuyyuru	Mean
1	CoA 13322	77.24	59.50	55.00	81.71	51.62	65.01
2	CoA 13323	48.07	56.34	65.97	82.87	46.91	60.03
3	CoC 13336	53.93	62.42	60.17	79.86	51.47	61.57
4	CoC 13337	68.98	63.89	54.23	83.79	58.87	65.95
5	CoV 13356	61.42	60.94	57.23	85.42	50.23	63.05
Standards							
1	CoC 01061	80.32	64.32	58.27	92.36	59.72	71.00
2	CoA 92081	73.92	50.74	52.20	85.18	53.86	63.18
	GM	66.27	59.74	57.58	84.46	53.24	
	SE	5.06	6.29	1.89	4.89	2.63	
	CD (0.05)	15.59	13.70	5.84	10.66	8.11	
	CV	13.21	12.89	8.70	7.09	8.60	

Table 3.21 Assessment of entries by monitoring team

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

3.5 INITIAL VARIETAL TRIAL (EARLY)

Centres (5)	Anakapalle, Cuddalore, Nayagarh*, Nellikuppam and Vuyyuru
Entries (7)	1. Co 07013 (GS 94-230 PC) 2. Co 13023 (GBB 986002 x CoSnk 03-754) 3. Co 13024 (CoSnk 03-44 x Co 86011) 4. CoA 1432 (CoS 92081 GC) 5. CoA 14322 (Co 85002 GC) 6. CoC 14336 (81 V 48 x CoC 671) 7. CoV 14356 (CoV 89101 GC)
Standards (2)	CoC 01061 and CoA 92081
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, 2016
Crop duration	10 months

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

Results of the previous year

The entries were under multiplication in the respective centres

Results of the current year

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). Further details are presented in Tables 4.5.1 to 4.5.20.

Table 3.5.1CCS (t/ha) at harvest

S. No.	Entry	Anakappalle	Cuddalore #	Naya garh	Nellikuppam	Vuyyuru #	Mean	Rank
1	Co 07013	11.25	17.29*	-	8.34	8.91	11.45	
2	Co 13023	9.57	16.96*	-	12.02	10.94	12.37	
3	Co 13024	8.62	15.94	-	12.15	11.34	12.01	
4	CoA 14321	16.91*	16.86*	11.92	15.42	11.58	14.54	2
5	CoA 14322	9.78	15.13	11.25	12.16	9.83	11.63	
6	CoC 14336	16.71*	18.03*	14.46	13.23	13.32*	15.15	1
7	CoV 14356	12.51	15.56	13.05	13.84	12.27*	13.45	3
	Standards							
1	CoC 01061	11.96	14.70	11.97	10.75	9.69	11.81	
2	CoA 92081	11.60	14.98	12.46	15.02	9.44	12.70	
	GM	12.10	16.16	-	12.55	10.81		
	SE	0.85	0.39	0.79	0.82	0.81		
	CD (0.05)	2.55	1.17	NS	1.73	2.42		
	CV	12.15	4.19	10.93	7.99	12.90		
	Qualifying entries at each location							
	1	CoA 14321	CoC 14336	-	-	CoC 14336	CoC 14336	
	2	CoC 14336	Co 07013	-	-	CoV 14356	CoA 14321	
	3	-	Co 13023	-	-	CoA 14321	-	

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: Co 07013 (1), Co 13023 (1), CoA 14321 (2), CoC 14336 (3) and CoV 14356 (1)

Performance of the entries across locations: The entry CoC 14336 (15.15 t/ha) was the best in the trial followed by CoA 14321 (14.54 t/ha) and CoV 14356 (13.45 t/ha) while the best standard CoA 92081 recorded 12.70 t/ha. The entry CoA 14321 recorded more than 10 % improvement over the best standard at Cuddalore at fourth position while Co 13024 and Co 13023 at Vuyyuru and occupied fourth and fifth position respectively. The entries CoC 14336 and CoA 14321 recorded 19.29 % and 14.47 % improvement over the best standard CoA 92081 across the locations.

Table 3.5.2 Cane yield (t/ha) at harvest

S. No.	Entry	Anaka palle	Cuddalore #	Naya garh	Nelliku ppam	Vuyyuru #	Mean	Rank
1	Co 07013	89.99	137.75*	-	96.09	81.17	101.25	
2	Co 13023	76.03	130.07*	-	109.05	104.17	104.83	
3	Co 13024	68.37	128.15*	-	104.37	96.76	99.41	
4	CoA 14321	125.41*	132.20*	100.67	128.65	112.81*	119.95	1
5	CoA 14322	86.77	121.34	94.00	113.20	81.17	99.30	
6	CoC 14336	121.81*	137.66*	114.00	113.17	98.61	117.05	2
7	CoV 14356	97.85	121.85	111.00	116.00	105.09	110.36	3
	Standards							
1	CoC 01061	96.34	115.76	102.00	91.31	82.41	97.56	
2	CoA 92081	90.86	118.65	104.33	121.81	85.65	104.26	
	GM	94.83	127.05	-	110.41	94.20		
	SE	6.33	3.02	3.75	7.24	7.01		
	CD(0.05)	18.98	9.05	11.55	15.36	21.00		
	CV	11.56	4.12	6.20	8.04	12.90		
	Qualifying entries at each location							
	1	CoA 14321	Co 07013	-	-	CoA 14321	CoA 14321	
	2	CoC 14336	CoC 14336	-	-	CoV 14356	CoC 14336	
	3	-	CoA 14321	-	-	Co 13023	-	

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: Co 07013(1), Co 13023 (1), Co 13024 (1), CoA 14321 (3), CoC 14336 (3) and CoV 14356 (1)

Performance of the entries across locations: The entry CoA 14321 was the best in the trial which recorded the highest cane yield of (119.95 t/ha) followed by CoC 14336 (117.05 t/ha) and CoV 14356 (110.36 t/ha). The best standard CoA 92081 recorded 104.26 t/ha cane yield. The entries CoC 14336 and Co 13024 recorded more than 10 % improvement over the best standard at Vuyyuru and occupied fourth and fifth position respectively. The entries CoA 14321 and CoC 14336 recorded 15.05 % and 12.27 % improvement over the best standard CoA 92081 across the locations.

Table 3.5.3 CCS % at 10th month

S. No.	Entry	Anakapalle	Cuddalore	Nayagarh	Nellikuppam	Vuyyuru	Mean	Rank
1	Co 07013	12.53	12.55	-	8.68	11.05	11.20	
2	Co 13023	12.59	13.04*	-	11.02	10.51	11.79	
3	Co 13024	12.60	12.44	-	11.63	11.71	12.10	
4	CoA 14321	13.49	12.75	11.83	11.99	10.27	12.07	
5	CoA 14322	11.31	12.47	11.97	10.75	12.20	11.74	
6	CoC 14336	13.71*	13.10*	11.80	11.70	13.49*	12.76	1
7	CoV 14356	12.74	12.77	11.76	11.93	11.67	12.17	2
	Standards							
1	CoC 01061	12.42	12.70	11.72	11.77	11.76	12.07	
2	CoA 92081	12.77	12.63	11.95	12.33	11.02	12.14	3
	GM	12.68	12.72	-	11.31	11.52		
	SE	0.26	0.05	0.17	0.17	0.26		
	CD (0.05)	0.79	0.15	NS	0.35	0.79		
	CV	3.60	0.67	2.55	1.81	3.90		
	Qualifying entries at each location							
	1	CoC 14336	-	-	-	CoC 14336	CoC 14336	
	2	CoA 14321	-	-	-	-	-	
	3	-	-	-	-	-	-	

*Significant over the best standard

No. of locations where an entry recorded 5 % improvement over the best standard: CoA 14321 (1) and CoC 14336 (2)

Performance of the entries across locations: The entry CoC 14336 recorded the highest mean CCS % of 12.76 followed by the entry CoV 14356 (12.17) while the best standard CoA 92081 recorded 12.14. The entry CoC 14336 recorded 5.11 % improvement over the best standard CoA 92081 across the locations.

Table 3.5.4 Sucrose % at 10th month

S. No.	Entry	Anaka palle	Cuddalore	Naya garh	Nellikuppam	Vuyyuru	Mean	Rank
1	Co 07013	17.93	17.61	-	13.21	15.62	16.09	
2	Co 13023	18.21	18.02*	-	15.90	15.19	16.83	
3	Co 13024	18.27	16.98	-	16.79	16.40	17.11	
4	CoA 14321	19.05	17.65	17.48	17.29	14.66	17.23	
5	CoA 14322	16.43	17.50	17.33	15.67	16.96	16.78	
6	CoC 14336	19.30	18.15*	17.07	17.03	18.19*	17.95	1
7	CoV 14356	18.30	17.83	17.03	17.30	16.47	17.39	2
	Standards							
1	CoC 01061	17.93	17.73	17.18	17.03	16.52	17.28	3
2	CoA 92081	18.33	17.42	17.17	17.73	15.55	17.24	
	GM	18.19	17.65	-	16.44	16.17		
	SE	0.33	0.10	0.18	0.20	0.30		
	CD (0.05)	1.00	0.29	NS	0.43	0.90		
	CV	3.18	0.95	1.83	1.53	3.20		
	Qualifying entries at each location							
	1	CoC 14336	-	-	-	CoC 14336		
	2	-	-	-	-	-		
	3	-	-	-	-	-		

*Significant over the best standard

No. of locations where an entry recorded 5 % improvement over the best standard: CoC 14336(2)

Performance of the entries across locations: The entry CoC 14336 recorded the highest sucrose content of 17.95 % across the locations followed by CoV 14356 (17.39 %), while the best standard CoC 01061 recorded 17.28 %.

Table 3.5.5 Brix % at 10th month

S. No.	Entry	Anakapalle	Cuddalore	Nayagarh	Nellikuppam	Vuyyuru	Mean
1	Co 07013	19.86	20.20	-	16.49	17.83	18.60
2	Co 13023	20.62	20.83	-	17.92	18.12	19.37
3	Co 13024	20.79	19.90	-	18.93	18.36	19.50
4	CoA 14321	20.46	20.55	20.67	19.45	17.08	19.64
5	CoA 14322	18.78	20.78	19.67	18.04	18.68	19.19
6	CoC 14336	20.61	21.10	19.33	19.55	19.91	20.10
7	CoV 14356	20.43	20.63	19.33	19.69	18.73	19.76
	Standards						
1	CoC 01061	20.21	20.70	20.00	19.30	18.62	19.77
2	CoA 92081	20.39	20.25	19.17	19.81	17.72	19.47
	GM	20.24	20.55	-	18.80	18.34	
	SE	0.36	0.09	0.41	0.28	0.19	
	CD (0.05)	1.09	0.27	NS	0.59	0.57	
	CV	3.11	0.76	3.60	1.81	1.80	

Table 3.5.6 Purity % at 10th month

S. No.	Entry	Anakapalle	Cuddalore	Nayagarh	Nellikuppam	Vuyyuru	Mean
1	Co 07013	90.31	88.17	-	80.09	87.57	86.54
2	Co 13023	88.32	90.12	-	88.74	83.79	87.74
3	Co 13024	87.89	87.73	-	88.70	89.32	88.41
4	CoA 14321	93.13	90.04	84.67	88.86	85.83	88.51
5	CoA 14322	87.49	89.38	88.20	86.86	90.72	88.53
6	CoC 14336	93.70	90.40	88.46	87.11	91.34	90.20
7	CoV 14356	89.56	88.75	88.16	87.88	87.92	88.45
	Standards						
1	CoC 01061	88.76	89.78	86.06	88.25	88.69	88.31
2	CoA 92081	89.89	88.26	89.58	89.47	87.78	89.00
	GM	89.89	89.18	-	87.33	88.11	
	SE	1.03	0.22	1.66	0.96	1.06	
	CD (0.05)	3.08	0.64	NS	2.05	3.19	
	CV	1.98	0.42	3.29	1.35	2.10	

Table 3.5.7 Pol % cane at harvest

S. No.	Entry	Anakapalle	Cuddalore	Naya garh	Nelliku ppam	Vuyyuru	Mean
1	Co 07013	14.29	13.35	-	10.86	-	12.83
2	Co 13023	14.51	13.90	-	13.08	-	13.83
3	Co 13024	14.45	13.57	-	13.81	-	13.94
4	CoA 14321	15.09	13.93	-	14.23	-	14.42
5	CoA 14322	13.15	13.60	-	12.89	-	13.21
6	CoC 14336	15.38	14.01	-	14.01	-	14.47
7	CoV 14356	14.67	13.32	-	14.24	-	14.08
	Standards						
1	CoC 01061	14.01	13.84	-	14.00	-	13.95
2	CoA 92081	14.73	13.51	-	14.58	-	14.27
	GM	14.48	13.67	-	13.52	-	
	SE	0.31	0.04	-	0.17	-	
	CD (0.05)	0.92	0.13	-	0.36	-	
	CV	3.68	0.53	-	1.53	-	

Table 3.5.8 Extraction % at harvest

S. No.	Entry	Anakapalle	Cuddalore	Naya garh	Nelliku ppam	Vuyyuru	Mean
1	Co 07013	60.27	49.25	-	-	-	54.76
2	Co 13023	60.30	50.18	-	-	-	55.24
3	Co 13024	58.93	49.05	-	-	-	53.99
4	CoA 14321	62.60	50.67	51.54	-	-	56.64
5	CoA 14322	63.04	49.72	53.71	-	-	56.38
6	CoC 14336	57.42	50.84	53.82	-	-	54.13
7	CoV 14356	61.12	49.88	53.87	-	-	55.50
	Standards						
1	CoC 01061	53.99	50.41	52.19	-	-	52.20
2	CoA 92081	60.69	50.11	52.63	-	-	55.40
	GM	59.82	50.01	-	-	-	
	SE	2.30	0.20	0.43	-	-	
	CD (0.05)	6.89	0.61	1.34	-	-	
	CV	6.65	0.70	1.43	-	-	

Table 3.5.9 Fiber % at harvest

S. No.	Entry	Anakapalle	Cuddalore	Naya garh	Nelliku ppam	Vuyyuru	Mean
1	Co 07013	15.25	13.56	-	12.75	-	13.85
2	Co 13023	15.35	13.31	-	12.72	-	13.79
3	Co 13024	15.86	13.64	-	12.76	-	14.09
4	CoA 14321	15.75	13.37	14.70	12.69	-	13.94
5	CoA 14322	14.97	13.55	17.95	12.75	-	13.76
6	CoC 14336	15.28	13.27	13.73	12.72	-	13.76
7	CoV 14356	14.93	13.54	14.56	12.70	-	13.72
	Standards						
1	CoC 01061	16.80	13.33	14.19	12.78	-	14.30
2	CoA 92081	14.61	13.06	14.01	12.73	-	13.47
	GM	15.42	13.40	-	12.73	-	
	SE	0.43	0.07	0.24	0.08	-	
	CD (0.05)	1.28	0.21	0.74	0.16	-	
	CV	4.81	0.91	2.89	0.72	-	

Table 3.5.10 NMC ('000/ha) at harvest

S. No.	Entry	Anakapalle	Cuddalore	Naya garh	Nelliku ppam	Vuyyuru	Mean
1	Co 07013	62.19	119.40	-	121.29	68.06	92.73
2	Co 13023	59.87	115.47	-	120.37	70.68	91.60
3	Co 13024	55.86	110.72	-	117.03	65.74	87.34
4	CoA 14321	80.09	118.65	111.25	123.15	73.46	101.32
5	CoA 14322	62.96	106.87	115.01	126.85	65.12	95.36
6	CoC 14336	79.47	119.31	116.73	112.96	84.88	102.67
7	CoV 14356	80.09	105.01	120.08	126.04	72.07	100.66
	Standards						
1	CoC 01061	95.52	116.77	106.12	117.13	87.96	104.70
2	CoA 92081	84.41	98.90	108.07	120.37	74.69	97.29
	GM	73.38	112.34	-	120.58	73.63	
	SE	3.54	3.58	4.10	7.26	6.04	
	CD (0.05)	10.61	10.72	12.63	15.40	NS	
	CV	8.35	5.51	6.43	7.38	14.20	

Table 3.5.11 Stalk length (cm)

S. No.	Entry	Anakapalle	Cuddalore	Naya garh	Nelliku ppam	Vuyyuru	Mean
1	Co 07013	220.53	276.45	-	240.67	279.10	254.19
2	Co 13023	217.48	271.50	-	241.67	239.50	242.54
3	Co 13024	209.43	270.84	-	223.33	236.00	234.90
4	CoA 14321	312.03	275.00	200.00	263.33	254.00	260.87
5	CoA 14322	232.78	276.11	208.33	236.67	245.20	239.82
6	CoC 14336	294.97	275.83	241.33	245.00	261.30	263.69
7	CoV 14356	254.76	258.22	206.67	251.67	238.80	242.02
	Standards						
1	CoC 01061	307.87	272.33	248.33	223.33	223.90	255.15
2	CoA 92081	243.13	253.33	223.33	250.00	233.70	240.70
	GM	254.78	269.96		241.74	245.72	
	SE	8.31	4.35	8.96	12.44	10.19	
	CD (0.05)	24.92	13.04	27.63	26.38	30.55	
	CV	5.65	2.79	6.93	6.30	7.20	

Table 3. 5.12 Stalk diameter (cm)

S. No.	Entry	Anakapalle	Cuddalore	Naya garh	Nelliku ppam	Vuyyuru	Mean
1	Co 07013	2.59	2.81	-	2.47	2.89	2.69
2	Co 13023	2.68	2.85	-	2.33	2.72	2.65
3	Co 13024	2.39	2.72	-	2.30	2.44	2.46
4	CoA 14321	3.07	2.83	2.03	2.67	3.08	2.74
5	CoA 14322	2.70	2.77	2.23	2.40	2.61	2.54
6	CoC 14336	2.97	2.95	1.90	2.53	2.63	2.60
7	CoV 14356	2.62	2.60	3.03	2.60	2.91	2.75
	Standards						
1	CoC 01061	2.39	2.55	2.13	2.00	2.27	2.27
2	CoA 92081	2.49	2.75	2.60	2.60	2.91	2.67
	GM	2.66	2.76	-	2.43	2.72	
	SE	0.06	0.07	0.08	0.14	0.10	
	CD (0.05)	0.17	0.20	0.26	0.31	0.28	
	CV	3.62	4.19	6.31	7.25	6.00	

Table 3.5.13 Single cane weight (kg)

S. No.	Entry	Anakapalle	Cuddalore	Naya garh	Nelliku ppam	Vuyyuru	Mean
1	Co 07013	1.53	1.13	-	1.02	1.33	1.25
2	Co 13023	1.43	1.27	-	1.35	1.21	1.32
3	Co 13024	1.13	1.14	-	0.95	1.35	1.14
4	CoA 14321	1.73	1.30	1.32	1.17	1.57	1.42
5	CoA 14322	1.52	1.09	1.50	1.38	1.19	1.34
6	CoC 14336	1.57	1.35	1.67	1.50	1.34	1.49
7	CoV 14356	1.12	1.13	1.73	1.12	1.30	1.28
	Standards						
1	CoC 01061	1.03	1.03	1.17	0.94	0.81	1.00
2	CoA 92081	1.11	1.24	1.17	1.14	1.29	1.19
	GM	1.35	1.19		1.17	1.27	
	SE	0.07	0.04	0.06	0.03	0.09	
	CD (0.05)	0.20	0.12	0.18	0.06	0.27	
	CV	8.52	6.03	7.03	3.05	12.10	

Table 3.5.14 CCS % at 8 months

S. No.	Entry	Anakapalle	Cuddalore	Naya garh	Nelliku ppam	Vuyyuru	Mean
1	Co 07013	11.86	10.51	-	8.07	-	10.15
2	Co 13023	12.35	10.97	-	10.57	-	11.30
3	Co 13024	12.26	10.33	-	11.11	-	11.23
4	CoA 14321	12.82	10.67	-	11.32	-	11.60
5	CoA 14322	10.69	10.43	-	9.97	-	10.36
6	CoC 14336	12.91	11.01	-	11.28	-	11.73
7	CoV 14356	12.16	10.71	-	11.07	-	11.31
	Standards						
1	CoC 01061	11.43	10.61	-	11.38	-	11.14
2	CoA 92081	12.05	10.53	-	11.87	-	11.48
	GM	12.06	10.64	-	10.74	-	
	SE	0.23	0.04	-	0.12	-	
	CD (0.05)	0.69	0.11	-	0.25	-	
	CV	3.32	0.62	-	1.35	-	

Table 3.5.15 Sucrose % at 8 months

S. No.	Entry	Anakapalle	Cuddalore	Naya garh	Nelliku ppam	Vuyyuru	Mean
1	Co 07013	17.06	14.97	-	12.40	-	14.81
2	Co 13023	17.61	15.58	-	15.33	-	16.17
3	Co 13024	17.37	15.12	-	16.08	-	16.19
4	CoA 14321	18.24	15.67	-	16.44	-	16.78
5	CoA 14322	15.57	15.74	-	14.63	-	15.31
6	CoC 14336	18.43	16.10	-	16.37	-	16.97
7	CoV 14356	17.27	15.87	-	16.16	-	16.43
	Standards						
1	CoC 01061	16.73	15.74	-	16.55	-	16.34
2	CoA 92081	17.03	15.44	-	17.20	-	16.56
	GM	17.26	15.58	-	15.68	-	
	SE	0.30	0.13	-	0.15	-	
	CD (0.05)	0.89	0.40	-	0.32	-	
	CV	2.99	1.48	-	1.17	-	

Table 3.5.16 Brix % at 8 months

S. No.	Entry	Anakapalle	Cuddalore	Naya garh	Nelliku ppam	Vuyyuru	Mean
1	Co 07013	19.08	18.64	-	15.75	-	17.82
2	Co 13023	19.33	19.75	-	17.43	-	18.84
3	Co 13024	18.82	19.40	-	18.21	-	18.81
4	CoA 14321	19.91	19.72	-	18.77	-	19.47
5	CoA 14322	17.86	19.45	-	17.08	-	18.13
6	CoC 14336	20.29	19.47	-	18.65	-	19.47
7	CoV 14356	18.77	18.94	-	18.66	-	18.79
	Standards						
1	CoC 01061	19.40	19.00	-	18.96	-	19.12
2	CoA 92081	18.31	18.62	-	19.54	-	18.82
	GM	19.09	19.22	-	18.12	-	
	SE	0.39	0.36	-	0.14	-	
	CD (0.05)	1.18	1.08	-	0.29	-	
	CV	3.56	3.24	-	0.92	-	

Table 3.5.17 Purity % at 8 months

S. No.	Entry	Anakapalle	Cuddalore	Naya garh	Nelliku ppam	Vuyyuru	Mean
1	Co 07013	89.44	85.38	-	78.71	-	84.51
2	Co 13023	91.12	86.18	-	87.92	-	88.41
3	Co 13024	92.33	84.70	-	88.27	-	88.43
4	CoA 14321	91.60	86.42	-	87.60	-	88.54
5	CoA 14322	87.18	84.48	-	85.67	-	85.78
6	CoC 14336	90.92	85.51	-	87.77	-	88.07
7	CoV 14356	92.04	84.17	-	86.62	-	87.61
	Standards						
1	CoC 01061	86.27	85.42	-	87.32	-	86.34
2	CoA 92081	92.96	84.29	-	87.99	-	88.41
	GM	90.43	85.17	-	86.43	-	
	SE	1.20	0.18	-	0.36	-	
	CD (0.05)	3.60	0.53	-	0.77	-	
	CV	2.30	0.36	-	0.52	-	

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

S. No.	Entry	Anakapalle	Cuddalore	Naya garh	Nelliku ppam	Vuyyuru	Mean
1	Co 07013	64.04	124.13	-	151.22	77.32	104.18
2	Co 13023	62.19	119.24	-	153.40	75.31	102.53
3	Co 13024	59.26	118.14	-	150.00	75.00	100.60
4	CoA 14321	82.09	123.28	117.92	139.51	78.09	108.18
5	CoA 14322	71.45	118.23	133.50	147.22	74.38	108.96
6	CoC 14336	80.25	125.03	129.27	148.15	84.88	113.52
7	CoV 14356	84.41	110.65	128.34	138.82	76.70	107.78
	Standards						
1	CoC 01061	100.46	122.04	113.35	152.78	87.96	115.32
2	CoA 92081	86.57	109.37	119.12	136.42	79.32	106.16
	GM	76.75	118.90	-	146.39	78.77	
	SE	4.20	3.28	3.43	9.13	6.04	
	CD (0.05)	12.59	9.84	10.58	19.36	NS	
	CV	9.48	4.78	4.86	7.64	13.20	

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

S. No.	Entry	Anakapalle	Cuddalore	Naya garh	Nelliku ppam	Vuyyuru	Mean
1	Co 07013	66.51	130.51	-	172.22	96.30	116.38
2	Co 13023	65.12	126.93	-	166.67	102.01	115.18
3	Co 13024	61.26	122.40	-	156.48	100.31	110.11
4	CoA 14321	83.79	129.92	122.99	157.72	97.99	118.48
5	CoA 14322	73.30	122.10	138.04	164.20	101.70	119.87
6	CoC 14336	87.49	130.21	137.23	160.49	101.85	123.45
7	CoV 14356	90.27	115.14	134.68	162.35	95.99	119.69
	Standards						
1	CoC 01061	110.03	128.90	121.56	160.18	103.55	124.84
2	CoA 92081	109.41	115.33	119.09	166.05	101.70	122.32
	GM	83.02	124.60	-	162.93	100.15	
	SE	5.88	3.42	4.54	9.63	7.57	
	CD (0.05)	17.62	10.25	13.97	20.41	NS	
	CV	12.26	4.75	6.12	7.24	13.10	

Table 3.5.20 Germination % at 30 days

S. No.	Entry	Anakapalle	Cuddalore	Naya garh	Nelliku ppam	Vuyyuru	Mean
1	Co 07013	54.51	69.93	-	93.05	54.75	68.06
2	Co 13023	50.93	58.47	-	83.80	50.35	60.89
3	Co 13024	50.69	58.28	-	81.51	51.39	60.47
4	CoA 14321	65.39	52.36	51.97	80.89	50.35	60.19
5	CoA 14322	56.36	55.86	58.71	82.97	54.51	61.68
6	CoC 14336	66.89	74.32	50.71	80.95	61.92	66.96
7	CoV 14356	76.74	60.64	49.94	81.16	54.28	64.55
	Standards						
1	CoC 01061	79.63	73.93	55.08	83.98	59.49	70.42
2	CoA 92081	83.68	52.46	60.38	84.46	65.16	69.23
	GM	64.98	61.81	-	83.64	55.80	
	SE	4.25	3.05	2.25	5.33	2.79	
	CD (0.05)	12.76	9.15	6.95	11.29	8.38	
	CV	11.34	8.56	7.23	7.80	8.70	

Table 3.5.21 Assessment of entries by monitoring team

	Nellikuppam	Cuddalore	Vuyyuru	Anakapalle	Nayagarh
Co 07013	On par	Better	Better	On par	NA
Co 13023	Better	On par	On par	On par	NA
Co 13024	Poor	Better	On par	Better	NA
CoA 14321	Better	On par	Better	Better	Better
CoA 14322	On par	Poor	Better	Better	On par
CoC 14336	Better	Better	Better	Better	Better
CoV 14356	Better	Poor	Poor	Better	Poor
Standards					
CoC 01061	Best	Best	Best	Best	Best
CoA 92081					

3.6 ADVANCED VARIETAL TRIAL (MIDLATE – I 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
Bud rate	12 buds/ metre
Planting time	February / March, 2016
Crop duration	12 months

Results of the previous year

The IVT trial had been conducted by five centres with eight entries. CoC 13339 was the top ranking entry in the zone for CCS yield (15.60 t/ha) and CoA 13328 for cane yield (124.42 t/ha) and followed by CoA 13327. CoV 92102 was the better standard for both CCS (14.29 t/ha) and cane yield (111.32 t/ha). However for juice quality, the standard CoV 92102 was the top ranking in the zone with a CCS % of 12.81 and sucrose % of 17.98 followed by the entry CoC 13339 with 12.72 % and 17.84 % respectively.

Results of the current year

The entry CoC 13339 was the best performer across locations combining both yield and quality. It recorded a cane yield (123.10 t/ha) and CCS yield (15.66 t/ha) while the best standard CoV 92102 recorded 112.01 t/ha and 13.45 t/ha respectively. It recorded a mean sucrose % of 18.00 and CCS % of 12.71 at 12th month. 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	11.05	15.79	11.42	9.76	14.06	12.42	
2	CoA 12324	12.18	15.34	12.01	10.78	14.67	13.00	3
3	CoC 13339	15.35*	18.64*	13.37	15.30*	15.63	15.66	1
4	CoOr 13346	9.78	15.14	13.84*	10.03	14.28	12.61	
Standards								
1	CoV 92102	11.88	15.43	11.14	11.48	17.34	13.45	2
2	Co 86249	9.91	12.45	12.29	8.32	14.45	11.48	
GM		11.69	15.47	12.35	10.95	15.07		
SE		0.67	0.62	0.39	0.55	0.78		
CD (0.05)		2.04	1.33	1.18	1.17	NS		
CV		11.58	5.69	6.36	7.10	10.30		
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 (15.66 t/ha) was the best in the trial followed by the standard CoV 92102 (13.45 t/ha). The second best entry for CCS was CoA 12324 recording 13.00 t/ha. The entry CoC 13339 recorded 16.42 % improvement over the best standard CoV 92102 across the locations.

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

S. No.	Entry	Anaka palle	Cuddalore	Naya garh	Nelli kuppam	Vuyyuru	Mean	Rank
1	CoA11326	88.12	125.31	103.09	95.08	103.09	102.94	
2	CoA 12324	96.75	123.16	101.20	106.95	108.02	107.22	
3	CoC 13339	111.15*	141.15*	111.19	136.03*	115.97	123.10	1
4	CoOr 13346	87.03	119.43	112.97	105.98	117.21	108.52	3
Standards								
1	CoV 92102	94.85	120.85	99.70	122.68	121.99	112.01	2
2	Co 86249	89.36	106.20	104.01	85.71	106.33	98.32	
	GM	94.54	122.68	105.36	108.74	112.10		
	SE	4.05	4.95	3.02	5.60	5.66		
	CD (0.05)	12.20	10.55	9.10	11.94	NS		
	CV	8.57	5.70	5.73	7.29	10.10		
Qualifying entries at each location								
	1	CoC 13339	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)

Performance of the entries across locations: The entry CoC 13339 was the best in the trial which recorded the highest cane yield of (123.10 t/ha) followed by the best standard CoV 92102 (112.01 t/ha). The second best entry for cane yield was CoOr 13346 which recorded 108.52 t/ha.

Table 3.6.3 CCS % at 12th month

S. No.	Entry	Anakapalle	Cuddalore	Nayagarh	Nellikuppam	Vuyyuru	Mean	Rank
1	CoA11326	12.51	12.61	11.64	10.26*	13.63	12.13	2
2	CoA 12324	12.59	12.46	11.84	10.08*	13.59	12.11	3
3	CoC 13339	13.82	13.20*	11.81	11.25*	13.49	12.71	1
4	CoOr 13346	11.28	12.67	12.17	9.47	12.18	11.55	
	Standards							
1	CoV 92102	12.53	12.76	11.43	9.35	14.21	12.06	
2	Co 86249	11.11	11.73	11.92	9.71	13.59	11.61	
	GM	12.31	12.57	11.80	10.02	13.45		
	SE	0.55	0.11	0.11	0.09	0.09		
	CD (0.05)	1.65	0.24	0.32	0.19	0.27		
	CV	8.89	1.28	1.81	1.24	1.30		
Qualifying entries at each location								
	1	CoC 13339	-	-	CoC 13339	-	CoC 13339	
	2	-	-	-	CoA 11326	-	-	
	3	-	-	-	-	-	-	

*Significant over the best standard

No. of locations where an entry recorded 5 % improvement over the best standard: CoA 11326 (1) and CoC 13339 (2)

Performance of the entries across locations: The entry CoC 13339 recorded the highest mean CCS % of 12.71 followed by CoA 11326 (12.13) and CoA 12324 (12.11) respectively. The entry CoC 13339 recorded 5.42 % improvement over the best standard CoV 92102 across the locations.

Table 3.6 .4 Sucrose % at 12th month

S. No.	Entry	Anaka palle	Cuddalore	Naya garh	Nelli kuppam	Vuyyuru	Mean	Rank
1	CoA 11326	18.38	17.60	17.09	15.19	18.85	17.42	2
2	CoA 12324	18.34	17.46	17.26	14.96*	18.85	17.37	3
3	CoC 13339	19.74	18.15*	17.16	16.38	18.58	18.00	1
4	CoOr 13346	16.65	17.66	17.66*	14.18	17.07	16.64	
Standards								
1	CoV 92102	18.13	17.71	16.68	13.93	19.61	17.21	
2	Co 86249	16.35	16.60	17.16	14.40	18.73	16.65	
	GM	17.93	17.53	17.17	14.84	18.62		
	SE	0.67	0.15	0.12	0.09	0.13		
	CD (0.05)	2.02	0.31	0.37	0.20	0.40		
	CV	7.48	1.17	1.43	0.87	1.40		
Qualifying entries at each location								
	1	CoC 13339	-	-	CoC 13339	-	-	
	2	-	-	-	CoA 11326	-	-	
	3	-	-	-	-	-	-	

*Significant over the best standard

No. of locations where an entry recorded 5 % improvement over the best standard: CoA 11326 (1) and CoC 13339 (2)

Performance of the entries across locations: The entry CoC 13339 recorded the highest sucrose content of 18.00 % across the locations followed by CoA 11326 (17.42 %) and CoA 12324 (17.37 %).

Table 3.6.5 Brix % at 12th month

S. No.	Entry	Anaka palle	Cuddalore	Nayagarh	Nelli kuppam	Vuyyuru	Mean
1	CoA 11326	21.46	20.27	19.93	18.01	20.53	20.04
2	CoA 12324	21.06	20.24	19.83	17.81	20.69	19.93
3	CoC 13339	21.77	21.24	19.61	18.79	20.09	20.30
4	CoOr 13346	19.65	20.62	20.10	17.21	19.14	19.34
Standards							
1	CoV 92102	20.53	20.60	19.25	16.72	21.28	19.68
2	Co 86249	19.16	19.37	19.25	17.17	20.24	19.04
	GM	20.61	20.39	19.66	17.62	20.33	
	SE	0.49	0.50	0.20	0.07	0.17	
	CD (0.05)	1.49	NS	0.59	0.16	0.52	
	CV	4.79	2.31	1.99	0.59	1.70	

Table 3.6 .6 Purity % at 12th month

S. No.	Entry	Anakapalle	Cuddalore	Nayagarh	Nelli kuppam	Vuyyuru	Mean
1	CoA 11326	85.63	88.83	85.75	84.32	91.83	87.27
2	CoA 12324	87.06	89.35	87.33	83.97	91.03	87.75
3	CoC 13339	90.56	90.42	87.58	87.17	92.51	89.65
4	CoOr 13346	84.58	90.62	87.86	82.41	89.18	86.93
Standards							
1	CoV 92102	88.18	89.78	86.66	83.33	92.15	88.02
2	Co 86249	85.33	88.71	89.21	83.91	92.53	87.94
	GM	86.89	89.62	87.40	84.19	91.54	
	SE	1.33	0.48	0.76	0.50	0.28	
	CD (0.05)	4.02	1.02	NS	1.06	0.85	
	CV	3.07	0.76	1.73	0.84	0.60	

Table 3.6.7 Pol % cane at harvest

S. No.	Entry	Anakapalle	Cuddalore	Nayagarh	Nelli kuppam	Vuyyuru	Mean
1	CoA 11326	14.69	13.74	12.53	12.53	-	13.37
2	CoA 12324	14.46	13.61	12.32	12.32	-	13.18
3	CoC 13339	15.57	14.03	13.49	13.49	-	14.15
4	CoOr 13346	12.99	13.63	11.68	11.68	-	12.50
Standards							
1	CoV 92102	14.23	13.87	11.48	11.48	-	12.77
2	Co 86249	12.78	12.76	11.87	11.87	-	12.32
	GM	14.12	13.61	12.23	12.23	-	
	SE	0.51	0.20	0.07	0.07	-	
	CD (0.05)	1.54	0.43	0.16	0.16	-	
	CV	7.22	2.11	0.87	0.87	-	

Table 3.6.8 Extraction % at harvest

S. No.	Entry	Anakapalle	Cuddalore	Nayagarh	Nelli kuppam	Vuyyuru	Mean
1	CoA 11326	56.14	50.34	51.96	-	-	52.81
2	CoA 12324	53.85	50.66	53.78	-	-	52.76
3	CoC 13339	64.74	51.57	52.14	-	-	56.15
4	CoOr 13346	54.43	50.45	54.23	-	-	53.04
Standards							
1	CoV 92102	53.23	50.88	52.31	-	-	52.14
2	Co 86249	51.35	49.71	51.79	-	-	50.95
	GM	55.62	50.60	52.70	-	-	
	SE	2.23	0.16	0.44	-	-	
	CD (0.05)	6.72	0.34	1.32	-	-	
	CV	8.02	0.45	1.66	-	-	

Table 3.6.9 Fiber % at harvest

S. No.	Entry	Anakapalle	Cuddalore	Nayagarh	Nelli kuppam	Vuyyuru	Mean
1	CoA 11326	14.98	13.50	14.99	12.53	-	14.00
2	CoA 12324	16.17	13.66	14.84	12.61	-	14.32
3	CoC 13339	16.12	13.27	14.63	12.64	-	14.17
4	CoOr 13346	16.99	13.77	13.35	12.62	-	14.18
Standards							
1	CoV 92102	16.52	13.40	14.88	12.58	-	14.35
2	Co 86249	16.81	13.81	14.93	12.59	-	14.54
	GM	16.27	13.57	14.60	12.60	-	
	SE	0.32	0.18	0.1	0.04	-	
	CD (0.05)	0.96	0.37	0.3	0.08	-	
	CV	3.92	1.83	1.38	0.44	-	

Table 3.6.10 NMC (*000/ha) at harvest

S. No.	Entry	Anakapalle	Cuddalore	Nayagarh	Nelli kuppam	Vuyyuru	Mean
1	CoA 11326	72.61	103.11	107.59	135.12	62.04	96.09
2	CoA 12324	74.93	105.98	120.45	132.95	62.65	99.39
3	CoC 13339	85.73	113.06	125.07	149.00	68.21	108.21
4	CoOr 13346	84.41	101.72	126.21	162.03	77.16	110.31
Standards							
1	CoV 92102	82.25	106.72	99.18	162.31	80.56	106.20
2	Co 86249	84.95	116.78	101.47	168.79	79.01	110.20
	GM	80.81	107.90	113.33	151.70	71.60	
	SE	2.34	6.25	2.91	7.53	3.82	
	CD (0.05)	7.06	13.34	8.77	16.05	11.51	
	CV	5.79	8.21	5.13	7.02	10.70	

Table 3.6.11 Stalk length (cm)

S. No.	Entry	Anakapalle	Cuddalore	Nayagarh	Nellikuppam	Vuyyuru	Mean
1	CoA 11326	225.27	280.13	217.50	166.25	253.00	228.43
2	CoA 12324	226.85	275.00	206.25	173.75	191.80	214.73
3	CoC 13339	269.73	286.38	248.75	227.00	248.50	256.07
4	CoOr 13346	256.08	273.50	300.00	207.50	267.80	260.98
Standards							
1	CoV 92102	292.21	274.25	232.50	238.75	248.50	257.24
2	Co 86249	290.26	266.25	215.00	202.50	248.80	244.56
	GM	260.07	275.92	236.67	202.63	243.07	
	SE	6.03	5.25	10.07	9.68	6.06	
	CD (0.05)	18.16	11.18	30.33	20.64	18.27	
	CV	4.64	2.69	8.51	6.76	5.00	

Table 3.6.12 Stalk diameter (cm)

S. No.	Entry	Anakapalle	Cuddalore	Nayagarh	Nellikuppam	Vuyyuru	Mean
1	CoA 11326	3.01	2.90	2.15	2.70	2.74	2.70
2	CoA 12324	3.05	2.86	2.40	2.75	3.07	2.83
3	CoC 13339	2.89	3.03	2.08	2.60	3.00	2.72
4	CoOr 13346	2.42	2.36	2.75	2.20	2.27	2.40
Standards							
1	CoV 92102	2.52	2.52	2.43	2.25	2.51	2.45
2	Co 86249	2.28	2.42	2.25	2.05	2.36	2.27
	GM	2.70	2.68	2.34	2.43	2.66	
	SE	0.06	0.08	0.11	0.13	0.05	
	CD (0.05)	0.16	0.16	0.33	0.27	0.16	
	CV	4.07	3.85	9.36	7.35	3.90	

Table 3.6.13 Single cane weight (kg)

S. No.	Entry	Anakapalle	Cuddalore	Nayagarh	Nellikuppam	Vuyyuru	Mean
1	CoA 11326	1.49	1.32	1.26	1.04	1.71	1.36
2	CoA 12324	1.53	1.28	1.47	0.97	1.86	1.42
3	CoC 13339	1.53	1.31	1.57	1.45	1.87	1.55
4	CoOr 13346	1.04	1.24	1.78	1.08	1.50	1.33
Standards							
1	CoV 92102	1.22	1.17	1.40	1.18	1.53	1.30
2	Co 86249	1.19	1.05	1.32	0.72	1.23	1.10
	GM	1.33	1.23	1.47	1.07	1.62	
	SE	0.07	0.06	0.04	0.04	0.06	
	CD (0.05)	0.21	0.12	0.12	0.09	0.17	
	CV	10.42	6.38	5.50	5.36	6.90	

Table 3.6.14 CCS % at 10 months

S. No.	Entry	Anakapalle	Cuddalore	Nayagarh	Nellikuppam	Vuyyuru	Mean
1	CoA 11326	11.25	10.23	-	9.93	12.71	11.03
2	CoA 12324	11.49	10.15	-	9.77	12.37	10.95
3	CoC 13339	13.30	10.55	-	10.65	11.42	11.48
4	CoOr 13346	9.85	10.25	-	8.56	9.68	9.59
Standards							
1	CoV 92102	12.85	10.43	-	8.93	12.87	11.27
2	Co 86249	10.94	9.87	-	9.37	9.75	9.98
	GM	11.61	10.25	-	9.54	11.47	
	SE	0.33	0.28	-	0.10	0.17	
	CD (0.05)	0.98	0.59	-	0.21	0.51	
	CV	5.63	3.84	-	1.46	2.90	

Table 3.6.15 Sucrose % at 10 months

S. No.	Entry	Anakapalle	Cuddalore	Nayagarh	Nellikuppam	Vuyyuru	Mean
1	CoA 11326	16.56	15.28	-	14.78	17.66	16.07
2	CoA 12324	17.04	15.24	-	14.56	17.40	16.06
3	CoC 13339	18.89	15.54	-	15.55	16.22	16.55
4	CoOr 13346	14.78	15.34	-	12.82	13.90	14.21
Standards							
1	CoV 92102	18.44	15.33	-	13.36	17.88	16.25
2	Co 86249	16.13	14.93	-	13.93	13.90	14.72
	GM	16.97	15.28	-	14.17	16.16	
	SE	0.42	0.21	-	0.13	0.24	
	CD (0.05)	1.25	0.45	-	0.28	0.73	
	CV	4.90	1.94	-	1.30	3.00	

Table 3.6.16 Brix % at 10 months

S. No.	Entry	Anakapalle	Cuddalore	Nayagarh	Nellikuppam	Vuyyuru	Mean
1	CoA11326	19.43	18.63	-	17.72	19.42	18.80
2	CoA 12324	20.28	18.48	-	17.48	19.67	18.98
3	CoC 13339	20.55	19.46	-	17.94	18.04	19.00
4	CoOr 13346	17.99	19.13	-	15.57	16.37	17.27
Standards							
1	CoV 92102	20.56	19.14	-	16.15	19.69	18.89
2	Co 86249	18.96	18.06	-	16.67	16.16	17.46
	GM	19.63	18.82	-	16.92	18.23	
	SE	0.43	0.44	-	0.13	0.19	
	CD (0.05)	1.28	NS	-	0.28	0.56	
	CV	4.34	3.31	-	1.10	2.00	

Table 3.6.17 Purity % at 10 months

S. No.	Entry	Anakapalle	Cuddalore	Nayagarh	Nellikuppam	Vuyyuru	Mean
1	CoA 11326	85.25	84.80	-	83.42	90.91	86.10
2	CoA 12324	84.04	85.02	-	83.27	88.42	85.19
3	CoC 13339	91.97	85.19	-	86.66	89.91	88.43
4	CoOr 13346	82.11	85.47	-	82.35	84.88	83.70
Standards							
1	CoV 92102	89.68	84.15	-	82.69	90.84	86.84
2	Co 86249	85.01	83.45	-	83.58	86.04	84.52
	GM	86.34	84.68	-	83.66	88.50	
	SE	1.19	0.60	-	0.30	0.72	
	CD (0.05)	3.58	1.27	-	0.64	2.17	
	CV	2.76	1.00	-	0.51	1.60	

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

S. No.	Entry	Anakapalle	Cuddalore	Nayagarh	Nellikuppam	Vuyyuru	Mean
1	CoA 11326	82.64	112.91	116.58	161.20	72.22	109.11
2	CoA 12324	84.79	113.75	125.91	161.81	69.44	111.14
3	CoC 13339	95.68	120.13	132.61	165.61	78.09	118.42
4	CoOr 13346	94.59	112.94	132.60	173.37	88.58	120.42
Standards							
1	CoV 92102	92.28	117.34	104.32	183.95	87.81	117.14
2	Co 86249	92.98	125.97	107.03	177.41	85.11	117.70
	GM	90.49	117.17	119.84	170.56	80.21	
	SE	2.42	4.11	3.05	8.57	2.78	
	CD (0.05)	7.30	8.77	9.18	18.26	8.39	
	CV	5.36	4.96	5.08	7.10	6.90	

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

S. No.	Entry	Anakapalle	Cuddalore	Nayagarh	Nellikuppam	Vuyyuru	Mean
1	CoA 11326	96.22	118.19	125.46	168.76	94.29	120.58
2	CoA 12324	98.29	119.36	135.71	186.57	91.98	126.38
3	CoC 13339	119.21	134.74	143.05	185.79	102.55	137.07
4	CoOr 13346	123.30	116.46	143.18	188.49	114.20	137.13
Standards							
1	CoV 92102	115.35	124.10	115.96	197.24	119.29	134.39
2	Co 86249	113.79	138.18	113.71	199.74	117.90	136.66
	GM	111.03	125.17	129.51	187.77	106.70	
	SE	3.00	6.72	3.16	9.98	3.96	
	CD (0.05)	9.05	14.33	9.52	21.27	11.94	
	CV	5.41	7.65	4.88	7.52	7.40	

Table 3.6.20 Germination % at 30 days

S. No.	Entry	Anakapalle	Cuddalore	Nayagarh	Nellikuppam	Vuyyuru	Mean
1	CoA 11326	42.59	55.68	51.15	79.11	51.62	56.03
2	CoA 12324	53.01	54.58	55.38	81.20	50.17	58.87
3	CoC 13339	64.64	66.19	54.76	82.73	55.79	64.82
4	CoOr 13346	48.03	49.54	62.26	84.51	52.55	59.38
Standards							
1	CoV 92102	59.72	54.36	56.88	85.97	54.05	62.20
2	Co 86249	71.70	55.52	53.50	85.94	60.13	65.36
	GM	56.62	55.98	55.66	83.24	54.05	
	SE	3.95	3.39	1.96	4.33	2.81	
	CD (0.05)	11.91	7.23	5.91	9.23	NS	
	CV	13.96	8.57	7.05	7.35	10.40	

Table 3.6.21 Assessment of entries by monitoring team

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

3.7 INITIAL VARIETAL TRIAL (MIDLATE)

Centres (5)	Anakapalle, Cuddalore, Nayagarh*, Nellikuppam and Vuyyuru
Entries (12)	1. Co 13025 (CoSnk 03-61 x Co 86011) 2. Co 13027 (GBB 986002 x CoSnk 03-754) 3.Co 13028 (GBB 986002 x CoSnk 03-754) 4.Co 13029 (GBB 986002 x CoSnk 03-754) 5.Co 13030 (CoSnk 03-61 x Co 775) 6.Co 13031 (Co 7704 x CoT 8201) 7.Co 13032 (CoS 8436 x Co 775) 8.CoA 14323 (CoV 92102 GC) 9.CoA 14324 (CoA 92081 x MS 6847) 10. CoC 14337 (Co 775 GC) 11.PI 14376 (PI 03-0033 PC) 12.PI 14377 (CoC 671 PC)
Standards (2)	CoV 92102 and Co 86249
Design	Randomized Block Design
Replications	Two
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, 2016
Crop duration	12 months

*Nayagarh data was not considered for analysis as it is incomplete.

Results of the previous year

The entries were under multiplication in the respective centres

Results of the current year

The entry CoC 14337 was the best performer across locations for both cane yield (118.38 t/ha) and CCS yield (14.75 t/ha). The next best entry for cane yield was PI 14377 (114.36 t/ha) and CCS yield was Co 13031 (14.01 t/ha). For juice quality (CCS % and sucrose %), PI 14376 was the top ranking entry in the zone. Its mean sucrose content at 12th month was 18.13 % and CCS % at 12th month was 12.63. Further details are presented in Tables 3.7.1 to 3.7.20.

Table 3.7.1 CCS (t/ha) at harvest

S. No.	Entry	Anakapalle	Cuddalore	Naya garh	Nellikuppam	Vuyyuru	Mean #	Rank
1	Co13025	11.27	15.41	-	14.19	9.09	12.49	
2	Co13027	9.28	14.90	-	11.71	11.50	11.85	
3	Co13028	10.19	16.44	-	11.35	10.51	12.12	
4	Co13029	9.97	15.80	-	12.58	10.84	12.30	
5	Co13030	8.79	15.98	-	11.53	10.32	11.66	
6	Co13031	11.65	16.72	-	13.72	13.95	14.01	2
7	Co13032	8.55	16.09	-	11.57	12.60	12.20	
8	CoA14323	15.52*	17.13*	11.01	13.85	12.32	13.97	3
9	CoA14324	9.77	16.95	12.17	11.69	10.29	12.17	
10	CoC14337	15.78*	18.27*	12.69	13.05	13.95	14.75	1
11	PI14376	11.76	16.05	11.33	13.05	11.74	12.79	
12	PI14377	12.16	16.30	10.96	15.91	14.54	13.97	3
	Standards							
1	CoV 92102	12.46	15.61	11.7	12.55	11.06	12.68	
2	Co 86249	10.33	13.68	11.57	12.72	12.07	12.07	
	GM	11.25	16.10	-	12.82	11.77		
	SE	0.56	0.47	-	0.96	1.04		
	CD (0.05)	0.72	1.42	-	2.08	NS		
	CV	7.08	4.09	-	7.51	12.50		
	Qualifying entries at each location							
	1	CoC14337	CoC 14337	-	PI 14377	PI 14377	CoC 14337	
	2	CoA 14323	-	-	-	Co 13031 CoC 14337	Co 13031	
	3	-	-	-	-	-	PI 14377	

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: Co 13031 (1), CoA 14323 (1), CoC 14337 (3) and PI 14377 (2)

Performance of the entries across locations: The entry CoC 14337 (14.75 t/ha) was the best in the trial followed by Co 13031 (14.01 t/ha) and CoA 14323 (13.97 t/ha) while the best standard CoV 92102 recorded 12.68 t/ha. The entries CoC 14337, Co 13031, PI 14377 and CoA 14323 recorded 16.31 %, 10.49 %, 10.21 % and 10.14 % improvement respectively 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	Nelli kuppam	Vuyyuru#	Mean	Rank
1	Co 13025	90.17	124.31	-	147.44	79.17	110.27	
2	Co 13027	77.08	122.14	-	135.77	103.24	109.56	
3	Co 13028	79.97	130.32	-	131.17	81.02	105.62	
4	Co 13029	85.85	124.51	-	132.49	97.22	110.02	
5	Co 13030	74.01	129.88	-	122.91	81.48	102.07	
6	Co 13031	91.89	131.05	-	121.60	108.33	113.22	3
7	Co 13032	70.01	125.34	-	112.15	105.56	103.27	
8	CoA 14323	111.09*	131.43	92.58	121.33	99.07	111.10	
9	CoA 14324	79.01	133.68*	99.67	124.61	94.44	106.28	
10	CoC 14337	116.77*	142.76*	104.14	118.97	109.26	118.38	1
11	PI 14376	81.06	125.11	93.5	123.31	90.28	102.65	
12	PI 14377	91.51	128.35	89.93	142.59	119.44	114.36	2
Standards								
1	CoV 92102	95.05	121.86	97.29	118.71	87.50	104.08	
2	Co 86249	81.52	114.55	96.18	126.71	95.60	102.91	
	GM	87.50	127.52	-	127.13	96.54		
	SE	3.27	3.64	-	9.67	8.36		
	CD (0.05)	9.99	11.13	-	20.89	NS		
	CV	5.28	4.04	-	7.61	12.20		
Qualifying entries at each location								
	1	CoC 14337	CoC 14337	-	Co 13025	PI 14377	CoC 14337	
	2	CoA 14323	-	-	PI 14377	CoC 14337	-	
	3	-	-	-	-	Co 13031	-	

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: Co 13025 (1), Co 13031 (1), Co 13032 (1), CoA 14323 (1), CoC 14337 (3) and PI 14377 (2)

Performance of the entries across locations: The entry CoC 14337 was the best in the trial which recorded the highest cane yield of (118.38 t/ha) followed by PI 14377 (114.36 t/ha) and Co 13031 (113.22 t/ha). The best standard CoV 92102 recorded (104.08 t/ha) cane yield. The entry Co13032 recorded more than 10 % improvement over the best standard at Vuyyuru centre and occupied fourth position. The entry CoC 14337 recorded 13.74 % improvement over the best standard CoV 92102 across the locations.

Table 3.7.3 CCS % at 12th month

S. No.	Entry	Anaka palle	Cuddalore	Naya garh	Nelli kuppam	Vuyyuru	Mean	Rank
1	Co 13025	12.50	12.40	-	9.62	11.51	11.51	
2	Co 13027	12.09	12.20	-	8.62	11.13	11.01	
3	Co 13028	12.75	12.62	-	8.65	13.00	11.76	
4	Co 13029	11.63	12.70	-	9.50	11.17	11.25	
5	Co 13030	11.88	12.31	-	9.39	12.65	11.56	
6	Co 13031	12.64	12.76	-	11.29*	12.90	12.40	
7	Co 13032	12.24	12.84	-	10.32	11.94	11.84	
8	CoA 14323	13.97	13.04*	11.89	11.42*	12.46	12.56	2
9	CoA 14324	12.36	12.68	12.21	9.38	10.91	11.51	
10	CoC 14337	13.50	12.80	12.09	10.98	12.73	12.42	3
11	PI 14376	14.54	12.83	12.18	10.60	13.01	12.63	1
12	PI 14377	13.35	12.70	12.18	11.15	12.17	12.31	
	Standards							
1	CoV 92102	13.14	12.81	12.01	10.57	12.61	12.23	
2	Co 86249	12.66	11.95	12.04	10.04	12.63	11.86	
	GM	12.80	12.62	-	10.11	12.20		
	SE	0.55	0.07	-	0.14	0.23		
	CD (0.05)	1.68	0.20	-	0.30	0.71		
	CV	6.09	0.75	-	1.37	2.70		
	Qualifying entries at each location							
	1	PI 14376	-	-	CoA 14323	-	-	
	2	CoA 14323	-	-	Co 13031	-	-	
	3	-	-	-	PI 14377	-	-	

*Significant over the best standard

No. of locations where an entry recorded 5 % improvement over the best standard: Co 13031 (1), CoA 14323(2), PI 14376(1) and PI 14377(1)

Performance of the entries across locations: The entry PI 14376 recorded the highest mean CCS % of 12.63 followed by CoA 14323 (12.56) and CoC 14337 (12.42).

Table 3.7.4 Sucrose % at 12th month

S. No.	Entry	Anakapalle	Cuddalore	Naya garh	Nellikuppam	Vuyyuru	Mean	Rank
1	Co 13025	17.83	17.15	-	14.26	16.25	16.37	
2	Co 13027	17.48	16.91	-	13.00	15.94	15.83	
3	Co 13028	18.08	17.13	-	13.05	17.91	16.54	
4	Co 13029	16.75	17.45	-	14.04	15.92	16.04	
5	Co 13030	17.07	16.95	-	14.13	17.23	16.35	
6	Co 13031	18.11	17.45	-	16.47*	17.90	17.48	
7	Co 13032	17.56	17.65	-	15.29	16.71	16.80	
8	CoA 14323	19.70	18.25*	17.13	16.67*	17.82	17.91	2
9	CoA 14324	17.77	17.15	17.59	14.06	15.41	16.40	
10	CoC 14337	19.13	17.65	17.51	16.18*	18.23	17.74	3
11	PI 14376	20.46	17.75	17.6	15.96	18.89	18.13	1
12	PI 14377	19.01	17.52	17.45	16.27*	17.72	17.59	
	Standards							
1	CoV 92102	18.52	17.64	17.25	15.54	18.10	17.41	
2	Co 86249	18.01	16.20	17.35	14.79	17.59	16.79	
	GM	18.25	17.35	-	14.98	17.26		
	SE	0.73	0.09	-	0.20	0.32		
	CD (0.05)	2.23	0.26	-	0.43	0.98		
	CV	5.66	0.70	-	1.32	2.60		
	Qualifying entries at each location							
	1	PI 14376	-	-	CoA 14323	-	-	
	2	CoA 14323	-	-	Co 13031	-	-	
	3	-	-	-	-	-	-	

*Significant over the best standard

No. of locations where an entry recorded 5 % improvement over the best standard: Co 13031 (1), CoA 14323(2) and PI 14376(1)

Performance of the entries across locations: The entry PI 14376 recorded the highest sucrose content of 18.13 % across the locations followed by CoA 14323 (17.91 %) and CoC 14337 (17.74 %).

Table 3.7.5 Brix % at 12th month

S. No.	Entry	Anaka palle	Cuddalore	Nayagarh	Nellikuppam	Vuyyuru	Mean
1	Co13025	19.59	20.46	-	16.94	18.50	18.87
2	Co 13027	19.79	19.35	-	15.97	18.70	18.45
3	Co 13028	19.66	20.50	-	16.04	19.35	18.89
4	Co 13029	18.82	20.60	-	16.59	18.50	18.63
5	Co 13030	19.06	19.77	-	17.28	19.20	18.83
6	Co 13031	20.06	20.61	-	18.98	19.65	19.83
7	Co 13032	19.53	20.80	-	18.19	18.70	19.31
8	CoA 14323	21.10	21.20	19.25	19.23	21.05	20.37
9	CoA 14324	19.85	20.33	19.75	17.08	17.55	18.91
10	CoC 14337	20.72	20.75	19.88	19.03	21.35	20.35
11	PI 14376	21.84	20.91	19.88	19.57	22.75	20.99
12	PI 14377	20.84	20.60	19.38	18.75	21.45	20.20
Standards							
1	CoV 92102	19.84	20.80	19.25	18.17	21.30	19.87
2	Co 86249	19.65	19.50	19.5	17.38	19.75	19.16
	GM	20.03	20.44	-	17.80	19.84	
	SE	0.69	0.07	-	0.23	0.39	
	CD (0.05)	2.11	0.20	-	0.50	1.19	
	CV	4.88	0.46	-	1.29	2.80	

Table 3.7.6 Purity % at 12th month

S. No.	Entry	Anakapalle	Cuddalore	Nayagarh	Nellikuppam	Vuyyuru	Mean
1	Co 13025	90.99	88.75	-	84.15	87.80	87.92
2	Co 13027	88.24	88.73	-	81.43	85.28	85.92
3	Co 13028	91.95	89.60	-	81.36	92.55	88.87
4	Co 13029	89.05	89.75	-	84.63	86.05	87.37
5	Co 13030	89.56	88.14	-	81.74	89.71	87.29
6	Co 13031	90.20	90.12	-	86.75	91.06	89.53
7	Co 13032	89.89	89.87	-	84.08	89.36	88.30
8	CoA 14323	93.37	90.54	88.97	86.66	84.66	88.84
9	CoA 14324	89.53	88.61	89.07	82.31	87.77	87.46
10	CoC 14337	92.28	89.84	88.11	85.05	85.35	88.13
11	PI 14376	93.69	90.12	88.56	81.55	83.02	87.39
12	PI 14377	91.21	89.75	90.1	86.75	82.59	88.08
Standards							
1	CoV 92102	93.41	90.08	89.63	85.50	84.95	88.71
2	Co 86249	91.67	88.00	88.98	85.12	89.07	88.57
	GM	91.07	89.42	-	84.08	87.09	
	SE	0.85	0.35	-	0.24	0.64	
	CD (0.05)	2.26	1.07	-	0.51	1.95	
	CV	1.32	0.55	-	0.28	1.00	

Table 3.7.7 Pol % cane at harvest

S. No.	Entry	Anakapalle	Cuddalore	Nayagarh	Nellikuppam	Vuyyuru	Mean
1	Co 13025	14.21	13.34	-	11.73	-	13.09
2	Co 13027	13.78	13.25	-	10.71	-	12.58
3	Co 13028	14.33	13.30	-	10.74	-	12.79
4	Co 13029	13.32	13.50	-	11.56	-	12.79
5	Co 13030	13.58	13.23	-	11.62	-	12.81
6	Co 13031	14.43	13.47	-	13.54	-	13.81
7	Co 13032	13.76	13.66	-	12.58	-	13.33
8	CoA 14323	15.81	13.95	-	13.72	-	14.49
9	CoA 14324	14.03	13.34	-	11.56	-	12.98
10	CoC 14337	15.19	13.68	-	13.32	-	14.06
11	PI 14376	16.13	13.84	-	13.14	-	14.37
12	PI 14377	15.10	13.65	-	13.37	-	14.04
Standards							
1	CoV 92102	14.63	13.76	-	12.78	-	13.72
2	Co 86249	14.24	13.27	-	12.16	-	13.22
	GM	14.47	13.52	-	12.32	-	
	SE	0.58	0.15	-	0.17	-	
	CD (0.05)	1.77	0.47	-	0.36	-	
	CV	5.67	1.62	-	1.37	-	

Table 3.7.8 Extraction % at harvest

S. No.	Entry	Anakapalle	Cuddalore	Nayagarh	Nellikuppam	Vuyyuru	Mean
1	Co 13025	54.81	49.10	-	-	-	51.96
2	Co 13027	55.68	48.50	-	-	-	52.09
3	Co 13028	65.15	48.90	-	-	-	57.03
4	Co 13029	64.06	49.62	-	-	-	56.84
5	Co 13030	57.40	48.25	-	-	-	52.83
6	Co 13031	59.65	50.71	-	-	-	55.18
7	Co 13032	56.05	49.50	-	-	-	52.78
8	CoA 14323	64.18	50.64	54.14	-	-	57.41
9	CoA 14324	53.05	48.91	54.18	-	-	50.98
10	CoC 14337	63.89	49.97	51.13	-	-	56.93
11	PI 14376	62.13	50.05	54.1	-	-	56.09
12	PI 14377	63.15	50.01	53.17	-	-	56.58
Standards							
1	CoV 92102	61.73	50.10	53.17	-	-	55.92
2	Co 86249	56.29	48.34	51.99	-	-	52.32
	GM	59.80	49.47	-	-	-	
	SE	1.26	0.26	-	-	-	
	CD (0.05)	3.84	0.80	-	-	-	
	CV	2.97	0.75	-	-	-	

Table 3.7.9 Fiber % at harvest

S. No.	Entry	Anakapalle	Cuddalore	Nayagarh	Nellikuppam	Vuyyuru	Mean
1	Co 13025	15.33	13.60	-	12.72	-	13.88
2	Co 13027	16.22	13.54	-	12.64	-	14.13
3	Co 13028	15.76	13.75	-	12.72	-	14.08
4	Co 13029	15.52	13.39	-	12.69	-	13.87
5	Co 13030	15.40	13.60	-	12.71	-	13.90
6	Co 13031	15.27	13.35	-	12.74	-	13.79
7	Co 13032	16.57	13.47	-	12.72	-	14.25
8	CoA 14323	14.76	13.04	14.53	12.66	-	13.49
9	CoA 14324	16.06	13.40	14.73	12.74	-	14.07
10	CoC 14337	15.56	13.38	13.84	12.67	-	13.87
11	PI 14376	16.15	13.18	14.15	12.69	-	14.01
12	PI 14377	15.54	13.37	13.63	12.77	-	13.89
	Standards						
1	CoV 92102	16.02	13.30	14.73	12.75	-	14.02
2	Co 86249	15.93	13.56	14.92	12.76	-	14.08
	GM	15.72	13.42		12.71	-	
	SE	0.34	0.07		0.11	-	
	CD (0.05)	1.05	0.22		0.24	-	
	CV	3.08	0.77		0.86	-	

Table 3.7.10 NMC (*000/ha) at harvest

S. No.	Entry	Anakapalle	Cuddalore	Nayagarh	Nellikuppam	Vuyyuru	Mean
1	Co 13025	68.98	108.83	-	139.31	63.19	95.08
2	Co 13027	67.36	101.10	-	129.86	66.90	91.30
3	Co 13028	76.62	109.56	-	138.52	66.20	97.73
4	Co 13029	77.55	110.15	-	133.80	72.22	98.43
5	Co 13030	59.03	110.29	-	139.31	63.66	93.07
6	Co 13031	81.02	104.25	-	124.75	65.05	93.77
7	Co 13032	58.79	103.10	-	134.98	64.58	90.36
8	CoA 14323	83.33	106.54	100.45	136.16	73.61	100.02
9	CoA 14324	68.29	109.96	95.14	139.15	56.48	93.80
10	CoC 14337	86.34	120.40	115.80	130.88	74.54	105.59
11	PI 14376	68.52	101.52	104.00	148.06	57.64	95.95
12	PI 14377	73.84	103.15	100.00	143.13	76.62	99.35
	Standards						
1	CoV 92102	70.84	96.00	99.24	134.10	70.83	94.20
2	Co 86249	68.75	112.40	99.96	153.92	84.72	103.95
	GM	72.09	106.95	-	137.57	68.30	
	SE	3.94	3.72	-	10.46	5.53	
	CD (0.05)	12.04	11.37	-	22.60	NS	
	CV	7.73	4.92	-	7.61	11.40	

Table 3.7.11 Stalk length (cm)

S. No.	Entry	Anakapalle	Cuddalore	Nayagarh	Nellikuppam	Vuyyuru	Mean
1	Co 13025	227.81	271.00	-	220.08	169.50	222.10
2	Co 13027	213.57	268.50	-	242.45	176.00	225.13
3	Co 13028	193.92	273.18	-	238.96	197.50	225.89
4	Co 13029	207.50	271.00	-	247.86	219.40	236.44
5	Co 13030	218.69	280.00	-	227.98	240.00	241.67
6	Co 13031	239.45	276.93	-	223.53	219.70	239.90
7	Co 13032	203.28	258.68	-	247.64	218.90	232.13
8	CoA 14323	277.42	275.88	235.00	236.35	231.20	251.17
9	CoA 14324	219.79	278.67	210.00	242.67	198.40	229.91
10	CoC 14337	255.48	280.00	235.00	223.39	170.80	232.93
11	PI 14376	246.58	258.43	274.00	238.77	226.40	248.84
12	PI 14377	216.71	268.00	295.00	248.58	239.20	253.50
	Standards						
1	CoV 92102	267.68	268.00	260.00	262.43	238.40	259.30
2	Co 86249	262.33	250.75	265.00	206.06	188.00	234.43
	GM	232.16	269.93	-	236.20	209.53	
	SE	9.65	4.76	-	17.27	9.47	
	CD (0.05)	29.48	14.53	-	37.31	28.94	
	CV	5.88	2.49	-	7.31	6.40	

Table 3.7.12 Stalk diameter (cm)

S. No.	Entry	Anakapalle	Cuddalore	Nayagarh	Nellikuppam	Vuyyuru	Mean
1	Co 13025	2.66	2.60	-	2.60	2.65	2.63
2	Co 13027	2.81	2.74	-	2.55	2.86	2.74
3	Co 13028	2.63	2.77	-	2.70	2.74	2.71
4	Co 13029	2.64	2.81	-	2.60	2.69	2.69
5	Co 13030	2.76	3.00	-	2.25	2.67	2.67
6	Co 13031	2.98	2.67	-	2.40	3.07	2.78
7	Co 13032	2.67	2.60	-	2.40	3.06	2.68
8	CoA 14323	3.02	2.80	3.00	2.45	2.87	2.83
9	CoA 14324	2.98	2.45	2.65	2.60	3.09	2.75
10	CoC 14337	3.02	3.01	2.95	2.65	2.94	2.91
11	PI 14376	2.77	2.70	2.40	2.70	2.54	2.62
12	PI 14377	2.78	2.81		2.25	2.82	2.67
	Standards						
1	CoV 92102	2.63	2.62	3.05	2.30	2.62	2.64
2	Co 86249	2.29	2.48	2.75	1.90	2.18	2.32
	GM	2.76	2.72	-	2.45	2.77	
	SE	0.07	0.05	-	0.11	0.10	
	CD (0.05)	0.23	0.17	-	0.24	0.31	
	CV	3.87	2.86	-	4.55	5.10	

Table 3.7.13 Single cane weight (kg)

S. No.	Entry	Anakapalle	Cuddalore	Nayagarh	Nellikuppam	Vuyyuru	Mean
1	Co 13025	1.31	1.20	-	1.33	1.06	1.23
2	Co 13027	1.14	1.28	-	1.26	1.39	1.27
3	Co 13028	1.04	1.27	-	1.31	1.06	1.17
4	Co 13029	1.10	1.20	-	1.07	1.13	1.13
5	Co 13030	1.46	1.23	-	1.22	1.17	1.27
6	Co 13031	1.29	1.26	-	1.10	1.54	1.30
7	Co 13032	1.29	1.29	-	1.20	1.48	1.32
8	CoA 14323	1.86	1.28	1.68	1.39	1.11	1.46
9	CoA 14324	1.45	1.11	1.48	0.88	1.48	1.28
10	CoC 14337	1.77	1.40	1.78	1.34	1.30	1.52
11	PI 14376	1.48	1.30	1.30	1.51	1.42	1.40
12	PI 14377	1.24	1.20	1.48	1.08	1.51	1.30
Standards							
1	CoV 92102	1.64	1.25	1.78	1.19	1.14	1.40
2	Co 86249	1.15	1.01	1.30	0.81	1.01	1.06
	GM	1.37	1.23	-	1.19	1.27	
	SE	0.16	0.05	-	0.08	0.04	
	CD (0.05)	0.49	0.16	-	0.17	0.11	
	CV	16.63	5.90	-	6.57	4.20	

Table 3.7.14 CCS % at 10 months

S. No.	Entry	Anakapalle	Cuddalore	Nayagarh	Nellikuppam	Vuyyuru	Mean
1	Co 13025	11.73	10.62	-	9.25	10.85	10.61
2	Co 13027	12.05	10.31	-	8.01	9.28	9.91
3	Co 13028	13.49	10.66	-	8.07	9.23	10.36
4	Co 13029	11.32	10.62	-	9.19	8.04	9.79
5	Co 13030	10.29	10.31	-	8.85	9.95	9.85
6	Co 13031	12.07	10.48	-	10.93	11.18	11.17
7	Co 13032	11.06	10.78	-	9.91	10.33	10.52
8	CoA 14323	13.32	11.10	-	10.81	11.29	11.63
9	CoA 14324	10.14	10.50	-	8.70	9.61	9.74
10	CoC 14337	11.75	10.76	-	10.53	11.83	11.22
11	PI 14376	13.09	10.90	-	9.06	11.29	11.09
12	PI 14377	13.30	10.66	-	10.52	10.77	11.31
Standards							
1	CoV 92102	12.47	10.80	-	10.15	11.09	11.13
2	Co 86249	10.92	10.50	-	9.44	9.77	10.16
	GM	11.93	10.64	-	9.53	10.32	
	SE	0.60	0.07	-	0.09	0.33	
	CD (0.05)	1.84	0.20	-	0.20	1.01	
	CV	7.13	0.89	-	0.96	4.50	

Table 3.7.15 Sucrose % at 10 months

S. No.	Entry	Anakapalle	Cuddalore	Nayagarh	Nellikuppam	Vuyyuru	Mean
1	Co 13025	16.91	15.10	-	13.74	15.43	15.30
2	Co 13027	17.35	14.90	-	12.12	13.39	14.44
3	Co 13028	19.15	15.48	-	12.24	13.32	15.05
4	Co 13029	16.42	15.60	-	13.63	11.88	14.38
5	Co 13030	15.38	14.95	-	13.36	14.37	14.52
6	Co 13031	17.44	15.44	-	15.99	15.83	16.18
7	Co 13032	16.16	15.56	-	14.74	14.67	15.28
8	CoA 14323	19.06	15.68	-	15.84	16.24	16.71
9	CoA 14324	15.42	15.06	-	13.10	13.88	14.37
10	CoC 14337	17.22	15.58	-	15.58	16.95	16.33
11	PI 14376	19.35	15.76	-	13.69	16.42	16.31
12	PI 14377	19.16	15.56	-	15.40	15.31	16.36
Standards							
1	CoV 92102	17.97	15.60	-	14.93	16.00	16.13
2	Co 86249	16.24	14.95	-	13.93	13.97	14.77
	GM	17.37	15.37	-	14.16	14.83	
	SE	0.78	0.14	-	0.13	0.44	
	CD (0.05)	2.40	0.44	-	0.27	1.33	
	CV	6.39	1.31	-	0.89	4.20	

Table 3.7.16 Brix % at 10 months

S. No.	Entry	Anakapalle	Cuddalore	Nayagarh	Nellikuppam	Vuyyuru	Mean
1	Co 13025	19.02	18.90	-	16.41	17.83	18.04
2	Co 13027	19.42	18.60	-	15.00	15.94	17.24
3	Co 13028	20.84	19.08	-	15.20	15.86	17.75
4	Co 13029	18.68	19.20	-	16.22	14.81	17.23
5	Co 13030	18.59	18.65	-	16.43	17.11	17.70
6	Co 13031	19.67	19.40	-	18.54	18.14	18.94
7	Co 13032	18.65	19.30	-	17.64	16.90	18.12
8	CoA 14323	21.13	19.60	-	18.43	19.23	19.60
9	CoA 14324	19.25	18.90	-	16.03	16.53	17.68
10	CoC 14337	20.02	19.25	-	18.44	19.89	19.40
11	PI 14376	22.88	19.28	-	16.88	19.81	19.71
12	PI 14377	21.52	19.20	-	17.87	18.57	19.29
Standards							
1	CoV 92102	20.19	19.56	-	17.51	19.02	19.07
2	Co 86249	19.45	18.70	-	16.42	16.31	17.72
	GM	19.95	19.12	-	16.93	17.57	
	SE	0.77	0.16	-	0.13	0.45	
	CD (0.05)	2.38	0.48	-	0.29	1.37	
	CV	5.53	1.16	-	0.79	3.60	

Table 3.7.17 Purity % at 10 months

S. No.	Entry	Anakapalle	Cuddalore	Nayagarh	Nellikuppam	Vuyyuru	Mean
1	Co 13025	88.87	84.23	-	83.70	86.51	85.83
2	Co 13027	89.42	84.10	-	80.83	84.03	84.60
3	Co 13028	91.87	84.98	-	80.53	83.98	85.34
4	Co 13029	87.90	85.13	-	84.03	80.20	84.32
5	Co 13030	82.70	83.51	-	81.31	83.97	82.87
6	Co 13031	88.55	85.49	-	86.25	87.27	86.89
7	Co 13032	86.66	85.24	-	83.58	86.79	85.57
8	CoA 14323	90.23	85.91	-	85.95	84.43	86.63
9	CoA 14324	80.15	83.99	-	81.72	83.95	82.45
10	CoC 14337	86.03	85.21	-	84.49	85.22	85.24
11	PI 14376	84.57	85.47	-	81.10	82.88	83.51
12	PI 14377	89.08	85.13	-	86.18	82.45	85.71
Standards							
1	CoV 92102	89.00	85.48	-	85.29	84.09	85.97
2	Co 86249	83.44	83.38	-	84.84	85.63	84.32
	GM	87.03	84.80	-	83.56	84.39	
	SE	1.58	0.34	-	0.17	0.71	
	CD (0.05)	4.84	1.05	-	0.37	2.17	
	CV	2.57	0.57	-	0.21	1.20	

Table 3.7.18 Number of shoots ('000/ha) at 240 days

S. No.	Entry	Anakapalle	Cuddalore	Nayagarh	Nellikuppam	Vuyyuru	Mean
1	Co 13025	77.55	109.37	-	149.93	76.62	103.37
2	Co 13027	79.40	105.04	-	144.82	78.47	101.93
3	Co 13028	83.79	114.96	-	154.26	78.47	107.87
4	Co 13029	85.65	114.30	-	147.96	78.01	106.48
5	Co 13030	71.30	115.39	-	144.03	70.83	100.39
6	Co 13031	90.74	112.55	-	145.42	72.45	105.29
7	Co 13032	68.52	109.37	-	153.17	76.39	101.86
8	CoA 14323	91.20	116.41	120.6	150.35	78.70	111.45
9	CoA 14324	79.40	115.70	119.92	158.45	68.75	108.44
10	CoC 14337	92.36	131.39	124.62	142.45	94.21	117.01
11	PI 14376	76.62	103.30	123.44	164.48	75.00	108.57
12	PI 14377	82.18	112.85	116.72	156.06	82.41	110.04
Standards							
1	CoV 92102	78.81	111.14	117.42	142.25	79.40	105.80
2	Co 86249	76.87	116.90	118.15	157.80	90.97	112.14
	GM	81.03	113.48	-	150.82	78.62	
	SE	5.93	3.75	-	10.78	6.27	
	CD (0.05)	18.12	11.72	-	23.29	NS	
	CV	10.35	4.67	-	7.15	11.20	

Table 3.7.19 Number of tillers (*000/ha) at 120 days

S. No.	Entry	Anakapalle	Cuddalore	Nayagarh	Nellikuppam	Vuyyuru	Mean
1	Co 13025	89.82	120.64	-	171.11	101.16	120.68
2	Co 13027	90.97	118.09	-	170.83	90.74	117.66
3	Co 13028	92.59	119.04	-	165.84	99.77	119.31
4	Co 13029	99.31	118.80	-	171.94	100.46	122.63
5	Co 13030	81.48	120.37	-	171.12	102.08	118.76
6	Co 13031	102.08	118.24	-	163.59	89.58	118.37
7	Co 13032	82.41	120.49	-	179.17	100.00	120.52
8	CoA 14323	104.63	122.36	132.45	169.72	107.18	127.27
9	CoA 14324	90.05	123.14	125.33	174.19	91.67	120.88
10	CoC 14337	108.10	143.94	134.39	171.11	115.51	134.61
11	PI 14376	89.35	115.75	135.10	175.56	100.46	123.24
12	PI 14377	93.28	120.30	128.30	175.51	99.54	123.39
Standards							
1	CoV 92102	87.96	118.10	125.82	161.39	95.37	117.73
2	Co 86249	93.75	123.01	126.60	168.94	109.49	124.36
	GM	93.27	121.59	-	170.72	100.21	
	SE	5.11	3.79	-	12.20	5.92	
	CD (0.05)	15.62	11.58	-	26.35	NS	
	CV	7.75	4.41	-	7.14	8.40	

Table 3.7.20 Germination % at 30 days

S. No.	Entry	Anakapalle	Cuddalore	Nayagarh	Nellikuppam	Vuyyuru	Mean
1	Co 13025	49.31	60.87	-	86.80	52.09	62.27
2	Co 13027	41.14	51.87	-	87.85	50.70	57.89
3	Co 13028	40.11	59.17	-	88.20	53.30	60.20
4	Co 13029	48.96	60.33	-	94.10	50.70	63.52
5	Co 13030	43.41	66.13	-	87.16	51.04	61.94
6	Co 13031	51.91	61.11	-	89.59	51.39	63.50
7	Co 13032	40.45	59.26	-	92.02	51.22	60.74
8	CoA 14323	63.54	56.94	60.00	90.98	56.78	65.65
9	CoA 14324	61.97	62.74	52.00	89.59	51.05	63.47
10	CoC 14337	89.58	67.84	68.50	87.50	61.81	75.05
11	PI 14376	50.69	57.17	60.00	93.75	50.87	62.50
12	PI 14377	52.44	60.32	63.50	96.53	50.35	64.63
Standards							
1	CoV 92102	47.92	59.91	53.50	87.50	52.09	60.18
2	Co 86249	43.75	66.16	55.00	89.93	50.18	61.00
	GM	51.80	60.70	-	90.11	52.40	
	SE	3.89	4.87	-	6.74	2.92	
	CD (0.05)	11.91	14.87	-	14.56	NS	
	CV	10.64	11.35	-	7.48	7.90	

Table 3.7.21 Assessment of entries by monitoring team

	Nellikuppam	Cuddalore	Vuyyuru	Anakapalle	Nayagar
Co 13025	On par	On par	Poor	Poor	NA
Co 13027	On par	Poor	Poor	Poor	NA
Co 13028	On par	On par	Poor	Poor	NA
Co 13029	Poor	On par	On par	On par	NA
Co 13030	Poor	Poor	Poor	Poor	NA
Co 13031	Poor	Poor	Poor	On par	NA
Co 13032	On par	Poor	On par	Poor	NA
CoA 14323	On par	On par	On par	Better	Poor
CoA 14324	Poor	Better	On par	Better	On par
CoC 14337	On par	Better	On par	On par	On par
PI 14376	On par	Poor	On par	Poor	On par
PI 14377	On par	On par	On par	Poor	On par
Standards					
CoV 92102	Best		Best		Best
Co 86249		Best		Best	

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 2016-17. The number of trials conducted at each centre during 2016-17 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	C	C	NC	NC
8	Shahjahanpur	C	C	C	C	C	C	C	C
9	Sriganganagar	C	C	C	NC	C	C	C	NC
10	Uchani*	-	C	C	C	C	-	-	NC

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, Sriganganagar and Uchani
Entries (4)	CoH 11262, CoLk 11201, CoLk 11202 and CoLk 11203
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, 2016
Crop Duration	10 months

Results of the previous year

Four test entries and two standard varieties were evaluated in AVT (Early) I Plant trial in North West Zone. The standard Co 0238 was the best performer across the locations for both CCS yield (10.33 t/ha) and cane yield (84.85 t/ha). Among the test entries, CoLk 11203 was the best for CCS yield (9.96 t/ha) followed by CoH 11262 (9.36 t/ha). The best entry for cane yield was CoH 11262 (82.15 t/ha), which recorded significantly higher cane yield over the best standard at Pantnagar and Uchani. For juice quality, the entry CoLk 11203 was the top ranking in the zone with a mean sucrose % of 18.06 and CCS % of 12.52 at 10th month. The test entry CoLk 11203 recorded significantly higher CCS % and sucrose % over the best standard at Faridkot and Kapurthala. The second best entry in the zone for juice quality was CoLk 11201. It recorded significantly higher sucrose % at Kota.

Result of the current year

Four test entries and two standard varieties were evaluated in AVT (Early) II plant trial across nine centres in North West Zone. Co 0238 was the best among the standards for CCS yield with zonal mean of 10.96 t/ha. None of the test entries showed >10 percent improvement for CCS yield over Co 0238, although the CCS yield of CoLk 11203 (11.15 t/ha) was numerically higher than the standard Co 0238. For cane yield, Co 0238 was the best standard and recorded 86.32 t/ha of cane yield. None of the test clones showed >10% improvement over the best standard although clones such as CoH 11262 (Faridkot, Muzaffarnagar), CoLk 11203 (Kota and Sriganganagar) and CoLk 11202 (Muzaffarnagar) recorded >10 percent improvement for cane yield in few centres. Among the standard varieties, CoJ 64 recorded the highest CCS% (12.63%) and sucrose content (18.22%). No of the test entries showed >5% improvement for CCS% and sucrose content over the best standard, although CoLk 1203 recorded numerically higher CCS% (13.10%). Further details are presented in Tables 4.1.1 to 4.1.19.

Table 4.1.1. CCS (t/ha) at harvest

S. No.	Entry	Faridkot	Kapurthala	Kota	Lucknow*	Muzaffarnagar	Pantnagar	Shahjahanpur	Sriganganagar	Uchani	Mean	Rank
1	CoH 11262	12.72	9.89	9.51	2.34	12.08	9.49	9.72	8.73	12.73	10.61	3
2	CoLk 11201	10.47	9.20	8.93	8.25	9.57	9.00	9.68	8.74	9.53	9.39	
3	CoLk 11202	11.38	10.61	7.84	7.72	11.67	10.42	11.60	6.86	13.59	10.50	
4	CoLk 11203	12.08	11.28	11.48	10.50	10.49	11.53	10.55	10.09	11.66	11.15	1
Stds												
1	CoJ 64	10.69	9.38	8.20	7.67	8.83	10.03	9.31	8.40	11.25	9.51	
2	Co 0238	11.46	10.65	8.65	10.50	10.68	12.25	11.83	8.41	13.71	10.96	2
	Mean	11.47	10.17	9.10	7.83	10.55	10.45	10.45	8.54	12.08	10.35	
	SEm	0.7		0.23						0.46		
	CD 5%	2.21	0.84	0.68	1.23	1.93	0.96	0.97	1.37	1.47		
	CV	10.6	4.53	10.34	9.09	10.04	6.09	5.10	7.38	6.63		
	SE					0.87	0.32	0.44				
Top three entries showing 10 % improvement over the best standard at each location												
	Rank 1	CoH 11262		CoLk 11203		CoH 11262			CoLk 11203			
	Rank 2			CoH 11262								

* AVT (E) II Plant trial recorded lower germination (18.84 %) at Lucknow centre and mean cane yield was lower than the average cane yield of Uttar Pradesh. Hence, CCS yield data of this centre was not consider for calculating pooled and weighted mean.

Number of locations where entry recorded 10 % improvement over the best standard: CoH 11262 (3), CoLk 11203 (2)

Performance across locations: Co 0238 was the best among the standards for CCS yield with zonal mean of 10.96 t/ha. None of the test entries showed >10 improvement for CCS yield over Co 0238 although the CCS yield of CoLk 11203 (11.15 t/ha) was numerically higher than the standard Co 0238. CoLk 11203 showed >10% improvement at Kota and Sriganganagar centres. Another clone CoH 11262 showed >10 percent improvement at Faridkot, Kota and Muzaffarnagar centres.

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

S. No.	Entry	Faridkot	Kapurthala	Kota	Lucknow*	Muzaffarnagar	Pantnagar	Shahjahanpur	Sriganganagar	Uchani	Mean	Rank
1	CoH 11262	110.00	80.31	80.30	18.53	90.67	82.33	78.07	76.49	96.13	86.79	2
2	CoLk 11201	84.07	74.88	83.67	60.70	71.85	71.50	77.78	72.26	72.87	76.11	
3	CoLk 11202	93.33	87.33	74.97	62.90	89.48	90.75	93.33	61.39	100.97	86.44	3
4	CoLk 11203	94.07	88.92	89.37	76.23	77.48	84.50	81.33	81.43	87.70	85.60	
Stds												
1	CoJ 64	82.96	74.72	77.77	56.23	65.93	79.08	74.52	68.38	85.33	76.09	
2	Co 0238	94.81	87.59	78.73	77.33	79.26	91.67	93.04	73.29	101.13	87.44	1
	Mean	93.21	82.29	80.80	58.65	79.11	83.31	83.01	72.21	90.69	83.08	
	SEm	4.93		2.08						2.27		
	CD 5%	15.52	6.63	6.06	8.38	14.59	4.51	6.91	7.12	7.24		
	CV	9.15	4.43	10.42	8.25	10.14	3.59	4.58	9.08	4.33		
	SE					6.57	1.50	3.10				
Top three entries showing 10 % improvement over the best standard at each location												
	Rank 1	CoH 11262		CoLk 11203		CoH 11262			CoLk 11203			
	Rank 2					CoLk 11202						

* AVT (E) II Plant trial recorded lower germination (18.84 %) at Lucknow centre and mean cane yield was lower than the average cane yield of Uttar Pradesh. Hence, cane yield data of this centre was not consider for calculating pooled and weighted mean.

Number of locations where entry recorded 10 % improvement over the best standard: CoH 11262 (2), CoLk 11203 (2) and CoLk 11202 (1).
Performance across locations: Co 0238 was the best standard for cane yield (87.44 t/ha). None of the test clones showed >10% improvement over the best standard, although clones such as CoH 11262 (Faridkot, Muzaffarnagar), CoLk 11203 (Kota and Sriganganagar) and CoLk 11202 (Muzaffarnagar) recorded >10 percent improvement for cane yield in few Centres.

Table 4.1.3. CCS (%) at 10th month

S. No.	Entry	Faridkot	Kapurthala	Kota	Lucknow	Muzaffarnagar	Pantnagar	Shahjahanpur	Sriganganagar	Uchani	Mean	Rank
1	CoH 11262	11.56	11.82	10.68	12.70	13.32	11.50	12.45	11.42	13.20	12.07	4
2	CoLk 11201	12.43	12.29	11.82	13.60	13.32	11.95	12.44	12.08	13.10	12.56	
3	CoLk 11202	12.19	12.44	10.46	12.30	13.06	11.49	12.43	11.18	13.50	12.12	3
4	CoLk 11203	12.84	12.69	12.84	13.70	13.54	13.64	12.97	12.38	13.30	13.10	1
Stds												
1	CoJ 64	12.88	12.57	10.55	13.60	13.39	12.68	12.51	12.29	13.20	12.63	5
2	Co 0238	12.07	11.92	10.96	13.60	13.48	13.36	12.71	11.47	13.50	12.56	2
	Mean	12.33	12.29	11.22	13.25	13.35	12.44	12.59	11.80	13.30	12.51	
	SEm	0.16		0.23						0.22		
	CD 5%	0.5	0.46	0.66	0.70	NS	0.48	NS	0.39	N/A		
	CV	2.21	2.04	8.12	3.06	1.33	2.58	2.28	1.48	2.81		
	SE					0.14	0.16	0.23				
Top three entries showing 5 % improvement over the best standard at each location												
	Rank 1			CoLk 11201								
	Rank 2			CoLk 11203								

Number of locations where entry recorded five percent improvement over the best standard: CoLk 11201 (1) and CoLk 11203 (1)

Performance across locations: Among the standard varieties, CoJ 64 recorded the highest CCS% (12.63%). No test entries showed >5% improvement for this trait over the best standard, although CoLk 1203 recorded numerically higher CCS% (13.10%). Entries CoLk 11201 and CoLk 11203 recorded >5% improvement only at Kota centre.

Table 4.1.4. Sucrose (%) at 10th month

S. No.	Entry	Faridkot	Kapurthala	Kota	Lucknow	Muzaffarnagar	Pantnagar	Shahjahanpur	Sriganganagar	Uchani	Mean	Rank
1	CoH 11262	16.68	16.90	15.67	18.17	19.19	16.71	18.02	16.67	19.00	17.45	1
2	CoLk 11201	17.92	17.54	17.21	19.47	19.04	17.33	18.01	17.48	18.80	18.09	
3	CoLk 11202	17.52	17.80	15.53	17.90	18.86	16.76	18.00	16.25	19.40	17.56	3
4	CoLk 11203	18.68	18.00	18.59	19.67	19.59	19.76	18.72	17.81	19.20	18.89	
Stds												
1	CoJ 64	18.5	17.89	15.66	19.50	19.34	18.34	18.10	17.72	18.90	18.22	2
2	Co 0238	17.33	17.09	16.46	19.40	19.43	18.67	17.37	16.69	19.40	17.98	4
	Mean	17.77	17.54	16.52	19.02	19.24	17.93	18.04	17.10	19.12	18.03	
	SEm	0.2		0.21						0.28		
	CD 5%	0.63	0.66	0.61	0.99	0.25	1.20	NS	0.42	N/A		
	CV	1.96	2.08	5.13	3.00	0.72	4.42	4.23	2.45	2.49		
	SE					0.11	0.40	0.62				
Top three entries showing 5 % improvement over the best standard at each location												
	Rank 1			CoLk 11203			CoLk 11203					

Number of locations where entry recorded five percent improvement over the best standard: CoLk 11203 (2)

Performance across locations: CoJ 64 was the best standard for sucrose content (18.22%). None of the test entries recorded >5% improvement for this trait over the best standard. The entry CoLk 11203 recorded 5 % improvement for sucrose content at Kota and Pantnagar.

Table 4.1.5. Brix (%) at 10th month

S. No.	Entry	Farid kot	Kapur thala	Kota	Luck now	Muzaff arnagar	Pant nagar	Shahja hanpur	Sriganga nagar	Uch ani	Mean
1	CoH 11262	18.80	18.64	18.27	20.20	21.54	19.33	20.45	19.24	21.20	19.74
2	CoLk 11201	20.17	19.29	19.77	21.60	21.64	19.88	20.45	19.78	21.00	20.40
3	CoLk 11202	19.60	19.70	18.13	20.60	21.27	19.33	20.42	18.60	21.70	19.93
4	CoLk 11203	21.40	19.54	21.10	21.80	22.17	22.45	21.10	19.91	21.70	21.24
Stds											
1	CoJ 64	20.63	19.47	18.27	21.50	21.80	20.75	20.52	19.94	21.10	20.44
2	Co 0238	19.33	18.97	19.03	21.30	21.85	22.20	20.77	19.12	21.60	20.46
	Mean	19.99	19.27	19.10	21.17	21.71	20.66	20.62	19.43	21.38	20.37
	SEm	0.24		0.20						0.36	
	CD 5%	0.76	ns	0.59	NS	2.26	0.68	NS	0.61	N/A	
	CV	2.09	2.65	4.32	4.18	0.67	2.19	1.66	2.52	2.92	
	SE					0.12	0.23	0.28			

Table 4.1.6. Purity (%) at 10th month

S. No.	Entry	Farid kot	Kapur thala	Kota	Luck now	Muzaff arnagar	Pant nagar	Shahja hanpur	Sriganga nagar	Uch ani	Mean
1	CoH 11262	88.72	90.68	85.93	89.77	89.11	86.70	88.14	86.61	89.80	88.38
2	CoLk 11201	88.85	90.90	87.08	90.30	87.99	87.18	88.09	88.38	89.60	88.71
3	CoLk 11202	89.40	90.41	85.64	90.03	88.65	86.72	88.11	87.35	89.30	88.40
4	CoLk 11203	87.33	92.09	88.10	90.57	88.35	88.01	88.75	89.47	88.40	89.01
Stds											
1	CoJ 64	89.67	91.35	84.75	90.67	88.67	88.39	88.23	88.86	89.80	88.93
2	Co 0238	89.66	90.06	86.46	89.63	88.92	87.48	88.48	87.27	89.90	88.65
	Mean	88.94	90.92	86.33	90.16	88.62	87.41	88.30	87.99	89.47	88.68
	SEm	0.68		0.41						1.03	
	CD 5%	2.13	NS	1.18	NS	NS	1.28	NS	1.18		
	CV	1.32	1.20	1.91	1.04	0.74	0.97	0.39	1.09	1.20	
	SE					0.54	0.42	0.28			

Table 4.1.7. Extraction (%) at 10th month

S. No.	Entry	Farid kot	Kapur thala	Kota	Luck now	Muzaff arnagar	Pant nagar	Shahja hanpur	Sriganga nagar	Uch ani	Mean
1	CoH 11262	51.34	58.42	44.57	44.27	54.41	-	54.19	49.37	54.00	51.32
2	CoLk 11201	52.22	60.67	53.40	50.97	52.50	-	51.67	50.72	55.30	53.43
3	CoLk 11202	58.73	58.68	45.03	55.50	47.60	-	52.90	49.57	54.10	52.76
4	CoLk 11203	47.14	51.08	41.47	52.00	50.48	-	55.44	48.18	51.30	49.64
Stds											
1	CoJ 64	54.41	60.35	52.27	53.93	51.06	-	52.87	50.98	54.30	53.77
2	Co 0238	56.01	58.51	47.60	55.07	52.00	-	55.26	52.03	52.20	53.59
	Mean	53.31	57.95	47.39	51.96	51.34		53.72	50.14	53.53	52.42
	SEm	0.33		0.97						0.73	
	CD 5%	1.04	Ns	2.82	4.57	-	-	2.51	1.99	2.34	
	CV	1.07	6.13	8.27	5.08	-	-	2.51	2.62	2.37	
	SE					-	-	1.13			

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

S. No.	Entry	Pol%cane					Fibre%				
		Kapur thala	Luck now	Muzaff arnagar	Shahja hanpur	Mean	Kapur thala	Luck now	Muzaff arnagar	Shahja hanpur	Mean
1	CoH 11262	12.78	14.20	13.94	13.18	13.53	12.18	11.80	13.38	14.07	12.86
2	CoLk 11201	13.48	15.10	12.78	12.82	13.55	10.94	12.60	13.56	14.31	12.85
3	CoLk 11202	12.69	14.50	13.44	13.11	13.44	11.13	12.30	13.10	14.16	12.67
4	CoLk 11203	14.28	14.90	13.10	13.65	13.98	13.31	14.70	14.06	14.27	14.09
Stds											
1	CoJ 64	13.02	14.90	13.78	13.69	13.85	11.88	13.50	13.23	14.10	13.18
2	Co 0238	13.76	14.80	13.85	13.72	14.03	10.95	13.20	13.30	14.00	12.86
	Mean	13.34	14.73	13.48	13.36	13.73	11.73	13.02	13.44	14.15	13.08
	SEm			-	-				-	-	
	CD 5%	0.58	NS	-	-		0.57	0.93	-	-	
	CV	2.41	5.35	-	-		2.67	4.12	-	-	
	SE										

Table 4.1.9. Number of millable canes at 10th month

S. No.	Entry	Farid kot	Kapur thala	Kota	Luck now	Muzaff arnagar	Pant nagar	Shahja hanpur	Sriganga nagar	Uch ani	Mean
1	CoH 11262	97.22	87.43	89.97	34.03	103.26	60.75	87.56	82.24	115.40	84.21
2	CoLk 11201	96.48	96.17	86.43	90.67	101.92	61.50	98.37	90.76	123.50	93.98
3	CoLk 11202	97.22	80.53	101.23	85.47	109.04	78.00	108.15	73.39	123.70	95.19
4	CoLk 11203	121.67	89.25	104.80	111.00	113.48	85.50	111.70	101.47	137.40	108.47
Stds											
1	CoJ 64	108.70	99.16	92.20	93.63	111.55	96.25	100.74	98.51	129.90	103.40
2	Co 0238	96.11	83.04	89.97	102.50	95.11	67.67	96.44	86.16	122.50	93.28
	Mean	102.90	89.26	94.10	86.22	105.73	74.95	100.49	88.76	125.40	96.42
	SEm	2.66		1.19						2.70	
	CD 5%	8.37	7.76	3.45	10.33	8.20	5.55	11.34	12.74	8.60	
	CV	4.47	4.78	5.15	6.92	4.26	4.91	6.20	7.69	3.72	
	SE					3.68	1.84	5.09			

Table 4.1.10 Millable cane height at 10th month

S. No.	Entry	Farid kot	Kapur thala	Kota	Luck now	Muzaff arnagar	Pant nagar	Shahja hanpur	Sriganga nagar	Uch ani	Mean
1	CoH 11262	217.88	300.00	228.00	157.00	268.66	242.00	186.00	192.63	234.70	225.21
2	CoLk 11201	185.33	242.00	232.00	217.00	177.66	206.00	195.00	152.25	194.70	200.22
3	CoLk 11202	222.55	283.00	222.00	210.00	255.00	238.00	255.00	169.31	226.00	231.21
4	CoLk 11203	217.66	300.00	264.00	220.00	196.33	249.00	206.00	199.74	235.30	232.00
Stds											
1	CoJ 64	219.00	258.00	216.00	205.00	167.00	237.00	189.00	181.56	198.70	207.92
2	Co 0238	218.00	302.00	227.00	227.00	198.00	249.00	256.00	198.68	238.30	234.89
	Mean	213.40	280.83	231.50	206.00	210.44	236.83	214.50	182.36	221.28	221.91
	SEm	3.23								6.62	
	CD 5%	10.19				0.23		31.78	16.29	21.13	
	CV	2.63	4.15	4.55	4.18	5.95	6.63	8.14	6.15	5.18	
	SE					0.10		14.26			

Table 4.1.11 Cane diameter (cm) at 10th month

S. No.	Entry	Farid kot	Kapur thala	Kota	Luck now	Muzaff arnagar	Pant nagar	Shahja hanpur	Sriganga nagar	Uch ani	Mean
1	CoH 11262	2.99	2.07	2.16	2.27	2.43	2.67	2.19	2.69	2.36	2.43
2	CoLk 11201	2.82	2.13	2.24	2.20	2.37	2.67	2.08	2.31	2.22	2.34
3	CoLk 11202	2.81	2.23	2.11	2.33	2.53	2.77	2.31	2.41	2.28	2.42
4	CoLk 11203	2.48	1.90	2.43	2.28	2.03	2.24	2.11	2.14	1.97	2.18
Stds											
1	CoJ 64	2.47	2.17	2.21	1.93	2.23	2.67	2.12	2.28	2.13	2.25
2	Co 0238	2.91	2.53	2.35	2.43	2.48	2.71	2.57	2.41	2.43	2.54
	Mean	2.75	2.17	2.25	2.24	2.35	2.62	2.23	2.37	2.23	2.36
	SEm	0.05		0.02						0.03	
	CD 5%	0.16	0.31	0.06	0.14	0.22	0.31	0.21	0.29	0.11	
	CV	3.23	7.77	3.88	3.53	5.21	7.97	5.19	6.28	2.63	
	SE					0.10	0.10	0.09			

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

S. No.	Entry	Farid kot	Kapur thala	Kota	Luck now	Muzaff arnagar	Pant nagar	Shahja hanpur	Sriganga nagar	Uch ani	Mean
1	CoH 11262	1.31	1.28	1.12	0.47	0.91	1.48	0.88	0.93	0.98	1.04
2	CoLk 11201	0.90	1.02	1.02	0.80	0.72	1.12	0.92	0.72	0.73	0.88
3	CoLk 11202	1.03	1.31	1.04	0.73	0.94	1.35	1.02	0.84	0.90	1.02
4	CoLk 11203	0.79	1.22	0.80	0.73	0.87	1.04	0.80	0.81	0.74	0.87
Stds											
1	CoJ 64	0.93	0.94	0.72	0.57	0.67	1.18	0.81	0.74	0.77	0.81
2	Co 0238	1.15	1.84	1.04	0.90	0.92	1.59	1.17	0.87	0.99	1.16
	Mean	1.02	1.27	0.96	0.70	0.84	1.29	0.93	0.82	0.85	0.96
	SEm	0.04		0.02						0.03	
	CD 5%	0.13	0.40	0.05	0.08	0.06	0.16	0.19	0.10	0.08	
	CV	7.26	17.14	7.77	6.90	3.69	8.04	11.13	6.11	5.07	
	SE					0.25	0.05	0.08			

Table 4.1.13 CCS (%) at 8th month

S. No.	Entry	Farid kot	Kapur thala	Kota	Luck now	Muzaff arnagar	Pant nagar	Shahja hanpur	Sriganga nagar	Uch ani	Mean
1	CoH 11262	9.61	9.78	9.81	11.10	10.49	9.96	10.22	10.22	11.30	10.28
2	CoLk 11201	10.29	11.68	8.75	12.53	11.54	11.10	10.61	10.80	11.70	11.00
3	CoLk 11202	9.93	9.97	9.28	11.50	11.04	10.47	10.42	10.19	11.60	10.49
4	CoLk 11203	10.64	12.11	10.65	12.90	11.24	11.37	12.04	11.15	13.30	11.71
Stds											
1	CoJ 64	11.92	11.41	8.44	12.23	11.35	11.21	11.41	11.10	12.70	11.31
2	Co 0238	9.99	9.71	9.20	12.03	11.33	10.91	11.29	10.44	12.40	10.81
	Mean	10.40	10.78	9.36	12.05	11.17	10.84	11.00	10.65	12.17	10.93
	SEm	0.12		0.14						0.40	
	CD 5%	0.37	0.63	0.41	0.56	NS	0.50	NS	0.36	1.26	
	CV	1.94	3.22	6.04	2.69	2.68	3.06	6.54	2.61	5.63	
	SE					0.25	0.17	0.59			

Table 4.1.14 Sucrose (%) at 8th month

S. No.	Entry	Farid kot	Kapur thala	Kota	Luck now	Muzaff arnagar	Pant nagar	Shahja hanpur	Sriganga nagar	Uch ani	Mean
1	CoH 11262	14.26	14.26	13.05	16.40	16.20	14.71	15.24	15.04	16.60	15.08
2	CoLk 11201	14.93	16.91	14.50	18.30	16.92	16.35	15.75	15.71	17.60	16.33
3	CoLk 11202	14.47	14.62	13.77	16.80	16.31	15.44	15.52	14.87	17.60	15.49
4	CoLk 11203	15.43	17.39	15.63	18.60	16.53	16.74	17.67	16.12	19.30	17.05
Stds											
1	CoJ 64	17.21	16.51	12.64	17.80	16.64	16.42	16.80	16.15	18.50	16.52
2	Co 0238	14.49	14.27	13.67	17.50	16.61	16.02	16.66	15.24	18.30	15.86
	Mean	15.13	15.66	13.88	17.57	16.54	15.95	16.27	15.52	17.98	16.06
	SEm	0.17		0.19						0.43	
	CD 5%	0.53	0.70	0.55	0.76	NS	0.63	NS	0.63	1.38	
	CV	1.94	2.48	5.52	2.51	2.75	2.64	5.89	3.00	4.18	
	SE					0.37	0.21	0.78			

Table 4.1.15 Brix (%) at 8th month

S. No.	Entry	Farid kot	Kapur thala	Kota	Luck now	Muzaff arnagar	Pant nagar	Shahja hanpur	Sriganga nagar	Uch ani	Mean
1	CoH 11262	17.00	16.42	15.73	19.23	19.22	17.38	18.36	17.63	19.60	17.84
2	CoLk 11201	17.00	19.17	17.13	21.07	19.69	19.20	18.77	17.99	21.40	19.05
3	CoLk 11202	16.63	17.04	16.43	19.17	19.25	18.20	18.61	17.14	22.00	18.27
4	CoLk 11203	17.57	19.39	18.23	20.93	19.35	19.65	20.59	18.22	22.00	19.55
Stds											
1	CoJ 64	19.40	18.81	15.33	20.40	19.39	19.20	19.72	18.50	21.40	19.13
2	Co 0238	16.50	16.68	16.33	20.10	19.32	18.70	19.64	17.59	21.60	18.50
	Mean	17.35	17.92	16.53	20.15	19.37	18.72	19.28	17.85	21.33	18.72
	SEm	0.22		0.18						0.26	
	CD 5%	0.68	0.59	0.53	0.75	NS	0.61	NS	0.74	0.84	
	CV	2.16	1.82	4.48	2.14	3.20	2.15	4.67	2.18	2.13	
	SE					0.51	0.20	0.74			

Table 4.1.16 Purity (%) at 8th month

S. No.	Entry	Farid kot	Kapur thala	Kota	Luck now	Muzaff arnagar	Pant nagar	Shahja hanpur	Sriganga nagar	Uch ani	Mean
1	CoH 11262	83.86	86.87	82.96	85.20	84.32	84.63	82.98	85.29	84.80	84.55
2	CoLk 11201	87.81	88.21	84.61	86.80	85.95	85.14	83.82	87.35	82.00	85.74
3	CoLk 11202	87.03	85.82	84.14	87.50	84.71	84.85	83.32	86.71	80.30	84.93
4	CoLk 11203	87.86	89.70	85.74	88.80	85.58	85.15	85.53	88.43	87.60	87.15
Stds											
1	CoJ 64	88.69	88.20	82.45	87.30	85.83	85.98	85.20	87.29	86.50	86.38
2	Co 0238	87.85	85.54	83.69	87.20	85.99	85.64	84.82	86.62	84.70	85.78
	Mean	87.18	87.39	83.93	87.13	85.40	85.23	84.28	86.95	84.32	85.76
	SEm	0.41		0.25						1.52	
	CD 5%	1.31	ns	0.73	1.79	NS	1.54	NS	1.22	N/A	
	CV	0.82	2.01	1.22	1.19	1.05	1.20	1.40	1.71	3.13	
	SE					0.73	0.51	0.97			

Table 4.1.17 Number of shoots at 8th month

S. No.	Entry	Farid kot	Kapur thala	Kota	Luck now	Muzaff arnagar	Pant nagar	Shahja hanpur	Sriganga nagar	Uch ani	Mean
1	CoH 11262	117.41	97.37	108.10	41.13	-	-	-	-	130.40	98.88
2	CoLk 11201	128.98	89.69	105.03	99.73	-	-	-	-	130.90	110.87
3	CoLk 11202	113.94	93.10	113.03	100.50	-	-	-	-	128.70	109.85
4	CoLk 11203	129.31	101.45	112.93	141.30	-	-	-	-	144.10	125.82
Stds											
1	CoJ 64	124.21	102.04	124.80	115.30	-	-	-	-	135.30	120.33
2	Co 0238	122.38	92.97	124.27	98.63	-	-	-	-	131.50	113.95
	Mean	122.71	96.10	114.69	99.43					133.48	
	SEm	3.06		1.99						2.50	
	CD 5%	9.65	5.60	5.80	12.30	-	-	-	-	7.98	
	CV	4.32	3.21	7.03	7.15	-	-	-	-	3.25	
	SE										

Table 4.1.18 Number of tillers at 120th days

S. No.	Entry	Farid kot	Kapur thala	Kota	Luck now	Muzaff arnagar	Pant nagar	Shahja hanpur	Sriganga nagar	Uch ani	Mean
1	CoH 11262	141.30	106.07	122.77	76.10	172.74	109.75	201.78	124.24	151.10	133.98
2	CoLk 11201	164.81	95.94	117.80	321.00	183.55	91.67	215.70	139.71	150.60	164.53
3	CoLk 11202	135.74	108.26	134.33	193.00	209.77	117.00	211.41	106.38	143.10	151.00
4	CoLk 11203	142.78	115.25	123.87	310.00	220.59	128.08	228.30	152.29	164.60	176.20
Stds											
1	CoJ 64	143.89	114.76	133.23	216.00	196.44	138.92	222.52	142.41	146.10	161.59
2	Co 0238	152.78	98.62	133.30	266.00	184.88	106.75	218.81	131.36	139.00	159.06
	Mean	146.88	106.48	127.55	230.35	194.66	115.36	216.42	132.73	149.08	157.73
	SEm	3.42		1.63						2.17	
	CD 5%	10.78	ns	4.75	41.10	19.41	4.40	7.39	14.93	6.94	
	CV	4.03	7.74	5.17	10.30	5.48	2.53	1.88	5.61	2.53	
	SE					8.71	1.46	3.32			

Table 4.1.19 Germination (%) at 45th days

S. No.	Entry	Farid kot	Kapur thala	Kota	Luck now	Muzaff arnagar	Pant nagar	Shahja hanpur	Sriganga nagar	Uch ani	Mean
1	CoH 11262	23.15	50.58	43.67	16.37	36.85	29.69	52.22	30.26	51.07	37.10
2	CoLk 11201	33.64	50.98	40.67	16.80	38.98	26.10	43.61	32.71	50.33	37.09
3	CoLk 11202	32.10	49.13	44.67	20.50	44.25	31.62	53.52	36.54	49.27	40.18
4	CoLk 11203	37.81	47.63	45.33	20.07	48.51	29.81	57.96	37.36	50.53	41.67
Stds											
1	CoJ 64	32.87	47.97	43.00	19.13	40.64	34.69	52.22	41.29	51.93	40.42
2	Co 0238	36.42	49.36	44.33	20.17	38.24	27.76	51.67	39.57	53.73	40.14
	Mean	32.67	49.28	43.61	18.84	41.25	29.95	51.87	36.29	51.14	39.43
	SEm	1.53		0.61						1.00	
	CD 5%	4.81	Ns	1.79	NS	5.73	2.50	4.71	3.96	N/A	
	CV	8.09	3.16	5.69	10.86	7.64	5.55	4.99	5.29	3.40	
	SE					2.57	0.83	2.11			

Table 4.1.20 Assessment of entries by monitoring team

Entry	Lucknow	Shahjahan pur	Pant nagar	Muzaffar nagar	Uchani	Faridkot	Kapur thala	Sriganga nagar	Kota
CoH 11262	Poor	Poor	Poor	On par	Poor	On par	On par	On par	On par
CoLk 11201	Poor	Poor	Poor	Poor	Poor	Poor	Poor	Poor	Poor
CoLk 11202	Poor	On par	Poor	Poor	Poor	On par	Poor	Better	Poor
CoLk 11203	Poor	Poor	Poor	Poor	Poor	Poor	Poor	On par	Better
CoJ 64								Best	
Co 0238	Best	Best	Best	Best	Best	Best	Best		Best

4.2 ADVANCED VARIETAL TRIAL (EARLY) - RATOON

Centres (9)	Faridkot, Kapurthala, Kota, Lucknow, Muzaffarnagar, Pantnagar, Shahjahanpur, Sriganganagar and Uchani
Entries (4)	CoH 11262, CoLk 11201, CoLk 11202 and CoLk 11203
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
Month of ratooning	February / March, 2016
Crop duration	9 months

Results of the previous year

Entries were evaluated in AVT (Early) I Plant trial in North West Zone. The standard Co 0238 was the best performer across the locations for both CCS yield (10.33 t/ha) and cane yield (84.85 t/ha). Among the test entries, CoLk 11203 was the best for CCS yield (9.96 t/ha) followed by CoH 11262 (9.36 t/ha). The best entry for cane yield was CoH 11262 (82.15 t/ha), which recorded significantly higher cane yield over the best standard at Pantnagar and Uchani. For juice quality, the entry CoLk 11203 was the top ranking in the zone with a mean sucrose % of 18.06 and CCS % of 12.52 at 10th month. The test entry CoLk 11203 recorded significantly higher CCS % and sucrose % over the best standard at Faridkot and Kapurthala. The second best entry in the zone for juice quality was CoLk 11201. It recorded significantly higher sucrose % at Kota.

Result of the current years

The mean CCS yield of the best standard Co 0238 was 9.68 t/ha. No clone showed >10 percent improvement over the best standard over the best standard for cane yield although CoLk 11203 at Lucknow centre and CoLk 11202 from Pantnagar and Uchani centres recorded >10 percent improvement for CCS yield. The mean cane yield of the best standard Co 0238 was 80.54 t/ha. No clone showed 10% and above improvement over the best standard for this trait. CoJ 64 was the best standard for CCS % (12.61) and sucrose content (18.21%). None of the test entries recorded 5% and above improvement over the best standard for CCS % and sucrose content. Test entry CoLk 11201 recorded numerically higher sucrose % (18.32) but none of the test clones showed >5 % improvement over CoJ 64 for sucrose % and CCS %. Further details are presented in Tables 4.2.1 to 4.2.13.

Table 4.1.1. CCS yield (t/ha) at harvest

Sl No	Entries	Farikot	Kapurthala	Kota	Lucknow	Muzaffarnagar	Pantnagar	Shahjahanpur	Sriganganagar	Uchani	Mean	Rank
1	CoH 11262	4.25	8.19		-	7.87	9.23	8.07		5.18	7.13	
2	CoLk 11201	7.10	9.65		9.27	3.99	6.84	8.89		8.36	7.73	
3	CoLk 11202	8.14	10.01		7.92	6.80	10.71	8.98		11.66	9.17	3
4	CoLk 11203	10.67	9.63		10.96	6.84	9.36	7.96		9.88	9.33	2
	Standards											
1	CoJ 64	7.69	8.63		7.23	5.59	7.83	8.16		8.91	7.72	
2	Co 0238	10.36	10.36		9.68	8.17	9.68	9.30		10.20	9.68	1
	Mean	8.04	9.41		9.01	6.54	8.94	8.56		9.03	8.50	
	SEm	0.39								0.21		
	CD at 5%	1.23	0.59		1.11	1.54	0.90	0.84		0.67		
	CV	8.40	3.48		7.15	12.93	5.56	5.38		4.01		
Top three entries showing 10 % improvement over the best standard at each location												
Rank 1	-	-	-	CoLk 11203	-	CoLk 11202	-	-	CoLk 11202	-		
Rank 2												
Rank 3												

Number of locations where an entry recorded 10 % improvement over the best standard: CoLk 11202 (2) and CoLk 11203 (1).

Performance of entries across locations: The mean CCS yield of the best standard Co 0238 was 9.68 t/ha. No clone showed 10% improvement over the best standard for cane yield although CoLk 11203 at Lucknow centre, and CoLk 11202 from Pantnagar and Uchani centres recorded >10 percent improvement for CCS yield.

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

Sl No	Entries	Faridkot	Kapurthala	Kota	Lucknow	Muzaffarnagar	Pantnagar	Shahjahanpur	Sriganganagar	Uchani	Mean	Rank
1	CoH 11262	44.07	59.04		-	69.48	82.33	68.00		42.67	60.93	
2	CoLk 11201	55.19	70.39		66.80	32.74	53.22	74.22		70.00	60.37	
3	CoLk 11202	85.19	75.35		65.63	61.48	90.33	78.37		88.73	77.87	2
4	CoLk 11203	90.00	79.17		75.07	56.44	74.00	64.89		77.13	73.81	3
	Standards											
1	CoJ 64	60.74	64.91		55.10	47.85	61.22	69.04		69.40	61.18	
2	Co 0238	87.78	83.24		76.97	68.88	83.56	79.56		83.80	80.54	1
	Mean	70.50	72.02		67.91	56.15	74.11	72.35		71.96	69.29	
	SEm	3.20								2.30		
	CD at 5%	10.09	4.62		5.30	11.82	5.37	4.85		7.32		
	CV	7.87	3.52		4.35	11.57	3.98	3.68		5.52		
Top three entries showing 10% improvement over the best standard at each location												
Rank 1	No entry showed >10% improvement for cane yield.											
Rank 2												
Rank 3												

Number of locations where an entry recorded 10% improvement over the best standard: Nil

Performance of entries across location: The mean cane yield of the best standard Co 0238 was 80.54 t/ha. No clone showed 10 % improvement over the best standard for this trait.

Table 4.2.3. CCS % at harvest

Sl No	Entries	Faridkot	Kapurthala	Kota	Lucknow	Muzaffarnagar	Pantnagar	Shahjahanpur	Sriganganagar	Uchani	Mean	Rank
1	CoH 11262	9.68	13.87		-	11.28	11.21	11.86		12.16	11.68	
2	CoLk 11201	12.84	13.72		13.16	12.22	12.86	11.99		11.93	12.67	1
3	CoLk 11202	9.56	13.29		12.05	11.04	11.48	11.47		13.15	11.72	
4	CoLk 11203	11.84	12.16		13.40	12.17	12.63	12.27		12.81	12.47	3
	Standards											
1	CoJ 64	12.68	13.30		13.12	11.70	12.79	11.81		12.86	12.61	2
2	Co 0238	11.80	12.44		12.36	11.85	11.59	11.69		12.21	11.99	
	Mean	11.40	13.13		12.82	11.71	12.09	11.85		12.52	12.19	
	SEm	0.24								0.37		
	CD at 5%	0.77	0.46		0.95	0.79	0.77	NS		NS		
	CV	3.70	1.96		4.29	3.71	3.49	4.48		5.18		
Top three entries showing 5% improvement over the best standard at each location												
Rank 1	No entry showed >5 % improvement for cane yield.											
Rank 2												
Rank 3												

Number of locations where an entry recorded 5% improvement over the best standard: Nil

Performance of entries across locations: CoJ 64 was the best standard for CCS% (12.61). No clone showed 5 % improvement over the best standard for CCS percent.

Table 4.2.4. Sucrose % at harvest

Sl No	Entries	Faridkot	Kapurthala	Kota	Lucknow	Muzaffarnagar	Pantnagar	Shahjahanpur	Sriganganagar	Uchani	Mean	Rank
1	CoH 11262	14.34	17.57		-	16.70	16.28	17.31		17.49	16.62	
2	CoLk 11201	18.43	19.37		18.80	17.92	18.60	17.48		17.63	18.32	1
3	CoLk 11202	13.94	18.80		17.43	16.31	16.60	16.79		19.25	17.02	
4	CoLk 11203	17.26	17.94		19.17	17.85	18.36	17.86		18.86	18.19	3
	Standards											
1	CoJ 64	18.38	18.99		18.80	17.16	18.52	17.25		18.40	18.21	2
2	Co 0238	17.33	17.81		17.83	17.46	16.87	17.06		17.94	17.47	
	Mean	16.61	18.41		18.41	17.23	17.54	17.29		18.26	17.64	
	SEm	0.31								0.36		
	CD at 5%	0.98	0.64		1.19	1.00	1.06	NS		1.16		
	CV	3.25	1.93		3.73	3.20	3.32	4.13		3.45		
Top three entries showing 5% improvement over the best standard at each location												
Rank 1	No entry showed >5% improvement for cane yield.											
Rank 2												
Rank 3												

Number of locations where an entry recorded 5% improvement over the best standard: Nil

Performance of entries across locations: CoJ 64 was the best standard for sucrose content (18.21%). Test clone CoLk 11201 recorded numerically higher sucrose (18.32%) than the best standard but none of the clones showed >5 percent improvement for this trait over CoJ 64.

Table 4.2.5. Brix (%) at harvest

S. No.	Entry	Farid kot	Kapur thala	Kota	Luck now	Muzaff arnagar	Pant nagar	Shahja hanpur	Sriganga nagar	Uch ani	Mean
1	CoH 11262	17.03	20.22		-	19.78	18.60	19.95		19.57	19.19
2	CoLk 11201	20.53	20.82		20.73	20.85	21.07	20.09		20.87	20.71
3	CoLk 11202	16.07	20.29		19.77	19.25	18.77	19.49		22.33	19.42
4	CoLk 11203	19.87	21.13		21.20	20.78	21.00	20.47		22.17	20.95
	Standards										
1	CoJ 64	20.90	20.92		20.87	19.95	21.00	19.92		20.33	20.56
2	Co 0238	20.23	19.73		20.10	20.48	19.37	19.68		20.97	20.08
	Mean	19.11	20.52		20.53	20.18	19.97	19.93		21.04	20.15
	SEm	0.28								0.49	
	CD at 5%	0.88	0.82		1.26	0.95	1.14	NS		1.56	
	CV	2.53	2.22		3.54	2.58	3.14	3.43		4.02	

Table 4.2.6. Purity % at harvest

S. No.	Entry	Farid kot	Kapur thala	Kota	Luck now	Muzafar nagar	Pant nagar	Shahja hanpur	Sriganga nagar	Uch ani	Mean
1	CoH 11262	84.15	86.88		-	84.38	87.53	86.75		89.64	86.56
2	CoLk 11201	89.73	93.02		90.65	85.92	88.29	87.14		84.54	88.47
3	CoLk 11202	86.81	92.65		88.25	84.70	88.45	86.11		86.19	87.59
4	CoLk 11203	86.89	84.93		90.41	86.02	87.42	87.23		85.11	86.86
	Standards										
1	CoJ 64	87.94	90.78		90.13	86.00	88.20	86.61		90.59	88.61
2	Co 0238	85.63	90.26		88.72	85.30	87.10	86.70		85.64	87.05
	Mean	86.86	89.75		89.63	85.39	87.83	86.76		86.95	87.52
	SEm	0.61								2.49	
	CD at 5%	1.92	2.45		3.63	NS	1.55	NS		NS	
	CV	1.22	1.51		2.34	1.46	0.97	0.82		4.96	

Table 4.2.7. Juice extraction % at harvest

S. No.	Entry	Farid kot	Kapur thala	Kota	Luck now	Muzaff arnagar	Pant nagar	Shahja hanpur	Sriganga nagar	Uch ani	Mean
1	CoH 11262	49.90	51.63		-	50.55		56.08		51.00	51.83
2	CoLk 11201	50.96	47.94		47.87	54.00		54.75		53.30	51.47
3	CoLk 11202	58.48	52.76		48.27	47.06		53.78		52.30	52.11
4	CoLk 11203	42.72	49.82		38.43	44.00		53.16		49.30	46.24
	Standards										
1	CoJ 64	51.14	56.14		49.20	55.10		55.00		53.30	53.31
2	Co 0238	53.64	57.86		52.83	52.27		57.67		51.30	54.26
	Mean	51.14	52.69		47.32	50.50		55.07		51.75	51.54
	SEm	0.91								0.70	
	CD at 5%	2.88	4.90		8.13	-		1.88		2.23	
	CV	3.09	5.12		9.93	-		1.88		2.34	

Table 4.2.8. Pol % cane and Fibre content at harvest

S. No.	Entry	Pol % cane					Fibre %				
		Kapur thala	Luck now	Muzaff arnagar	Shahja hanpur	Mean	Kapur thala	Luck now	Muzaff arnagar	Shahja hanpur	Mean
1	CoH 11262	12.21	-	12.53	12.18	12.31	13.71		13.37	13.87	13.65
2	CoLk 11201	14.08	14.86	13.59	12.41	13.74	13.67	10.93	13.64	13.94	13.05
3	CoLk 11202	12.43	13.45	11.47	11.37	12.18	11.15	12.87	13.97	13.99	13.00
4	CoLk 11203	12.56	14.62	12.49	12.36	13.01	15.34	13.72	14.14	13.88	14.27
	Standards										
1	CoJ 64	13.46	14.32	13.31	12.25	13.33	10.43	13.83	13.07	13.90	12.81
2	Co 0238	13.70	14.09	13.05	11.27	13.03	13.12	11.00	13.14	13.79	12.76
	Mean	13.07	14.27	12.74	11.97	12.93	12.90	12.47	13.56	13.90	13.26
	SEm										
	CD at 5%	1.30	0.85	-	-		0.73	0.98			
	CV	5.47	3.45	-	-		3.13	4.53			

Table 4.2.9. Number of millable canes (NMC) at harvest (*000/ha)

S. No.	Entry	Farid kot	Kapur thala	Kota	Luck now	Muzaff arnagar	Pant nagar	Shahja hanpur	Sriganga nagar	Uch ani	Mean
1	CoH 11262	55.74	67.87			100.59	59.78	91.56		60.10	72.61
2	CoLk 11201	72.41	60.74		89.67	81.18	62.00	99.11		112.73	82.55
3	CoLk 11202	93.15	71.30		80.33	105.18	70.56	110.07		113.07	91.95
4	CoLk 11203	96.67	90.74		133.33	102.22	68.44	96.59		124.87	101.84
	Standards										
1	CoJ 64	82.41	82.50		107.33	99.40	67.44	99.26		112.93	93.04
2	Co 0238	97.22	83.80		100.67	96.59	64.22	89.93		102.60	90.72
	Mean	82.93	76.16		102.27	97.53	65.41	97.75		104.38	88.78
	SEm	4.66								2.84	
	CD at 5%	14.67	12.55		13.25	9.08	5.95	12.20		9.06	
	CV	9.72	9.07		7.48	5.12	5.00	6.86		4.71	

Table 4.2.10 Stalk length (cm)

S. No.	Entry	Farid kot	Kapur thala	Kota	Luck now	Muzaff arnagar	Pant nagar	Shahja hanpur	Sriganga nagar	Uch ani	Mean
1	CoH 11262	168.33	177.00			142.33	208.00	210.00		178.00	180.61
2	CoLk 11201	148.22	197.00		200.00	112.33	197.00	219.00		182.00	179.36
3	CoLk 11202	197.44	222.00		217.00	153.67	259.00	260.00		209.30	216.92
4	CoLk 11203	199.22	207.00		207.00	164.00	229.00	252.00		224.00	211.75
	Standards										
1	CoJ 64	175.89	213.00		200.00	154.00	180.00	234.00		186.00	191.84
2	Co 0238	173.88	260.00		223.00	174.33	205.00	255.00		212.70	214.84
	Mean	177.16	212.67		209.40	150.11	213.00	238.33		198.67	199.22
	SEm	2.72								3.62	
	CD at 5%	8.57	19.00		150.0	20.00	23.00	29.35		11.54	
	CV	2.66	5.16		4.23	7.26	5.87	6.77		3.15	

Table 4.2.11 Stalk diameter (cm)

S. No.	Entry	Faridkot	Kapurthala	Kota	Lucknow	Muzaffarnagar	Pantnagar	Shahjahanpur	Sriganganagar	Uchani	Mean
1	CoH 11262	2.90	2.39			2.63	2.95	2.31		2.19	2.56
2	CoLk 11201	2.81	2.52		2.13	2.48	2.53	2.19		2.11	2.40
3	CoLk 11202	2.01	2.38		2.03	2.06	2.58	2.47		2.15	2.24
4	CoLk 11203	2.00	2.10		2.17	2.00	2.27	2.14		1.81	2.07
	Standards										
1	CoJ 64	2.53	2.26		1.95	2.26	2.45	2.22		2.04	2.24
2	Co 0238	2.67	2.53		2.33	2.42	2.73	2.56		2.27	2.50
	Mean	2.49	2.36		2.12	2.31	2.59	2.32		2.10	2.34
	SEm	0.03								0.02	
	CD at 5%	0.11	0.20		0.12	0.15	0.29	0.28		0.07	
	CV	2.38	4.88		3.39	3.53	6.20	6.64		1.76	

Table 4.2.12 Single cane weight (kg)

S. No.	Entry	Faridkot	Kapurthala	Kota	Lucknow	Muzaffarnagar	Pantnagar	Shahjahanpur	Sriganganagar	Uchani	Mean
1	CoH 11262	1.08	0.90			0.74	1.35	0.78		0.82	0.95
2	CoLk 11201	0.86	1.48		0.70	0.43	0.81	0.77		0.66	0.82
3	CoLk 11202	1.02	1.13		0.71	0.63	1.30	0.90		0.79	0.93
4	CoLk 11203	1.08	0.81		0.68	0.59	1.06	0.90		0.61	0.82
	Standards										
1	CoJ 64	0.86	0.87		0.62	0.51	0.96	0.84		0.70	0.77
2	Co 0238	0.91	1.57		0.80	0.75	1.29	1.49		0.83	1.09
	Mean	0.97	1.13		0.70	0.61	1.13	0.95		0.74	0.89
	SEm	0.09								0.02	
	CD at 5%	0.28	0.31		0.06	0.04	0.18	0.19		0.06	
	CV	15.80	15.17		4.76	3.97	8.77	11.24		4.07	

Table 4.2.13 Number of shoots and tillers ('000/ha)

S. No.	Entry	Number of shoots at 180 days			Number of tillers before earthing up ('000/ha)					
		Faridkot	Uchani	Mean	Faridkot	Muzaffarnagar	Lucknow	Shahjahanpur	Uchani	Mean
1	CoH 11262	56.53	67.10	61.82	65.93	146.96	320.67	187.26	72.47	158.66
2	CoLk 11201	83.29	141.90	112.60	102.78	165.18	194.00	199.70	124.53	157.24
3	CoLk 11202	98.29	146.40	122.35	112.04	189.92	299.67	212.00	125.17	187.76
4	CoLk 11203	117.37	147.20	132.29	146.67	169.33		196.44	139.70	163.04
	Standards									
1	CoJ 64	107.18	142.10	124.64	140.56	152.00	217.67	219.11	126.47	171.16
2	Co 0238	104.77	131.60	118.19	120.93	148.89	268.00	196.44	117.07	170.27
	Mean	94.57	129.38	111.98	114.82	162.05	260.00	201.83	117.57	171.25
	SEm	3.75	2.45		3.23				1.68	
	CD at 5%	11.80	7.81		10.19	17.47	43.20	18.81	5.37	
	CV	6.86	3.28		4.88	5.92	9.60	5.12	2.48	

Table 4.2.14 Assessment of entries by monitoring team

Entry	Lucknow	Shahjahan pur	Pant nagar	Muzaffar nagar	Uchani	Faridkot	Kapur thala	Sriganga nagar	Kota
CoH 11262	Poor	Poor	On par	Poor	Poor	Poor	Poor	Better	NC
CoLk 11201	On par	Poor	Poor	No populn	Poor	Poor	Poor	Poor	NC
CoLk 11202	On par	Poor	Better	On par	Poor	Better	On par	Poor	NC
CoLk 11203	On par	Poor	On par	Poor	On par	On par	Poor	Poor	NC
CoJ 64								Best	
Co 0238	Best	Best	Best	Best	Best	Best	Best		NC

4.3 ADVANCED VARIETAL TRIAL (EARLY)

Pooled data of 2 Plant crops + 1 Ratoon

Centres (9)	Faridkot, Kapurthala, Kota*, Lucknow, Muzaffarnagar, Pantnagar, Shahjahanpur, Sriganaganagar* and Uchani
Entries (6)	CoH 11262, CoLk 11201, CoLk 11202 and CoLk 11203
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

* Kota and Sriganaganagar centres did not conduct ratoon trial.

Four test entries (CoH 11262, CoLk 11201, CoLk 11202 and CoLk 11203) and two standard varieties (Co 0238 and CoJ 64) were evaluated across nine locations in North West Zone in RBD with three replications. Kota and Sriganaganagar centres did not conduct ratoon trial during 2016-17 and hence, mean of 2 plant crops alone considered for estimation of pooled and weighted mean. The average cane yield in AVT (E) II Plant trial at Lucknow centre was lower than the average cane yield of Uttar Pradesh. Hence, cane yield and CCS yield data reported from Lucknow centres was not taken into account 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 4.3.1to 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 best standard Co 0238 in the zone was 11.28 t/ha. None of the test entries were found superior to best standard variety Co 0238 for CCS yield although the clone CoLk 11203 recorded 15.37 percent improvement at Kota centre.

Cane yield (t/ha): Co 0238 was the best among the standards for cane yield and its zonal mean was 99.93 t/ha (ranked 1st in the zone). None of the test entries were recorded higher cane yield than that of Co 0238.

Commercial cane sugar percentage (CCS %): CoJ 64 was the best standard in the zone with zonal mean of 12.50 %. Test clone CoLk 11203 recorded numerically higher CCS % (12.71) than CoJ 64 and its percent improvement over CoJ 64 was 5.92 percent at Kota centre. However, the overall CCS mean in the zone indicated that none of the test entries were recorded >5 % improvement over the best standard CoJ 64.

Sucrose (%): The mean sucrose content of the best standard CoJ 64 in the zone was 18.07 %. Test clone CoLk 11203 recorded numerically higher sucrose content (18.39 %) than the best standard but it’s percent improvement over CoJ 64 was less than 5%. The overall mean sucrose content in the zone indicated that none of the test entries were recorded >5 % improvement over the best standard.

Qualifying entries:

For cane yield and CCS yield	For sucrose % and CCS %
None	None

Table 4.3.1 CCS (t/ha) at harvest

Sl No	Entries	Faridkot	Kapurthala	Kota **	Lucknow *	Muzaffar Nagar	Pant nagar	Shahja hanpur	Sriganga Nagar**	Uchani	Mean*	Weighted mean	Rank
1	CoH 11262	8.94	9.13	9.22	4.50	9.52	9.88	8.82	8.58	10.99	8.84	10.44	
2	CoLk 11201	8.44	9.15	9.59	9.44	6.66	7.50	8.94	8.31	10.08	8.68	9.41	
3	CoLk 11202	8.84	10.69	7.90	6.86	9.65	9.67	10.20	6.76	12.63	9.24	10.37	3
4	CoLk 11203	11.22	10.34	10.73	10.53	9.25	9.59	9.33	9.28	11.30	10.17	11.10	2
	Standards												
1	CoJ 64	9.17	9.01	8.57	7.67	7.62	9.27	8.68	8.06	10.76	8.76	9.64	
2	Co 0238	10.58	10.84	9.30	10.24	9.44	10.80	10.27	8.42	12.22	10.23	11.28	1
	Mean	9.53	9.86	9.22	8.21	8.69	9.45	9.37	8.23	11.33	9.32	10.37	
Top three entries showing 10% improvement over the best standard at each location													
Rank 1		-	-	CoLk 11203	-	-	-	-	-	-	-		
Rank 2													
Rank 3													

* AVT (E) II Plant trial recorded lower germination (18.84 %) at Lucknow centre and mean cane yield was lower than the average cane yield of Uttar Pradesh. Hence, CCS yield data of this centre was not consider for calculating pooled and weighted mean.

** Kota and Sriganganagar centres did not conduct ratoon trial. Hence mean of 2 plant crop is given.

Number of locations where an entry recorded 10 percent improvement over the best standard: CoLk 11203 (1)

Performance across locations: The mean CCS yield of the best standard Co 0238 in the zone was 11.28 t/ha. None of the test entries were recorded higher CCS yield than Co 0238. The test clone CoLk 11203 recorded 15.37 percent improvement for CCS yield at Kota centre alone.

Table 4.3.2 Cane yield (t/ha) at harvest

Sl No	Entries	Faridkot	Kapurthala	Kota **	Lucknow *	Muzaffar Nagar	Pant nagar	Shahja hanpur	Sriganga nagar	Uchani	Mean*	Weighted mean	Rank
1	CoH 11262	79.47	74.98	80.26	43.20	78.57	87.92	75.16	75.12	85.68	75.59	88.50	3
2	CoLk 11201	66.38	71.47	82.70	73.85	52.69	60.09	75.70	68.70	81.48	70.34	76.09	
3	CoLk 11202	77.98	84.64	73.75	56.97	79.85	82.43	86.22	59.84	98.28	77.77	86.77	
4	CoLk 11203	88.65	80.80	86.75	75.39	72.94	74.35	75.26	78.63	86.95	79.97	87.13	2
	Standards												
1	CoJ 64	71.67	71.20	77.04	58.40	61.23	73.84	72.40	66.34	83.43	70.62	77.43	
2	Co 0238	87.07	89.46	79.67	79.94	74.61	88.22	85.83	72.86	95.49	83.68	91.93	1
	Mean	78.54	78.76	80.03	64.62	69.98	77.81	78.43	70.24	88.55	76.33	84.64	
Top three entries showing 10% improvement over the best standard at each location													
Rank 1		-	-	-	-	-	-	-	-	-	-		
Rank 2													
Rank 3													

* AVT (E) II Plant trial recorded lower germination (18.84 %) at Lucknow centre and mean cane yield was lower than the average cane yield of Uttar Pradesh. Hence, cane yield data of this centre was not consider for calculating pooled and weighted mean.

** Kota and Sriganganagar centres did not conduct ratoon trial. Hence mean of 2 plant crop is given.

Number of locations where an entry recorded 10 percent improvement over the best standard variety: Nil

Performance across locations: The mean cane yield of the best standard Co 0238 in the zone was 91.93 t/ha. None of the test entries were recorded the higher cane yield than Co 0238.

Table 4.3.3 CCS % at harvest

Sl No	Entries	Faridkot	Kapurthala	Kota*	Lucknow	Muzaffar nagar*	Pant nagar	Shahja hanpur	Sriganga nagar	Uchani	Mean	Weighted mean	Rank
1	CoH 11262	10.97	12.19	10.89	11.55	12.00	11.24	11.74	11.43	12.70	11.63	12.16	
2	CoLk 11201	12.74	12.81	12.18	12.92	12.52	12.27	11.81	12.08	12.40	12.41	12.44	3
3	CoLk 11202	11.46	12.75	10.72	12.08	11.98	11.62	11.80	11.30	12.89	11.84	11.91	
4	CoLk 11203	12.67	12.82	12.34	13.47	12.64	12.83	12.45	11.77	13.00	12.66	12.71	1
	Standards												
1	CoJ 64	12.79	12.69	11.13	13.27	12.39	12.57	11.98	12.15	12.92	12.43	12.50	2
2	Co 0238	12.16	12.06	11.65	12.99	12.61	12.22	11.94	11.55	12.76	12.21	12.26	
	Mean	12.13	12.55	11.48	12.71	12.36	12.12	11.95	11.71	12.78	12.20	12.33	
Top three entries showing 5% improvement over the best standard at each location													
Rank 1		-	-	CoLk 11203	-	-	-	-	-	-	-		
Rank 2													
Rank 3													

* Kota and Sriganganagar centres 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 best standard: CoLk 11203 (1)

Performance across locations: The mean CCS % of the best standard CoJ 64 in the zone was 12.50. Test clone CoLk 11203 recorded numerically higher CCS % (12.71) than CoJ 64 and its percent improvement over CoJ 64 was 5.92 % at Kota centre. However, the overall CCS mean in the zone indicated that none of the test entries were recorded >5 percent improvement over the best standard CoJ 64.

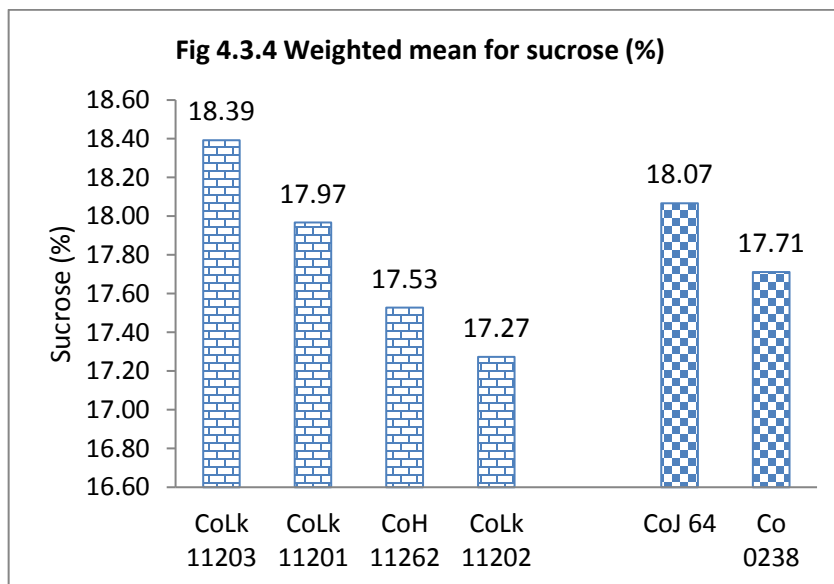
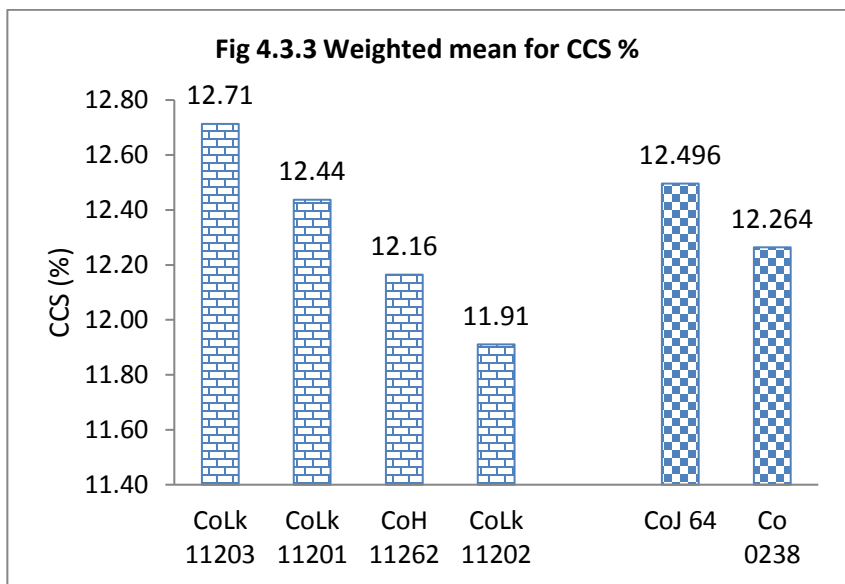
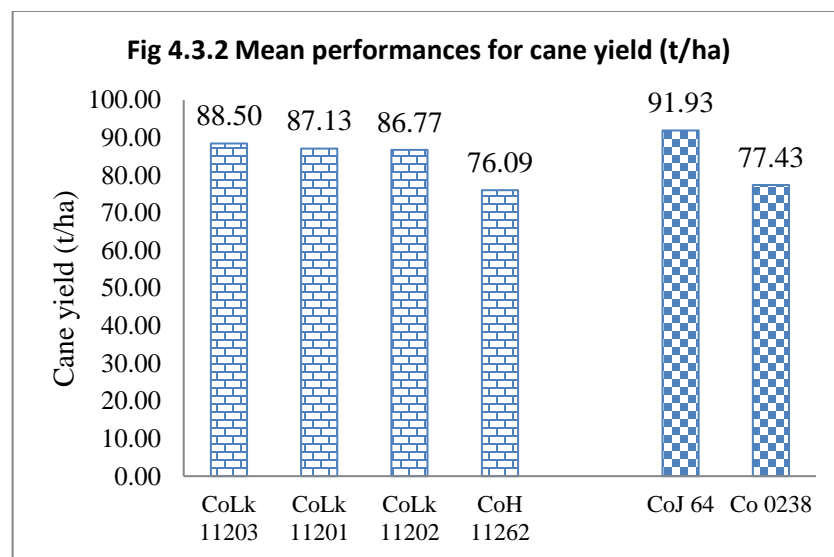
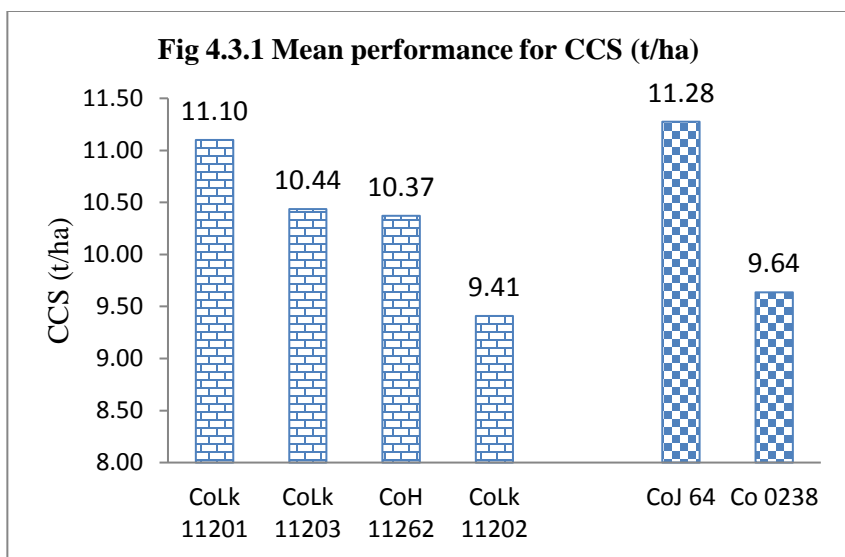
Table 4.3.4 Sucrose % at harvest

Sl No	Entries	Faridkot	Kapurthala	Kota*	Lucknow	Muzaffar nagar*	Pant nagar	Shahja hanpur	Sriganga nagar	Uchani	Mean	Weighted mean	Rank
1	CoH 11262	15.89	16.73	15.86	16.77	17.49	16.35	17.11	16.76	18.20	16.79	17.53	
2	CoLk 11201	18.32	18.30	17.70	18.55	18.15	17.80	17.19	17.39	18.02	17.94	17.97	3
3	CoLk 11202	16.49	18.21	15.81	17.52	17.42	16.85	17.19	16.53	18.72	17.19	17.27	
4	CoLk 11203	18.29	18.49	17.92	19.32	18.41	18.63	18.06	17.07	18.74	18.33	18.39	1
	Standards												
1	CoJ 64	18.42	18.13	16.35	19.09	17.98	18.21	17.43	17.62	18.66	17.99	18.07	2
2	Co 0238	17.55	17.33	17.12	18.65	18.35	17.50	17.03	16.75	18.60	17.65	17.71	
	Mean	17.50	17.87	16.79	18.32	17.97	17.56	17.33	17.02	18.49	17.65	17.82	
Top three entries showing 5% improvement over the best standard at each location													
Rank 1		-	-	-	-	-	-	-	-	-	-		
Rank 2													
Rank 3													

* Kota and Sriganganagar centres 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 best standard: Nil

Performance across locations: The mean sucrose of the best standard CoJ 64 in the zone was 18.07 percent. Test clone CoLk 11203 recorded numerically higher sucrose (18.39%) than CoJ 64 and its percent improvement over CoJ 64 was less than 5 %. The overall mean sucrose content in the zone indicate that none of the test entries were recorded >5% improvement over the best standard.



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

Four entries, CoH 11262, CoLk 11201, CoLk 11202 and CoLk 11203 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 1 to 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 and one entry entry CoLk 11203, were at first, second and third rank, respectively. Such a ranking differed with the ranking based only on mean data of CCS (t/ha) presented in Table 1. Considering top two entries with high CCS (t/ha) and stable genotypes, none of the entries was 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 two standards, CoJ 64 and Co 0238 and one entry entries, CoLk 11203, were at first, second and third rank, respectively. Such a ranking differed with the ranking based only on mean data of CCS (t/ha) presented in Table 2. Considering top two entries with high CCS (t/ha) and stable genotypes, none of the entries was superior than both the standards, CoJ 64 and Co 0238.

Results based on index of simultaneous selection of high sucrose (%) and stable genotypes revealed that the standard CoJ 64, entry, CoLk 11203 and standard CoJ 64 were at first, second and third rank respectively. Such a ranking differed with ranking based only on mean data of sucrose content (Table 3). Considering top entry with high sucrose (%) and stable genotypes, entry CoLk 11203 was superior among the entries. However none of the entries was better than the best standard Co 0238.

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 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
CoH 11262	1.05	8.93	17.40	6	4	6
CoLk 11201	1.06	8.83	14.29	5	6	4
CoLk 11202	1.11	9.40	15.25	4	3	5
CoLk 11203	1.25	10.31	11.02	3	1	3
Standards						
CoJ 64	1.66	8.87	2.44	1	5	1
Co 0238	1.38	10.31	6.11	2	2	2

Table 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
CoH 11262	1.06	76.10	865.26	5	4	6
CoLk 11201	1.01	71.45	857.89	6	5	5
CoLk 11202	1.11	78.79	727.22	4	3	4
CoLk 11203	1.21	80.89	423.75	3	2	3
Standards						
CoJ 64	1.80	71.36	77.32	1	6	1
Co 0238	1.31	84.00	305.04	2	1	2

Table 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
CoH 11262	1.13	16.80	3.58	6	6	6
CoLk 11201	1.25	17.94	2.66	4	3	4
CoLk 11202	1.18	17.19	3.11	5	5	5
CoLk 11203	1.31	18.33	2.36	2	1	3
Standards						
CoJ 64	1.29	17.99	2.33	3	2	2
Co 0238	1.34	17.65	1.86	1	4	1

4.4 ADVANCED VARIETAL TRIAL (EARLY) - I PLANT

Centres (9)	Faridkot, Kapurthala, Kota, Lucknow, Muzaffarnagar, Pantnagar, Shahjahanpur, Sriganaganar 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 × 6 m × 0.75 m Net : 6 rows × 5 m × 0.75 m
Seed rate	12 buds/metre
Planting time	February/ March, 2016
Crop duration	10 months

Results of the previous year: In the IVT (Early) trial of 2015-16, CoLk 12201 was the top ranking entry in the zone for CCS yield (11.09 t/ha) and its CCS yield was significantly higher than the best standards Co 0238 (11.07 t/ha) at Lucknow and Sriganaganar centres. For cane yield, CoPant 12221 was the best entry in the zone with cane yield of 92.83 t/ha. This entry recorded significantly higher cane yield over the best standard Co 0238 (90.52 t/ha) at Faridkot and Sriganaganar centres. However, for juice quality, Co 12027 was the top ranking entry in the zone with mean sucrose content of 18.31 % and CCS % of 12.73 at 10th month. It recorded significantly superior CCS % over the best standard at 4 locations and sucrose content at 3 locations. The next best entry for juice quality was CoLk 12201 (18.26 % sucrose and 12.63% CCS).

Result of the current year: In the AVT (E) I Plant trial of 2016-17 season, the average germination% was 50.48%, 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 Sriganaganar. Co 0238 was the best standard for cane yield (86.96 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 Sriganaganar 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 best 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%. Further details are shown in Tables 4.4.1 to 4.4.19.

Table 4.4.1 CCS (t/ha) at harvest

Sl No	Entries	Faridkot	Kapurthala	Kota	Lucknow*	Muzaffar nagar	Pantnagar	Shahja hanpur	Sriganga nagar	Uchani	Mean	Rank
1	Co 12026	13.73	9.64	8.74	1.71	10.71	9.43	9.35	9.41	11.98	10.37	
2	Co 12027	13.48	11.35	10.61	7.20	9.00	10.52	11.10	10.99	10.99	11.01	1
3	CoLk 12203	11.58	8.40	8.16	9.53	11.67	8.10	9.11	9.13	10.96	9.64	
4	CoPant 12221	12.81	9.79	8.40	7.22	10.52	12.00	9.54	9.77	10.75	10.45	3
	Standards											
1	CoJ 64	11.51	9.42	7.82	8.57	9.01	9.94	8.92	8.68	10.93	9.53	
2	Co 0238	13.20	11.01	9.45	10.75	10.88	11.47	10.13	9.11	12.73	11.00	2
	Mean	12.72	9.94	8.86	7.50	10.30	10.24	9.69	9.52	11.39	10.33	
	SEm	0.30		0.32						0.36		
	CD 5%	0.92	0.99	0.92	1.09	0.71	1.11	1.14	0.45	1.15		
	CV	4.79	6.60	14.43	9.67	4.73	7.17	7.83	6.38	0.05		
Top three entries showing 10% improvement over the best standard at each location												
Rank 1	-	-	Co 12027	-	-	-	-	-	Co 12027	-	-	
Rank 2												
Rank 3												

*Centre mean of Lucknow centre is lower than the average sugarcane yield of Uttar Pradesh and hence, data is not considered for estimation of mean.

Number of locations where entry recorded 10% improvement over the best standard: Co 12027 (2)

Performance across locations: Co 0238 was the best among the standards 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. The clone Co 12027 showed >10% improvement at Kota and Sriganganagar.

Table 4.4.2 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 12026	107.50	82.58	75.63	13.60	87.78	69.25	74.33	79.29	85.93	82.79	
2	Co 12027	102.22	90.24	86.70	56.93	70.22	69.92	84.00	86.43	74.81	83.07	
3	CoLk 12203	115.83	74.25	82.37	81.03	97.44	68.75	80.89	80.72	94.57	86.85	3
4	CoPant 12221	116.11	87.79	80.97	59.95	80.78	90.42	81.11	90.69	89.87	89.72	1
	Standards											
1	CoJ 64	90.28	75.54	74.60	63.25	67.78	77.67	75.11	71.34	81.25	76.70	
2	Co 0238	106.67	91.19	82.83	79.10	81.44	88.08	83.56	78.54	91.24	87.94	2
	Mean	106.44	83.60	80.52	58.98	80.91	77.35	79.83	81.17	86.28	84.51	
	SEm	2.98		2.22						2.13		
	CD 5%	8.97	7.51	6.46	6.79	5.37	3.49	7.28	8.92	6.80		
	CV	5.59	5.97	11.15	7.68	4.54	2.99	6.05	8.29	4.28		
Top three entries showing 10% improvement over the best standard at each location												
Rank 1		-	-	-	-	CoLk 12203	-	-	CoPant 12221	-	-	
Rank 2									Co 12027			
Rank 3												

*Centre mean of Lucknow centre is lower than the average sugarcane yield of Uttar Pradesh and hence, data is not considered for estimation of mean.

Number of locations where entry recorded 10% improvement over the best standard: Co 12027 (1), CoLk 12203 (1) and CoPant 12221 (1)

Performance across locations: Co 0238 was the best standard for cane yield (87.94 t/ha). None of the test clones showed >10% improvement over the best standard although clones such as Co 12027 and CoPant 12221 at Sriganganagar and CoLk 12203 at Muzaffarnagar centre recorded >10 percent improvement for cane yield.

Table 4.4.3 CCS (%) at harvest

Sl No	Entries	Faridkot	Kapurthala	Kota	Lucknow	Muzaffar nagar	Pantnagar	Shahja hanpur	Sriganga nagar	Uchani	Mean	Rank
1	Co 12026	12.77	11.68	11.57	12.53	12.20	13.62	12.58	11.87	13.94	12.53	
2	Co 12027	13.19	12.59	12.23	12.68	12.80	13.85	13.22	12.71	14.68	13.11	1
3	CoLk 12203	10.01	11.31	9.91	11.75	11.99	11.78	11.26	11.31	11.60	11.21	
4	CoPant 12221	11.03	11.15	10.38	12.05	13.01	13.27	11.44	10.77	11.97	11.67	
	Standards											
1	CoJ 64	12.75	12.46	10.49	13.53	13.29	12.94	11.86	12.17	13.45	12.55	3
2	Co 0238	12.38	12.08	11.41	13.60	13.36	13.02	12.06	11.61	13.94	12.61	2
	Mean	12.02	11.88	11.00	12.69	12.78	13.08	12.07	11.74	13.26	12.28	
	SEm	0.11		0.17						0.24		
	CD 5%	0.34	0.38	0.50	0.62	0.41	0.53	0.76	0.58	0.78		
	CV	1.90	2.15	6.27	3.23	2.21	2.70	4.20	2.60	3.18		
Top three entries showing 5 % improvement over the best standard at each location												
Rank 1		-	-	-	-	-	-	-	-	-	-	
Rank 2												
Rank 3												

Number of locations where an entry recorded 5% improvement over the best standard: No entry showed >5 % improvement over the best standard.

Performance across locations: Among the standard varieties, Co 0238 recorded the highest CCS% (12.61). No test entries showed >5 % improvement for this trait over the best standard, although Co 12027 recorded numerically higher CCS % (13.11%).

Table 4.4.4. Sucrose (%) at harvest

Sl No	Entries	Faridkot	Kapurthala	Kota	Lucknow	Muzaffar nagar	Pantnagar	Shahja hanpur	Sriganga nagar	Uchani	Mean	Rank
1	Co 12026	18.34	17.46	16.87	17.98	17.71	19.81	18.35	17.15	20.15	18.20	2
2	Co 12027	19.13	18.15	17.76	18.20	18.75	20.09	18.98	18.29	20.95	18.92	1
3	CoLk 12203	14.70	16.34	14.63	17.00	17.53	17.06	16.34	16.44	16.70	16.30	
4	CoPant 12221	15.90	16.19	15.25	17.38	18.83	19.16	16.67	15.76	17.43	16.95	
	Standards											
1	CoJ 64	18.21	17.78	15.42	19.33	19.23	18.77	17.33	17.58	19.05	18.08	4
2	Co 0238	17.80	17.33	16.60	19.45	19.41	18.88	17.53	16.87	19.79	18.18	3
	Mean	17.35	17.21	16.09	18.22	18.58	18.96	17.53	17.02	19.01	17.77	
	SEm	0.16		0.23						0.28		
	CD 5%	0.47	0.45	0.67	0.72	0.48	0.79	0.78	0.79	0.89		
	CV	1.80	1.75	5.80	2.62	1.76	2.75	2.97	2.44	2.55		
Top three entries showing 5% improvement over the best standard at each location												
Rank 1		-	-	-	-	-	-	-	-	-	-	
Rank 2												
Rank 3												

Number of locations where an entry recorded 5 % improvement over the best standard: No entry showed >5 % improvement over the best standard.

Performance across locations: Among the standard varieties, Co 0238 recorded the highest sucrose (18.18%). Among the test 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%.

Table 4.4.5 Brix (%) at harvest

S. No.	Entry	Farid kot	Kapur thala	Kota	Luck now	Muzaff arnagar	Pant nagar	Shahja hanpur	Sriganga nagar	Uch ani	Mean
1	Co 12026	20.46	21.13	19.43	19.90	20.22	22.68	20.76	19.38	22.77	20.75
2	Co 12027	21.78	20.39	20.30	20.28	21.79	22.85	21.34	20.48	23.03	21.36
3	CoLk 12203	17.18	18.46	17.27	19.20	20.28	19.38	18.91	18.82	18.73	18.69
4	CoPant 12221	17.86	18.50	17.87	19.55	21.32	21.60	19.21	18.28	20.00	19.35
Standards											
1	CoJ 64	20.05	19.54	18.03	21.30	21.78	21.40	19.82	19.85	20.63	20.27
2	Co 0238	19.91	19.29	19.17	21.58	22.17	21.50	20.01	19.30	21.53	20.50
	Mean	19.54	19.55	18.68	20.30	21.26	21.57	20.01	19.35	21.12	20.15
	SEm	0.23		0.22						0.36	
	CD 5%	0.68	0.44	0.65	0.70	0.42	0.96	0.72	0.94	1.16	
	CV	2.32	1.49	4.82	2.30	1.36	2.96	2.39	2.58	2.99	

Table 4.4.6 Purity (%) at harvest

S. No.	Entry	Farid kot	Kapur thala	Kota	Luck now	Muzaff arnagar	Pant nagar	Shahja hanpur	Sriganga nagar	Uch ani	Mean
1	Co 12026	89.65	82.65	86.82	90.20	87.58	87.35	88.36	88.51	88.56	87.74
2	Co 12027	87.88	89.02	87.50	89.68	86.02	87.75	88.97	89.28	90.95	88.56
3	CoLk 12203	85.58	88.49	83.80	84.70	86.66	88.04	86.42	87.37	89.21	86.70
4	CoPant 12221	89.06	87.58	85.06	89.03	88.26	88.70	86.89	86.26	87.16	87.56
Standards											
1	CoJ 64	90.81	91.01	85.38	90.68	88.28	87.73	87.42	88.59	92.36	89.14
2	Co 0238	89.45	89.85	86.64	90.20	87.55	87.85	87.61	87.43	91.91	88.72
	Mean	88.74	88.10	85.87	89.08	87.39	87.90	87.61	87.91	90.03	88.07
	SEm	0.63		0.46						1.13	
	CD 5%	1.89	1.70	1.32	NS	NS	1.05	0.75	1.73	NS	
	CV	1.42	1.28	2.14	3.40	1.27	0.79	0.57	1.60	2.75	

Table 4.4.7 Juice extraction (%) at harvest

S. No.	Entry	Farid kot	Kapur thala	Kota	Luck now	Muzaff arnagar	Pant nagar	Shahja hanpur	Sriganga nagar	Uch ani	Mean
1	Co 12026	52.43	56.59	32.10	43.90	50.52		54.87	48.29	53.00	48.96
2	Co 12027	52.45	52.28	53.63	50.50	55.38		54.69	52.73	51.00	52.83
3	CoLk 12203	50.01	53.80	42.73	45.43	51.85		53.80	47.56	53.00	49.77
4	CoPant 12221	47.39	54.83	39.07	42.75	50.79		54.10	49.81	50.00	48.59
Standards											
1	CoJ 64	50.88	58.22	49.63	48.90	58.00		55.03	51.38	53.00	53.13
2	Co 0238	54.90	56.22	41.03	50.30	55.84		56.71	52.26	51.00	52.28
	Mean	51.34	55.32	43.03	46.96	53.73		54.87	50.34	51.83	50.93
	SEm	0.64		0.93						86.00	
	CD 5%	1.94	NS	2.71	5.55	-		1.52	2.61	NS	
	CV	2.50	8.12	8.77	7.89	-		1.84	2.91	2.86	

Table 4.4.8 Pol% in cane and Fibre content at harvest

S. No.	Entry	Pol% Cane					Fibre%				
		Kapur thala	Luck now	Muzaff arnagar	Shahja hanpur	Mean	Kapur thala	Luck now	Muzaff arnagar	Shahja hanpur	Mean
1	Co 12026	12.85	13.98	13.11	13.22	13.29	15.01	13.03	13.24	14.36	13.91
2	Co 12027	13.44	14.20	13.86	13.88	13.85	12.68	12.08	13.76	14.36	13.22
3	CoLk 12203	12.43	12.43	12.65	12.14	12.41	15.07	14.20	13.41	14.42	14.28
4	CoPant 12221	12.06	13.23	14.09	12.36	12.94	12.02	14.08	13.65	14.45	13.55
Standards											
1	CoJ 64	13.54	14.85	14.17	13.17	13.93	11.79	13.05	13.15	14.29	13.07
2	Co 0238	13.51	14.93	14.38	13.12	13.99	12.95	13.70	13.27	14.06	13.50
	Mean	12.97	13.94	13.71	12.98	13.40	13.25	13.36	13.41	14.32	13.59
	SEm										
	CD 5%	0.57	0.80	-	-		0.73	1.27	-	-	
	CV	2.94	3.85	-	-		3.63	6.36	-	-	

Table 4.4.9 Number of millable canes ('000/ha) at harvest

S. No.	Entry	Farid kot	Kapur thala	Kota	Luck now	Muzaff arnagar	Pant nagar	Shahja hanpur	Sriganga nagar	Uch ani	Mean
1	Co 12026	108.89	96.18	88.37	26.65	110.33	87.17	89.00	97.29	106.70	90.06
2	Co 12027	123.75	84.05	97.80	85.40	96.88	95.17	109.11	117.31	113.50	102.55
3	CoLk 12203	123.75	111.38	89.90	126.03	132.11	89.75	105.78	90.63	109.50	108.76
4	CoPant 12221	135.42	113.30	99.37	100.20	118.88	104.00	105.67	104.54	117.90	111.03
Standards											
1	CoJ 64	107.50	105.69	101.93	101.03	112.66	113.00	109.11	103.73	120.30	108.33
2	Co 0238	101.67	99.90	90.90	94.35	97.88	98.67	96.89	99.81	107.50	98.62
	Mean	116.83	101.75	94.71	88.94	111.46	97.96	102.59	102.22	112.57	103.23
	SEm	3.35		1.81						2.69	
	CD 5%	10.10	15.30	5.26	15.17	7.52	3.00	9.92	14.28	8.58	
	CV	5.74	9.99	7.72	11.38	4.61	2.04	6.41	8.89	4.13	

Table 4.4.10 Cane height (cm)

S. No.	Entry	Farid kot	Kapur thala	Kota	Luck now	Muzaff arnagar	Pant nagar	Shahja hanpur	Sriganga nagar	Uch ani	Mean
1	Co 12026	255.17	302.00	237.00	150.00	228.00	257.00	206.00	195.24	263.30	232.63
2	Co 12027	255.58	291.00	257.00	213.00	175.00	252.00	236.00	182.67	230.00	232.47
3	CoLk 12203	258.91	268.00	265.00	218.00	193.00	272.00	226.00	188.38	253.30	238.07
4	CoPant 12221	305.66	265.00	245.00	210.00	214.00	277.00	215.00	210.54	283.30	247.28
Standards											
1	CoJ 64	216.58	284.00	244.00	208.00	174.00	217.00	214.00	184.46	230.00	219.12
2	Co 0238	243.41	299.00	276.00	215.00	168.00	265.00	242.00	191.64	281.70	242.42
	Mean	255.89	284.83	254.00	202.33	192.00	256.67	223.17	192.16	256.93	235.33
	SEm	2.75								6.47	
	CD 5%	8.29	NS	5.50	13.00	20.00	22.00	23.01	17.14	20.65	
	CV	2.15	7.81	3.01	4.39	7.16	5.69	6.84	8.12	4.36	

Table 4.4.11 Cane diameter (cm)

S. No.	Entry	Farid kot	Kapur thala	Kota	Luck now	Muzaff arnagar	Pant nagar	Shahja hanpur	Sriganga nagar	Uch ani	Mean
1	Co 12026	2.66	2.20	2.26	2.09	2.03	2.33	2.25	2.43	2.50	2.31
2	Co 12027	2.50	2.23	2.25	2.38	2.00	2.20	2.23	2.29	2.30	2.26
3	CoLk 12203	2.49	2.11	2.24	2.21	1.87	2.29	2.38	2.25	2.31	2.24
4	CoPant 12221	2.36	2.01	2.17	1.99	2.02	2.22	2.20	2.31	2.20	2.16
Standards											
1	CoJ 64	2.71	2.09	2.14	2.03	1.82	2.34	2.15	2.21	2.20	2.19
2	Co 0238	2.79	2.38	2.22	2.35	2.60	2.60	2.65	2.39	2.57	2.51
	Mean	2.59	2.17	2.21	2.18	2.06	2.33	2.31	2.31	2.35	2.28
	SEm	0.03		0.03						0.06	
	CD 5%	0.08	0.21	0.08	0.10	0.18	0.24	0.20	0.14	0.19	
	CV	2.06	6.46	4.69	3.21	5.99	6.87	5.81	5.81	4.30	

Table 4.4.12 Single cane weight (kg)

S. No.	Entry	Farid kot	Kapur thala	Kota	Luck now	Muzaff arnagar	Pant nagar	Shahja hanpur	Sriganga nagar	Uch ani	Mean
1	Co 12026	1.19	1.19	0.89	0.58	0.81	1.19	0.98	0.83	0.73	0.93
2	Co 12027	0.94	1.23	0.64	0.50	0.79	1.14	0.87	0.72	0.70	0.84
3	CoLk 12203	0.95	1.08	1.07	0.73	0.75	1.16	0.88	0.86	0.83	0.92
4	CoPant 12221	1.05	1.13	0.79	0.53	0.73	1.31	1.06	0.96	0.78	0.93
Standards											
1	CoJ 64	1.00	0.98	1.00	0.53	0.62	1.04	0.90	0.69	0.71	0.83
2	Co 0238	1.21	1.39	1.03	0.85	0.87	1.35	1.24	0.79	0.90	1.07
	Mean	1.06	1.17	0.90	0.62	0.76	1.20	0.99	0.81	0.78	0.92
	SEm	0.04		0.02						0.02	
	CD 5%	0.11	NS	0.06	0.07	0.04	0.07	0.18	0.13	0.08	
	CV	6.70	14.30	8.53	7.98	3.34	3.70	11.78	7.71	5.23	

Table 4.4.13 CCS (%) at 8th month

S. No.	Entry	Farid kot	Kapur thala	Kota	Luck now	Muzaff arnagar	Pant nagar	Shahja hanpur	Sriganga nagar	Uch ani	Mean
1	Co 12026	11.32	11.27	9.20	12.15	11.95	12.31	11.42	10.68	12.88	11.46
2	Co 12027	11.70	11.55	10.19	11.05	11.91	12.49	12.14	11.07	12.89	11.67
3	CoLk 12203	7.69	9.29	7.99	10.56	9.11	10.18	9.75	9.92	7.85	9.15
4	CoPant 12221	7.68	8.74	8.37	10.58	9.25	11.49	9.75	9.40	10.29	9.51
Standards											
1	CoJ 64	9.93	11.28	8.40	12.11	11.88	11.72	11.08	10.84	12.18	11.05
2	Co 0238	9.77	10.37	9.22	12.37	12.04	11.35	10.94	10.09	11.38	10.84
	Mean	9.68	10.42	8.90	11.47	11.02	11.59	10.85	10.33	11.25	10.61
	SEm	0.28		0.15						0.29	
	CD 5%	0.84	1.10	0.44	0.93	0.72	0.57	0.70	0.52	0.92	
	CV	5.73	7.03	6.92	5.40	4.47	3.25	4.31	2.51	4.43	

Table 4.4.14 Sucrose (%) at 8th month

S. No.	Entry	Farid kot	Kapur thala	Kota	Luck now	Muzaff arnagar	Pant nagar	Shahja hanpur	Sriganga nagar	Uch ani	Mean
1	Co 12026	16.24	18.72	13.67	17.70	17.47	18.08	16.71	15.58	18.62	16.98
2	Co 12027	16.87	18.31	15.01	16.30	17.53	18.36	17.86	16.09	18.93	17.25
3	CoLk 12203	11.49	15.34	12.02	15.58	14.08	15.05	14.50	14.61	12.71	13.93
4	CoPant 12221	11.48	15.84	12.54	15.53	14.10	16.81	14.53	13.87	15.47	14.46
Standards											
1	CoJ 64	14.61	18.48	12.54	17.75	17.40	17.19	16.26	15.81	17.99	16.45
2	Co 0238	14.36	18.35	13.71	18.10	17.67	16.64	16.08	14.79	16.72	16.27
	Mean	14.18	17.51	13.25	16.83	16.38	17.02	15.99	15.13	16.74	15.89
	SEm	0.37		0.21						0.32	
	CD 5%	1.12	1.20	0.60	1.22	1.40	0.72	0.84	0.64	1.01	
	CV	5.26	4.58	6.24	4.84	5.77	2.82	3.47	2.15	3.26	

Table 4.4.15 Brix (%) at 8th month

S. No.	Entry	Farid kot	Kapur thala	Kota	Luck now	Muzaff arnagar	Pant nagar	Shahja hanpur	Sriganga nagar	Uch ani	Mean
1	Co 12026	18.08	16.38	16.33	20.35	20.22	21.13	19.39	17.95	21.07	18.99
2	Co 12027	18.95	16.54	17.63	19.20	20.67	21.48	20.93	18.41	22.10	19.55
3	CoLk 12203	13.88	13.48	14.73	18.35	18.07	17.80	17.36	17.17	17.60	16.49
4	CoPant 12221	13.88	13.10	15.23	18.10	17.69	19.50	17.45	16.37	18.90	16.69
Standards											
1	CoJ 64	17.13	16.32	15.17	20.65	20.24	20.03	18.95	18.21	21.27	18.66
2	Co 0238	16.83	15.39	16.40	20.98	20.62	19.38	18.84	17.22	19.53	18.35
	Mean	16.46	15.20	15.92	19.61	19.59	19.89	18.82	17.56	20.08	18.12
	SEm	0.39		0.21						0.46	
	CD 5%	1.17	1.40	0.62	1.14	0.46	0.67	0.77	0.51	1.47	
	CV	4.71	6.13	5.44	3.88	1.61	2.22	2.70	1.62	3.97	

Table 4.4.16 Purity (%) at 8th month

S. No.	Entry	Farid kot	Kapur thala	Kota	Luck now	Muzaff arnagar	Pant nagar	Shahja hanpur	Sriganga nagar	Uch ani	Mean
1	Co 12026	89.86	87.35	83.71	86.95	86.41	85.56	86.17	86.81	88.56	86.82
2	Co 12027	89.00	90.30	85.47	84.80	84.83	85.48	87.48	87.36	85.70	86.71
3	CoLk 12203	82.92	87.87	81.53	84.93	77.83	84.54	83.49	85.07	72.27	82.27
4	CoPant 12221	82.75	82.33	82.31	85.85	79.71	86.20	83.09	84.69	81.79	83.19
Standards											
1	CoJ 64	85.27	88.29	82.31	85.83	85.98	85.81	85.78	86.78	84.63	85.63
2	Co 0238	85.34	83.84	83.57	86.40	85.71	85.87	85.32	85.84	85.65	85.28
	Mean	85.86	86.66	83.15	85.79	83.41	85.58	85.22	86.09	83.10	84.99
	SEm	0.78		0.33						1.89	
	CD 5%	2.34	3.25	0.97	NS	3.49	1.55	1.41	1.68	6.04	
	CV	1.81	2.49	1.62	1.50	2.86	1.21	1.10	1.72	3.94	

Table 4.4.17 Number of shoots at 8th month

S. No.	Entry	Farid kot	Kapur thala	Kota	Luck now	Muzaff arnagar	Pant nagar	Shahja hanpur	Sriganga nagar	Uch ani	Mean
1	Co 12026	122.01	104.22	115.10	33.50*	-	-	-	-	126.80	100.33
2	Co 12027	128.95	91.03	103.73	99.75	-	-	-	-	131.30	110.95
3	CoLk 12203	137.77	120.66	120.97	125.00	-	-	-	-	141.10	129.10
4	CoPant 12221	147.84	130.84	118.47	110.50	-	-	-	-	135.90	128.71
Standards											
1	CoJ 64	110.40	114.50	125.10	113.25	-	-	-	-	140.40	120.73
2	Co 0238	108.81	108.22	122.83	99.20	-	-	-	-	134.60	114.73
	Mean	125.96	111.58	117.70	96.87					135.02	117.43
	SEm	2.86		1.63						2.17	
	CD 5%	8.61	17.71	4.73	15.65	-	-	-	-	6.94	
	CV	4.54	10.54	5.58	10.78	-	-	-	-	2.79	

*Shoot population of Co 12026 at Lucknow was very low due to poor germination

Table 4.4.18 Number of tillers at 120th days

S. No.	Entry	Farid kot	Kapur thala	Kota	Luck now	Muzaff arnagar	Pant nagar	Shahja hanpur	Sriganga nagar	Uch ani	Mean
1	Co 12026	141.53	110.65	123.80	42.00*	210.88	128.42	194.00	135.28	147.80	137.15
2	Co 12027	140.56	96.26	118.53	159.75	152.00	112.75	199.56	163.71	150.10	143.69
3	CoLk 12203	158.19	124.36	122.03	174.25	243.22	131.42	204.89	138.34	158.70	161.71
4	CoPant 12221	166.67	146.18	127.47	149.00	228.77	155.75	216.00	154.43	143.20	165.27
Standards											
1	CoJ 64	118.19	121.59	134.97	146.00	201.77	166.08	207.11	142.63	151.40	154.42
2	Co 0238	122.36	118.46	131.90	146.25	179.88	130.08	195.22	138.28	143.10	145.06
	Mean	141.25	119.58	126.45	136.21	202.75	137.42	202.80	145.45	149.05	151.22
	SEm	3.89		1.54						1.70	
	CD 5%	11.72	21.06	4.48	14.56	39.14	11.08	13.78	19.54	5.42	
	CV	5.51	11.69	4.92	7.13	13.11	5.35	4.51	6.78	1.97	

*Shoot population of Co 12026 at Lucknow was very low due to poor germination

Table 4.4.19 Germination (%) at 45th days

S. No.	Entry	Farid kot	Kapur thala	Kota	Luck now*	Muzaff arnagar	Pant nagar	Shahja hanpur	Sriganga nagar	Uch ani	Mean
1	Co 12026	39.24	43.64	41.00	5.80	40.56	31.98	42.22	28.36	49.17	35.77
2	Co 12027	26.27	46.48	44.33	27.38	35.21	33.96	48.96	39.29	45.83	38.63
3	CoLk 12203	33.91	47.68	39.33	25.58	54.37	32.66	54.31	38.71	51.40	41.99
4	CoPant 12221	37.04	46.01	45.33	16.98	46.80	37.34	50.00	35.85	52.50	40.87
Standards											
1	CoJ 64	27.55	49.53	43.67	21.85	43.61	36.10	50.35	42.63	50.93	40.69
2	Co 0238	32.87	48.64	43.67	17.73	41.32	33.39	49.31	41.18	53.07	40.13
	Mean	32.81	47.00	42.89	19.22	43.65	34.24	49.19	37.67	50.48	39.68
	SEm	0.79		1.33						2.30	
	CD 5%	2.39	Ns	3.87	3.22	6.12	3.62	6.23	3.58	N/A	
	CV	4.82	10.21	12.56	11.17	9.38	7.02	8.41	5.53	7.90	

*The average germination % of the trial at Lucknow centre was very low (19.22%).

Table 4.4.20 Assessment of entries by monitoring team

Entry	Lucknow	Shahjahan pur	Pant nagar	Muzaffar nagar	Uchani	Faridkot	Kapur thala	Sriganga nagar	Kota
Co 12026	Poor	On par	On par	On par	On par	On par	On par	Better	On par
Co 12027	Poor	On Par	On par	On par/poor	Poor	On par	Poor	Better	Poor
CoLk 12203	On par	On par	On par	On par	Poor	Better	Poor	Better	On par
CoPant 12221	Poor	On par	On par	Poor/On par	Poor	Better	Poor	Better	Poor
CoJ 64								Best	
Co 0238	Best	Best	Best	Best	Best	Best	Best		Best

4.5 INITIAL VARIETAL TRIAL (EARLY)

Centres (9)	Faridkot, Kapurthala, Karnal, Kota, Lucknow, Muzaffarnagar, Pantnagar, Shahjahanpur and Sriganaganagar.
Entries (9)	1. Co 13033 (Co 86032 x Co 86011) 2. Co 13034 (Co 0124 GC) 3. CoLk 13201 (CoLk 8002 GC) 4. CoLk 13202 (CoLK 8102 x CoS 96260) 5. CoLk 13203 (Co 86249 GC) 6. CoPant 13221 (MS 6847 X Co 1148) 7. CoPant 13222 (Co 1148 GC) 8. CoPb 13181 (ISH 100 x Co 86011) 9. CoS 13231 (CoS 95255 x CoS 510)
Standards (2)	CoJ 64 and Co 0238
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, 2016
Crop duration	10 month

Results of the previous year

The entries were under multiplication in the respective centres

Result of the current years

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 in the zone 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

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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 %) and 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 Kapurthala and Kota, whereas Co 13033, Co 13034 and CoLk 13201 showed >5% improvement at Kota centre. 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 standard at Kapurthala and Kota centres whereas Co 13034, Co 13033 and CoLk 13201 showed >5 % improvement at Kota centre alone. Further details are presented in Tables 4.5.1 to 4.5.18.

Table 4.5.1 CCS yield (t/ha) at harvest

Sl No	Entries	Faridkot	Kapurthala	Karnal	Kota	Lucknow*	Muzaffar nagar	Pant nagar	Shahja hanpur	Sriganga nagar	Mean	Rank
1	Co 13033	12.02	9.23	17.40	11.79	-	6.20	8.39	8.96	8.40	10.30	
2	Co 13034	11.28	10.16	19.41	11.46	2.29	9.03	11.47	10.84	10.22	11.73	1
3	CoLk 13201	9.90	8.40	12.99	11.50	9.61	10.71	5.82	8.81	7.65	9.47	
4	CoLk 13202	10.93	7.85	13.39	7.57	9.61	7.76	5.90	9.32	13.91	9.58	
5	CoLk 13203	12.61	9.09	12.78	7.46	4.93	9.13	8.40	8.75	12.51	10.09	
6	CoPant 13221	9.23	7.88	11.39	7.97	9.10	9.78	11.00	9.59	13.32	10.02	
7	CoPant 13222	10.69	7.75	15.72	7.74	8.90	8.99	11.29	9.25	12.22	10.46	
8	CoPb 13181	14.05	10.51	14.58	10.32	2.39	9.07	11.04	8.69	9.69	10.99	3
9	CoS 13231	8.17	11.65	12.52	11.84	10.05	9.88	4.79	10.34	14.32	10.44	
	Standards											
1	CoJ 64	11.63	9.30	14.52	8.42	8.10	7.95	8.53	9.22	8.46	9.75	
2	Co 0238	11.36	10.31	18.72	9.70	12.45	9.63	8.93	10.87	9.42	11.12	2
	Mean	11.08	9.28	14.86	9.62	7.74	8.92	8.69	9.51	10.92	10.36	
	SEm	0.51			0.49							
	CD 5%	1.5	0.86	1.88	1.431	0.93	1.91	1.24	0.84	1.27		
	CV	7.95	5.49	7.36	11.28	6.91	12.7	8.37	5.18	6.43		
Top three entries showing 10% improvement over the best standard at each location												
Rank 1		CoPb 13181	CoS 13231		CoS 13231		CoLk 13201	Co 13034		CoS 13231	-	
Rank 2					Co 13033			CoPant 13222		CoLk 13202		
Rank 3					CoLk 13201			CoPb 13181		CoPant 13221		

* Lucknow centre reported very low germination (17.40 %) and low cane yield than state average cane yield hence the data was not considered for calculating mean.

Number of locations where an entry recorded >10 percent improvement over the best standard: CoS 13231 (3), Co 13034 (2), CoPb 13181 (2), CoLk 13201 (2), CoPant 13222 (2), CoPant 13221 (2), Co 13033 (1), CoLk 13202 (1) and CoLk 13203 (1).

Performance across locations: 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 5.48 % improvement for CCS yield (11.73 t/ha) over the best standard and none of the entries showed >10% improvement at zonal level.

Table 4.5.2 Cane yield (t/ha) at harvest

Sl No	Entries	Faridkot	Kapurthala	Karnal	Kota	Lucknow*	Muzaffar nagar	Pant nagar	Shahja hanpur	Sriganga nagar	Mean	Rank
1	Co 13033	92.04	73.95	124.14	92.90	-	50.44	68.00	69.11	70.34	80.12	
2	Co 13034	88.15	89.01	142.22	89.90	16.00	71.56	90.00	80.67	80.46	91.50	
3	CoLk 13201	80.74	75.68	109.48	96.10	62.00	91.11	48.22	73.33	69.92	80.57	
4	CoLk 13202	101.30	72.59	144.59	74.47	65.00	67.78	51.56	83.11	109.81	88.15	
5	CoLk 13203	101.30	81.11	106.78	70.60	33.00	76.22	74.00	78.22	113.34	87.70	
6	CoPant 13221	100.44	78.02	115.03	75.70	62.00	85.55	98.22	82.67	116.52	94.02	2
7	CoPant 13222	105.74	71.85	143.81	81.67	63.00	80.89	92.22	86.00	98.18	95.05	1
8	CoPb 13181	115.70	90.99	120.77	88.73	17.00	78.67	92.00	72.67	88.19	93.47	3
9	CoS 13231	65.93	88.64	92.37	95.80	62.00	82.44	38.44	80.22	119.32	82.90	
	Standards											
1	CoJ 64	91.30	76.30	111.18	76.83	51.00	67.11	69.78	72.22	69.29	79.25	
2	Co 0238	95.00	89.65	140.03	86.70	76.00	79.78	75.56	85.33	81.36	91.68	
	Mean	94.33	80.71	122.76	84.49	59.25	75.60	72.55	78.50	92.43	87.67	
	SEm	3.81			2.75							
	CD 5%	11.25	6.48	12.46	8.011	6.09	16.11	7.8	7.08	10.14		
	CV	7.00	4.72	5.92	7.19	6.93	12.51	6.32	5.29	8.14		
Top three entries showing 10% improvement over the best standard at each location												
Rank 1	CoPb 13181	-	-	CoLk 13201	-	CoLk 13201	CoPant 13221	-	CoS 13231	-		
Rank 2	CoPant 13222			CoS 13231			CoPant 13222		CoPant 13221			
Rank 3							CoPb 13181		CoLk 13203			

* Lucknow centre reported very low germination (17.40 %) and low cane yield than state average cane yield hence the data was not considered for calculating mean.

Number of locations where an entry recorded >10 percent improvement over the best standard variety: CoPant 13222 (3), CoLk 13201 (2), CoPant 13221 (2), CoPb 13181 (2), CoS 13231 (2), Co 13034 (1), CoLk 13202 (1) and CoLk 13203 (1).

Performance across locations: Average cane yield of the best standard Co 0238 in the zone 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 numerically higher cane yield than the best standard, but none of the entries showed 10 percent improvement over the best standard.

Table 4.5.3 CCS % at harvest

Sl No	Entries	Faridkot	Kapurthala	Karnal	Kota	Lucknow	Muzaffar nagar	Pant nagar	Shahja hanpur	Sriganga nagar	Mean	Rank
1	Co 13033	13.06	12.47	14.02	12.69	-	12.03	12.35	12.97	11.94	12.69	3
2	Co 13034	12.80	11.44	13.65	12.74	14.87	12.61	12.72	13.43	12.70	13.00	1
3	CoLk 13201	12.29	11.11	11.87	12.21	15.40	11.72	12.06	12.01	10.94	12.18	
4	CoLk 13202	10.78	10.81	9.26	10.10	14.77	11.47	11.42	11.22	12.66	11.39	
5	CoLk 13203	12.45	11.21	11.96	10.57	14.77	11.96	11.34	11.19	11.04	11.83	
6	CoPant 13221	9.20	10.10	9.90	9.64	14.63	11.39	11.21	11.60	11.43	11.01	
7	CoPant 13222	10.09	10.80	10.93	9.49	14.13	11.16	12.23	10.76	12.45	11.34	
8	CoPb 13181	12.14	11.55	12.05	11.62	14.10	11.57	12.00	11.96	10.98	12.00	
9	CoS 13231	12.39	13.14	13.55	12.36	16.17	11.99	12.43	12.89	12.00	12.99	2
	Standards											
1	CoJ 64	12.74	12.18	13.09	10.96	15.97	11.85	12.22	12.77	12.20	12.66	
2	Co 0238	11.95	11.50	13.37	11.19	16.37	12.06	11.83	12.74	11.59	12.51	
	Mean	11.81	11.48	12.15	11.23	15.12	11.80	11.98	12.14	11.81	12.15	
	SEm	0.24			0.122							
	CD 5%	0.69	0.81	0.72	0.356	1.04	NS	0.75	0.29	0.52		
	CV	3.45	4.18	3.44	2.4	3.98	4.057	3.66	1.4	2.67		
Top three entries showing 5% improvement over the best standard at each location												
Rank 1			CoS 13231		Co 13034							
Rank 2					Co 13033							
Rank 3					CoS 13231							

Number of locations where an entry recorded 5% improvement over the best standard: CoS 13231 (2), Co 13034 (1), Co 13033 (1) and CoLk 13201 (1).

Performance across locations: CoJ 64 was the best standard in the zone with CCS % of 12.66. 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.

Table 4.5.4 Sucrose % at harvest

Sl No	Entries	Faridkot	Kapurthala	Karnal	Kota	Lucknow	Muzaffar nagar	Pant nagar	Shahja hanpur	Sriganga nagar	Mean	Rank
1	Co 13033	18.85	17.63	19.68	18.35	-	17.92	17.93	18.78	17.27	18.30	1
2	Co 13034	18.37	16.53	19.23	18.45	17.30	18.13	18.54	19.45	18.22	18.25	2
3	CoLk 13201	17.50	16.08	16.97	17.69	17.47	17.05	17.50	17.46	16.00	17.08	
4	CoLk 13202	15.53	15.35	13.59	15.16	16.90	16.65	16.59	16.40	18.19	16.04	
5	CoLk 13203	17.76	16.08	17.05	15.19	16.83	17.38	16.38	16.36	16.11	16.57	
6	CoPant 13221	13.32	14.87	14.58	14.26	16.77	16.66	16.34	16.93	16.63	15.60	
7	CoPant 13222	14.70	15.31	15.82	14.05	16.43	16.28	17.72	15.79	17.91	16.00	
8	CoPb 13181	17.49	16.72	17.20	17.11	17.47	16.70	17.35	15.27	16.05	16.82	
9	CoS 13231	17.76	18.63	19.08	17.94	19.27	17.42	18.11	18.62	17.34	18.24	3
	Standards											
1	CoJ 64	18.27	17.22	18.48	16.05	18.70	17.22	17.77	18.45	17.63	17.75	
2	Co 0238	17.51	16.25	18.85	16.36	19.53	17.52	17.24	18.54	16.85	17.63	
	Mean	17.01	16.42	17.32	16.42	17.67	17.18	17.41	17.46	17.11	17.12	
	SEm	0.28			0.193							
	CD 5%	0.83	0.99	0.86	0.561	1.25	1.02	1.04	0.35	0.74		
	CV	2.88	3.56	2.9	2.59	4.07	3.424	3.52	1.15	2.59		
Top three entries showing 5% improvement over the best standard at each location												
Rank 1			CoS 13231		Co 13034							
Rank 2					Co 13033							
Rank 3					CoS 13231							

Number of locations where an entry recorded >5 % improvement over the best standard: CoS 13231 (2), Co 13034 (1), Co 13033 (1) and CoLk 13201 (1).

Performance across locations: CoJ 64 was the best among the standard for sucrose content (17.75 %). 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 standard at Kapurthala and Kota centres, whereas Co 13034, Co 13033 and CoLk 13201 showed >5% improvement at Kota centre.

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Table 4.5.5 Brix (%) at harvest

S. No.	Entry	Farid kot	Kapur thala	Kar nal	Kota	Luck now	Muzaff arnagar	Pant nagar	Shahja hanpur	Sriganga nagar	Mean
1	Co 13033	21.23	19.01	20.87	20.87	-	20.55	20.47	21.10	19.56	20.46
2	Co 13034	20.47	18.70	20.57	20.97	19.53	20.29	20.62	22.05	20.29	20.39
3	CoLk 13201	19.17	18.23	18.73	20.17	20.10	19.55	19.91	19.98	18.53	19.37
4	CoLk 13202	17.43	16.69	15.87	17.60	19.27	18.98	18.73	18.98	20.28	18.20
5	CoLk 13203	19.53	17.88	18.70	18.03	19.23	19.88	18.50	18.94	18.57	18.81
6	CoPant 13221	15.13	17.45	17.13	16.87	19.10	19.29	18.80	19.50	19.05	18.04
7	CoPant 13222	16.87	16.60	17.93	16.70	18.50	18.75	19.98	18.40	20.04	18.20
8	CoPb 13181	19.63	18.94	18.93	19.50	18.80	19.15	19.63	19.80	18.56	19.22
9	CoS 13231	19.70	20.22	20.37	20.47	21.30	19.88	20.83	21.02	19.58	20.37
Standards											
1	CoJ 64	20.30	18.56	19.87	18.63	20.93	19.68	20.33	20.86	19.91	19.90
2	Co 0238	20.33	17.50	20.20	18.93	21.57	20.02	19.80	20.94	19.29	19.84
	Mean	19.07	18.16	19.02	18.98	19.83	19.64	19.78	20.14	19.42	19.34
	SEm	0.32			0.166						
	CD 5%	0.96	0.84	0.62	0.481	1.28	0.86	1.24	0.32	0.81	
	CV	2.94	2.72	1.89	1.92	3.72	2.572	3.68	0.93	2.71	

Table 4.5.6 Purity (%) at harvest

S. No.	Entry	Farid kot	Kapur thala	Kar nal	Kota	Luck now	Muzaff arnagar	Pant nagar	Shahja hanpur	Sriganga nagar	Mean
1	Co 13033	88.78	92.76	94.30	87.94	-	87.21	87.62	88.69	88.29	89.45
2	Co 13034	89.78	88.33	93.48	87.88	89.00	87.42	88.50	88.19	89.84	89.16
3	CoLk 13201	91.30	88.20	90.55	87.45	87.00	87.20	87.63	87.42	86.34	88.12
4	CoLk 13202	89.08	91.97	85.66	85.11	88.00	87.15	88.23	86.42	89.71	87.93
5	CoLk 13203	90.96	89.93	91.17	85.62	87.00	87.40	88.52	86.37	86.76	88.19
6	CoPant 13221	88.04	85.23	85.12	84.33	88.00	86.35	86.91	86.80	87.29	86.45
7	CoPant 13222	87.12	92.26	88.20	84.15	89.00	86.77	87.98	85.62	89.38	87.83
8	CoPb 13181	89.09	88.26	90.80	86.87	93.00	87.19	88.39	87.23	86.46	88.59
9	CoS 13231	90.22	92.17	93.69	87.63	90.00	87.57	87.01	87.92	88.58	89.42
Standards											
1	CoJ 64	90.02	92.80	93.02	86.12	89.00	87.49	87.39	88.45	88.55	89.20
2	Co 0238	86.10	92.88	93.34	86.39	91.00	87.52	87.05	88.54	87.34	88.91
	Mean	89.14	90.44	90.85	86.32	89.10	87.21	87.75	87.42	88.05	88.48
	SEm	1.22			0.147						
	CD 5%	3.59	3.06	2.37	0.427	NS	NS	1.01	0.78	1.56	
	CV	2.37	1.99	1.52	0.37	2.77	1.143	0.68	0.52	1.04	

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Table 4.5.7 Extraction (%) at harvest

S. No.	Entry	Farid kot	Kapur thala	Kar nal	Kota	Luck now	Muzaff arnagar	Pant nagar	Shahja hanpur	Sriganga nagar	Mean
1	Co 13033	56.98	59.09	57.03	43.63	-	50.00		55.13	52.38	53.46
2	Co 13034	54.68	56.12	52.45	43.37	51.00	52.27		54.44	49.46	51.72
3	CoLk 13201	53.39	55.81	45.91	46.60	45.00	46.67		54.95	52.06	50.05
4	CoLk 13202	48.95	54.57	50.20	46.40	44.00	55.26		56.33	51.29	50.88
5	CoLk 13203	51.62	54.03	48.45	43.10	38.00	53.33		55.49	48.96	49.12
6	CoPant 13221	49.44	57.55	55.74	42.83	47.00	57.69		53.07	52.13	51.93
7	CoPant 13222	44.48	57.13	49.61	49.53	46.00	51.25		54.37	48.99	50.17
8	CoPb 13181	60.89	56.32	51.85	44.10	45.00	55.00		55.72	51.13	52.50
9	CoS 13231	44.23	50.29	43.63	43.73	36.00	52.17		54.32	52.04	47.05
Standards											
1	CoJ 64	51.84	55.86	52.48	43.07	45.00	53.33		58.37	51.81	51.47
2	Co 0238	53.85	59.20	54.98	44.27	49.00	52.75		55.03	52.07	52.64
	Mean	51.85	56.00	51.12	44.60	44.60	52.70		55.20	51.12	51.00
	SEm	0.9			1.121						
	CD 5%	2.64	NS	5.62	3.259	4.97	-		2.58	2.18	
	CV	2.99	6.48	6.41	5.54	6.47	-		2.74	1.98	

Table 4.5.8 Pol % cane and Fibre content at harvest

S. No.	Entry	Pol % cane					Fibre %				
		Kar nal	Luck now	Muzaff arnagar	Shahja hanpur	Mean	Kar nal	Luck now	Muzaff arnagar	Shahja hanpur	Mean
1	Co 13033	15.31		12.85	13.46	13.87	12.20	-	12.94	13.75	12.96
2	Co 13034	14.89	13.68	13.96	13.75	14.07	12.53	10.93	13.26	13.73	12.61
3	CoLk 13201	13.06	13.45	10.89	13.30	12.68	13.07	12.97	13.55	13.75	13.34
4	CoLk 13202	10.50	12.86	13.05	12.44	12.21	12.80	13.90	13.07	13.62	13.35
5	CoLk 13203	12.95	13.20	13.89	12.42	13.12	14.07	11.60	13.84	13.43	13.24
6	CoPant 13221	11.25	12.85	12.99	12.91	12.50	12.80	13.33	13.23	13.76	13.28
7	CoPant 13222	11.98	12.75	11.06	12.11	11.98	14.27	12.40	12.88	13.79	13.34
8	CoPb 13181	13.12	13.50	12.27	13.36	13.06	13.73	12.70	13.11	13.40	13.24
9	CoS 13231	14.77	14.48	11.97	13.45	13.67	12.60	14.83	13.27	13.70	13.60
Standards											
1	CoJ 64	14.34	14.47	12.51	13.39	13.68	12.40	12.60	13.15	13.24	12.85
2	Co 0238	14.58	15.04	12.72	13.41	13.94	12.67	13.00	13.35	13.71	13.18
	Mean	13.34	13.63	12.56	13.09	13.16	13.01	12.83	13.24	13.63	13.18
	SEm										
	CD 5%	0.66	1.01	-	-		1.01	1.08	-	-	
	CV	2.89	4.29	-	-		4.53	4.85	-	-	

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Table 4.5.9 Number of millable canes at harvest ('000/ha)

S. No.	Entry	Farid kot	Kapur thala	Kar nal	Kota	Luck now	Muzaff arnagar	Pant nagar	Shahja hanpur	Sriganga nagar	Mean
1	Co 13033	102.41	78.33	104.94	81.43	-	97.33	59.56	97.33	87.84	88.65
2	Co 13034	104.81	92.14	98.77	82.57	33.00	90.22	66.67	105.78	97.72	85.74
3	CoLk 13201	99.63	93.59	95.53	88.63	83.00	125.77	50.89	102.00	88.35	91.93
4	CoLk 13202	93.33	86.71	109.72	75.33	80.00	101.11	47.56	92.22	108.84	88.31
5	CoLk 13203	103.48	115.24	101.85	72.83	88.00	107.55	75.56	92.44	99.71	95.18
6	CoPant 13221	97.96	83.57	89.82	65.57	67.00	129.99	81.33	100.44	101.56	90.80
7	CoPant 13222	109.81	82.97	112.50	61.13	77.00	115.77	84.00	102.89	104.32	94.49
8	CoPb 13181	114.26	100.49	112.50	83.93	41.00	89.32	77.78	89.33	97.70	89.59
9	CoS 13231	106.67	94.85	100.77	86.70	76.00	124.22	48.89	108.22	114.14	95.61
Standards											
1	CoJ 64	110.96	122.31	103.55	72.33	82.00	109.55	64.67	103.78	95.74	96.10
2	Co 0238	93.70	96.30	96.30	74.50	83.00	91.55	57.33	92.89	97.53	87.01
	Mean	103.37	95.14	102.39	76.81	71.00	107.49	64.93	98.85	99.40	91.22
	SEm	4.07			1.671						
	CD 5%	12.01	7.68	7.85	4.858	13.48	18.15	9.25	10.68	9.45	
	CV	6.82	4.75	4.47	4.8	10.97	9.91	8.37	6.34	6.49	

Table 4.5.10 Stalk length (cm)

S. No.	Entry	Farid kot	Kapur thala	Kar nal	Kota	Luck now	Muzaff arnagar	Pant nagar	Shahja hanpur	Sriganga nagar	Mean
1	Co 13033	182.55	272.00	250.00	217.00	-	148.00	223.00	202.00	151.41	205.75
2	Co 13034	246.44	290.00	260.00	219.00	240.00	228.00	240.00	210.00	167.36	233.42
3	CoLk 13201	206.11	242.00	217.00	201.00	240.00	173.00	175.00	187.00	150.62	199.08
4	CoLk 13202	211.44	300.00	290.00	282.00	210.00	211.00	223.00	202.00	211.81	237.92
5	CoLk 13203	230.77	288.00	230.00	236.00	160.00	208.00	203.00	185.00	219.47	217.80
6	CoPant 13221	262.77	342.00	275.00	226.00	230.00	203.00	265.00	225.00	204.53	248.14
7	CoPant 13222	201.33	292.00	263.00	214.00	200.00	190.00	227.00	217.00	187.14	221.27
8	CoPb 13181	273.77	282.00	247.00	299.00	210.00	210.00	295.00	217.00	205.29	248.78
9	CoS 13231	180.44	272.00	250.00	262.00	190.00	226.00	204.00	221.00	224.61	225.56
Standards											
1	CoJ 64	205.33	268.00	250.00	230.00	200.00	150.00	220.00	226.00	187.38	215.19
2	Co 0238	217.22	320.00	260.00	246.00	230.00	193.00	231.00	227.00	198.41	235.85
	Mean	219.83	288.00	253.82	239.27	211.00	194.55	227.82	210.82	191.64	226.25
	SEm	5.28									
	CD 5%	15.58	31.00	38.24	8.20	10.00	30.60	28.00	18.12	14.38	
	CV	4.16	6.36	8.78	2.60	2.83	9.22	7.12	5.05	8.84	

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Table 4.5.11 Stalk diameter (cm)

S. No.	Entry	Farid kot	Kapur thala	Kar nal	Kota	Luck now	Muzaff arnagar	Pant nagar	Shahja hanpur	Sriganga nagar	Mean
1	Co 13033	2.79	2.31	2.40	2.16	-	2.17	2.66	2.40	2.28	2.40
2	Co 13034	2.41	2.12	2.53	2.08	2.40	2.30	2.39	2.35	2.29	2.32
3	CoLk 13201	2.67	2.20	2.50	2.22	2.40	2.00	2.40	2.03	2.18	2.29
4	CoLk 13202	2.71	2.40	2.55	2.58	2.10	2.13	2.43	2.19	2.26	2.37
5	CoLk 13203	2.44	2.03	2.44	2.41	1.60	2.00	2.26	2.10	2.29	2.17
6	CoPant 13221	2.55	2.07	2.64	2.35	2.30	2.07	2.35	2.29	2.31	2.33
7	CoPant 13222	2.63	2.23	2.41	2.07	2.00	2.00	2.51	2.29	2.24	2.26
8	CoPb 13181	2.42	2.07	2.38	2.83	2.10	1.97	2.25	2.37	2.36	2.31
9	CoS 13231	2.24	1.85	2.21	2.57	1.90	1.93	1.91	2.01	2.27	2.10
Standards											
1	CoJ 64	2.79	2.07	2.44	2.36	2.00	2.00	2.43	2.13	2.22	2.27
2	Co 0238	2.74	2.43	2.63	2.49	2.30	2.33	2.41	2.52	2.38	2.47
	Mean	2.58	2.16	2.47	2.37	2.11	2.08	2.36	2.24	2.28	2.30
	SEm	0.05			0.031						
	CD 5%	0.16	0.21	NS	0.091	0.15	1.186	0.24	0.14	0.09	
	CV	3.54	5.86	0	2.9	3.98	5.242	5.89	3.73	3.18	

Table 4.5.12 Single cane weight (kg)

S. No.	Entry	Farid kot	Kapur thala	Kar nal	Kota	Luck now	Muzaff arnagar	Pant nagar	Shahja hanpur	Sriganga nagar	Mean
1	Co 13033	1.01	1.31	1.18	0.92	-	0.53	1.13	1.10	0.71	0.99
2	Co 13034	1.00	1.22	1.44	0.99	0.53	0.98	1.30	0.98	0.78	1.02
3	CoLk 13201	0.88	1.21	1.15	1.10	0.70	0.73	0.90	0.74	0.70	0.90
4	CoLk 13202	1.18	1.61	1.32	1.04	0.83	0.76	1.07	0.99	1.02	1.09
5	CoLk 13203	1.06	1.05	1.05	1.01	0.42	0.75	0.93	0.79	1.14	0.91
6	CoPant 13221	1.25	1.34	1.28	0.91	0.70	0.68	1.19	1.05	1.21	1.07
7	CoPant 13222	1.07	1.21	1.28	0.82	0.60	0.80	1.07	0.93	0.93	0.97
8	CoPb 13181	1.20	1.02	1.08	0.88	0.40	0.88	1.17	0.99	0.96	0.95
9	CoS 13231	0.72	0.70	0.92	0.98	0.40	0.67	0.73	0.80	0.98	0.77
Standards											
1	CoJ 64	0.98	0.87	1.07	0.93	0.57	0.65	1.07	0.84	0.73	0.86
2	Co 0238	1.12	1.48	1.45	1.05	0.73	0.91	1.27	1.22	0.82	1.12
	Mean	1.04	1.18	1.20	0.97	0.59	0.76	1.08	0.95	0.91	0.97
	SEm	0.07			0.019						
	CD 5%	0.21	0.28	0.12	0.056	0.06	0.09	0.16	0.22	0.14	
	CV	11.6	13.98	5.95	4.42	6.34	6.947	8.77	13.43	7.48	

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Table 4.5.13 CCS (%) at 8th month

S. No.	Entry	Farid kot	Kapur thala	Kar nal	Kota	Luck now	Muzaff Arnagar	Pant nagar	Shahja hanpur	Sriganga nagar	Mean
1	Co 13033	10.26	10.81	12.45	10.80	-	11.08	10.44	12.07	10.60	11.06
2	Co 13034	10.14	10.48	12.59	11.03	15.00	11.60	11.01	13.17	11.11	11.79
3	CoLk 13201	9.15	9.71	9.12	9.87	15.00	11.41	10.69	10.71	9.96	10.62
4	CoLk 13202	9.30	9.28	6.46	8.19	14.00	9.60	10.30	10.34	11.47	9.88
5	CoLk 13203	9.39	9.31	9.27	8.68	14.00	10.28	10.45	10.19	9.71	10.14
6	CoPant 13221	7.81	7.80	7.84	8.09	14.00	9.64	9.52	10.31	10.19	9.47
7	CoPant 13222	7.50	8.67	7.58	7.98	14.00	9.61	10.46	10.10	10.85	9.64
8	CoPb 13181	9.29	10.16	10.98	9.84	13.00	9.99	11.05	10.45	9.82	10.51
9	CoS 13231	10.84	11.62	12.68	10.64	16.00	10.81	11.07	11.88	10.62	11.80
Standards											
1	CoJ 64	10.43	10.80	12.47	9.11	16.00	11.23	11.19	11.62	10.66	11.50
2	Co 0238	10.02	9.82	12.40	10.07	16.00	11.01	10.78	11.24	10.26	11.29
	Mean	9.47	9.86	10.35	9.48	14.70	10.57	10.63	11.10	10.48	10.70
	SEm	0.35			0.175						
	CD 5%	1.05	0.91	0.89	0.51	1.58	1.01	0.67	0.9	0.66	
	CV	6.5	5.48	5	4.07	6.29	5.622	3.72	4.75	3.39	

Table 4.5.14 Sucrose (%) at 8th month

S. No.	Entry	Farid kot	Kapur thala	Kar nal	Kota	Luck now	Muzaf arnagar	Pant nagar	Shahja hanpur	Sriganga nagar	Mean
1	Co 13033	14.99	15.62	17.59	15.84	-	16.21	15.65	17.67	15.48	16.13
2	Co 13034	14.53	15.21	17.94	16.15	16.93	16.96	16.18	19.17	16.15	16.58
3	CoLk 13201	13.61	14.40	13.65	14.58	16.50	15.83	15.67	15.80	14.63	14.96
4	CoLk 13202	13.21	13.62	10.32	12.17	15.77	14.58	15.26	15.29	16.69	14.10
5	CoLk 13203	13.27	13.78	13.67	12.95	15.10	15.15	15.30	15.10	14.34	14.30
6	CoPant 13221	11.18	11.88	11.80	12.13	14.40	14.67	13.99	15.26	14.99	13.37
7	CoPant 13222	11.06	13.07	11.66	12.06	15.27	14.46	15.36	14.98	15.80	13.75
8	CoPb 13181	13.84	14.85	15.83	14.53	13.50	15.09	16.25	15.47	14.49	14.87
9	CoS 13231	15.51	17.16	18.09	15.67	17.63	15.98	16.30	17.42	15.53	16.59
Standards											
1	CoJ 64	14.98	15.65	17.86	13.53	17.67	16.60	16.42	17.03	15.58	16.15
2	Co 0238	14.64	14.68	17.78	14.84	17.50	16.28	15.94	16.41	15.06	15.90
	Mean	13.71	14.54	15.11	14.04	16.03	15.62	15.67	16.33	15.34	15.15
	SEm	0.44			0.194						
	CD 5%	1.29	1.04	1.16	0.565	1.15	0.807	0.96	1.17	0.62	
	CV	5.52	4.22	4.46	3.05	4.15	3.034	3.6	4.21	2.83	

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Table 4.5.15 Brix (%) at 8th month

S. No.	Entry	Farid kot	Kapur thala	Kar nal	Kota	Luck now	Muzaff arnagar	Pant nagar	Shahja hanpur	Sriganga nagar	Mean
1	Co 13033	17.30	17.65	18.93	18.43	-	18.78	18.43	20.51	17.86	18.49
2	Co 13034	16.13	17.34	19.70	18.73	20.00	19.65	18.93	21.35	18.49	18.92
3	CoLk 13201	16.30	17.13	16.53	17.23	19.00	18.51	18.23	18.60	17.08	17.62
4	CoLk 13202	14.37	15.90	13.97	15.00	19.00	18.15	18.17	18.10	19.13	16.87
5	CoLk 13203	14.27	16.32	16.10	15.60	18.00	17.81	17.73	17.96	16.93	16.75
6	CoPant 13221	12.37	14.87	14.43	14.83	17.00	18.31	16.37	18.09	17.56	15.98
7	CoPant 13222	13.03	16.07	14.87	14.77	18.00	17.72	17.93	17.83	18.13	16.48
8	CoPb 13181	16.63	17.17	17.80	17.17	17.00	18.58	19.03	18.35	17.08	17.65
9	CoS 13231	17.17	20.28	19.90	18.27	20.00	18.91	19.20	20.27	17.99	19.11
Standards											
1	CoJ 64	16.73	17.79	19.80	16.20	20.00	19.61	19.13	19.82	18.04	18.57
2	Co 0238	16.90	17.76	19.77	17.47	20.00	19.25	18.87	19.21	17.57	18.53
	Mean	15.56	17.12	17.44	16.70	18.80	18.66	18.37	19.10	17.81	17.72
	SEm	0.4			0.205						
	CD 5%	1.17	0.84	1.08	0.596	1.76	0.957	1.04	1.1	0.79	
	CV	4.42	2.91	3.61	2.7	5.41	3.012	3.33	3.37	2.66	

Table 4.5.16 Purity (%) at 8th month

S. No.	Entry	Farid kot	Kapur thala	Kar nal	Kota	Luck now	Muzaff arnagar	Pant nagar	Shahja hanpur	Sriganga nagar	Mean
1	Co 13033	86.61	88.51	92.90	85.91	-	86.31	84.88	86.14.	86.72	87.41
2	Co 13034	90.06	87.72	91.08	86.19	85.87	86.33	85.48	87.07	87.38	87.46
3	CoLk 13201	83.52	84.04	82.43	84.62	85.40	85.51	86.09	84.86	85.68	84.68
4	CoLk 13202	91.97	85.71	73.80	81.98	81.67	80.45	84.02	84.42	87.28	83.48
5	CoLk 13203	92.82	84.44	84.85	83.01	84.17	85.08	86.25	84.74	84.71	85.56
6	CoPant 13221	90.36	79.86	81.72	81.81	83.00	80.11	85.50	84.32	85.39	83.56
7	CoPant 13222	84.80	81.34	78.46	81.64	84.17	81.69	85.62	83.61	87.14	83.16
8	CoPb 13181	83.22	86.50	88.91	84.65	84.40	81.22	85.37	84.19	84.89	84.82
9	CoS 13231	90.39	84.64	90.90	85.76	86.17	84.46	84.96	86.24	86.37	86.65
Standards											
1	CoJ 64	89.57	88.02	90.20	83.53	86.63	84.62	85.80	85.92	86.36	86.74
2	Co 0238	86.64	82.64	89.96	85.18	85.50	84.62	84.48	85.44	85.72	85.58
	Mean	88.18	84.86	85.93	84.03	84.70	83.67	85.31	85.08	86.15	85.37
	SEm	1.54			0.268						
	CD 5%	4.56	4.88	2.58	0.78	2.84	3.086	1.55	1.76	1.37	
	CV	3.03	3.38	1.75	0.7	1.94	2.165	1.06	1.21	1.33	

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Table 4.5.17 Number of tillers at 120 DAP

S. No.	Entry	Farid kot	Kapur thala	Kar nal	Kota	Luck now	Muzaff arnagar	Pant nagar	Shahja hanpur	Sriganga nagar	Mean
1	Co 13033	130.00	86.71	131.17	112.83	-	188.44	86.44	183.33	130.48	131.18
2	Co 13034	126.85	101.96	135.96	105.80	60.00	190.66	98.22	208.44	149.36	130.81
3	CoLk 13201	128.52	103.55	116.51	100.90	179.33	209.55	68.89	188.67	136.51	136.94
4	CoLk 13202	115.74	95.96	125.00	82.33	116.67	196.00	52.22	201.56	168.16	128.18
5	CoLk 13203	151.81	127.51	127.78	77.50	207.00	189.78	104.44	187.11	151.71	147.18
6	CoPant 13221	136.11	92.50	106.17	80.73	107.00	188.89	105.56	199.78	160.84	130.84
7	CoPant 13222	176.85	91.81	140.59	76.17	177.00	166.00	114.44	210.89	168.29	146.89
8	CoPb 13181	173.70	111.19	130.56	109.37	134.00	178.66	119.33	197.78	147.36	144.66
9	CoS 13231	112.78	123.41	125.77	112.07	139.67	205.55	68.89	215.78	173.84	141.97
Standards											
1	CoJ 64	153.19	135.37	129.94	89.47	134.00	195.33	102.22	219.78	137.29	144.07
2	Co 0238	136.11	106.56	116.66	89.27	179.33	187.78	87.56	195.33	149.73	138.70
	Mean	140.15	106.96	126.01	94.22	143.40	190.60	91.66	200.77	152.14	138.31
	SEm	5.48			1.717						
	CD 5%	16.16	8.99	13.37	4.992	33.99	17.4	9.76	20.69	14.28	
	CV	6.77	4.94	6.18	4.02	13.69	5.37	6.25	6.05	7.21	

Table 4.5.18 Germination (%) at 45th days

S. No.	Entry	Farid kot	Kapur thala	Kar nal	Kota	Luck now*	Muzaff arnagar	Pant nagar	Shahja hanpur	Sriganga nagar	Mean
1	Co 13033	22.63	45.45	33.33	42.67	-	43.19	23.61	45.56	24.69	35.14
2	Co 13034	31.89	44.06	41.06	43.67	6.00	46.11	27.36	48.06	27.24	35.05
3	CoLk 13201	29.22	47.99	37.03	44.33	24.00	47.63	21.25	52.22	23.38	36.34
4	CoLk 13202	30.66	48.92	39.12	36.33	17.00	38.75	19.58	47.64	29.71	34.19
5	CoLk 13203	33.95	42.36	40.39	39.33	18.00	42.22	28.75	52.50	34.52	36.89
6	CoPant 13221	39.09	45.60	37.50	34.67	11.00	56.66	28.47	52.50	37.63	38.12
7	CoPant 13222	56.17	48.69	53.93	40.33	25.00	52.91	31.25	54.31	31.82	43.82
8	CoPb 13181	54.73	53.70	43.79	44.00	9.00	45.13	30.97	49.86	33.91	40.57
9	CoS 13231	32.92	51.54	47.22	44.33	18.00	42.63	23.61	52.22	26.58	37.67
Standards											
1	CoJ 64	47.94	49.31	54.63	41.33	23.00	37.63	29.44	56.25	39.36	42.10
2	Co 0238	44.65	55.56	45.37	42.33	23.00	45.27	24.17	55.97	32.29	40.96
	Mean	38.53	48.47	43.03	41.21	17.40	45.28	26.22	51.55	31.01	38.26
	SEm	0.95			0.832						
	CD 5%	2.81	Ns	5.04	2.417	2.52	7.6	2.89	6.1	4.24	
	CV	4.28	9.51	6.83	4.45	8.39	9.85	6.48	6.95	6.78	

* The germination % of entries including standard was very low at Lucknow centre

Table 4.5.19 Assessment of entries by monitoring team

Entry	Lucknow	Shahja hanpur	Pant nagar	Muzaffar nagar	Karnal	Faridkot	Kapu rthala	Sriganga nagar	Kota
Co 13033	Not planted	Poor	Poor	Poor	On par	On par	Poor	Poor	On par
Co 13034	Poor	On par	On par	On par	Better	On par	Poor	On par	Poor
CoLk 13201	On par	Poor	Poor	On par	Poor	Poor	Poor	Poor	Poor
CoLk 13202	On par	On par	Poor	On par	On par	On par	Poor	Better	Poor
CoLk 13203	Poor	Poor	On par	On par	Poor	On par	Poor	Better	Poor
CoPant 13221	Poor	Poor	On par	Better	Poor	On par	Poor	Better	On par
CoPant 13222	Poor	On par	Poor	Poor	Poor	On par	Poor	Poor	On par
CoPb 13181	Poor	Poor	On par	Poor	On par	On par	On par	On par	On par
CoS 13231	Poor	On par	Poor	On par	Poor	Poor	Poor	Better	On par
CoJ 64								Best standard	
Co 0238	Best standard	Best standard	Best standard	Best standard	Best standard	Best standard	Best standard		Best standard

4.6 ADVANCED VARIETAL TRIAL (MIDLATE) -II PLANT

Centres (9)	Faridkot, Kapurthala, Karnal, Kota, Lucknow, Muzaffarnagar, Pantnagar*, Shahjahanpur and Sriganaganagar.
Entries (6)	Co 11027, CoH 11263, CoLk 11204, CoLk 11206, CoPb 11214 and CoS 11232
Standards (3)	CoS 767, CoS 8436 and CoPant 97222
Design	RBD
Replications	3
Plot size	Gross : 8 Rows x 6m x 0.75 m Net : 6 Rows x 5 m x 0.75 m
Bud rate	12 buds/ metre
Planting time	February / March, 2016
Crop duration	12 months

* Pantnagar centre did not conduct AVT (ML) II plant trial due to failure of AVT (ML)-I plant trial (2015-16)

Results of the previous year

In the AVT (ML)-I plant trial of 2015-16 season, the entry CoLk 11206 ranked first in the zone for CCS yield (11.38 t/ha) and cane yield (91.18 t/ha). CoLk 11204 was the 2nd ranked entry in the zone for CCS yield (10.06 t/ha). The 3rd ranked entry for cane yield was CoLk 11204 (80.31 t/ha). However, its improvement was not significantly at any locations. CoS 8436 was the best among the standards for CCS% (12.77) as well as sucrose % (18.36) at harvest. No test clones was significantly superior to CoS 8436 for juice quality traits.

Results of the current year

The mean CCS yield of the best standard CoPant 97222 in the zone was 11.54 t/ha. Test clone CoLk 11206 alone showed >10 % improvement over CoPant 97222 for this trait. Its mean CCS yield was 12.89 t/ha. CoLk 11206 showed >10 % improvement for CCS yield at 3 locations namely, Karnal, Lucknow and Muzaffarnagar. The average cane yield of the standard CoPant 97222 was 88.75 t/ha. Test clone CoLk 11206 alone showed >10 % improvement for cane yield over CoPant 97222 and its mean cane yield was 102.38 t/ha. CoPant 97222 was adjudged as the best standard in the zone for CCS % (12.96) and sucrose % (18.50) at harvest. The test entry Co 11027 recorded higher CCS % (13.00) and sucrose % (18.67) but their percent improvement was less than 5 % for CCS % and sucrose %. Considering both cane yield and juice quality no qualifying variety was identified. 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 11027	15.19	7.89	18.51	3.62	8.63	10.00		10.11	8.07	11.20	3
2	CoH 11263	16.07	8.81	12.45	2.78	7.55	7.87		9.50	7.92	10.02	
3	CoLk 11204	14.26	9.60	13.88	5.52	8.63	9.37		9.58	8.65	10.57	
4	CoLk 11206	16.69	8.64	19.67	5.19	12.14	12.06		10.81	10.25	12.89	1
5	CoPb 11214	14.86	8.86	10.39	3.86	9.63	9.79		10.66	8.39	10.37	
6	CoS 11232	14.19	9.42	9.68	3.55	9.15	12.72		9.75	10.58	10.78	
	Standards											
1	CoS 767	13.41	8.40	12.24	5.59	9.47	9.24		9.50	9.55	10.26	
2	CoS 8436	13.28	7.60	14.14	5.20	7.27	9.33		9.70	8.19	9.93	
3	CoPant 97222	16.93	8.04	17.71	4.89	9.69	8.76		9.95	9.73	11.54	2
	Mean	14.99	8.58	14.30	4.47	9.13	9.90		9.95	9.04	10.84	
	SE(m)	0.86		1.18	0.26	0.59	0.52		0.38			
	CD at 5%	2.57	NS	2.53	0.75	1.24	1.11		0.81	0.76		
	CV	9.92	11.01	10.13	15.48	7.86	6.47		4.68	5.43		
Top three entries showing 10 % improvement over the best standard at each location												
Rank 1	-	-	CoLk 11204	CoLk 11206	-	CoLk 11206	CoS 11232	-	-	-	CoLk 11206	
Rank 2	-	-	CoS 11232	-	-	-	CoLk 11206	-	-	-	-	
Rank 3												

* Pantnagar centre did not conduct AVT (ML)-II plant trial due to failure of AVT (ML)-I plant trial (2015-16)

** The mean cane yield at Kota centre was far below the state average cane yield. Hence, its CCS yield were not taken into consideration while calculating zonal CCS yield.

No. of locations where an entry is showing >10 % improvement: CoLk 11206 (3), CoS 11232 (2) and CoLk 11204 (1).

Performance across locations: The mean CCS yield of the best standard CoPant 97222 in the zone was 11.54 t/ha. The entry CoLk 11206 alone showed >10 % improvement for CCS yield over the best standard and its mean CCS yield was 12.89 t/ha.

Table 4.6.2 Cane yield (t/ha) at harvest

Sl No	Entries	Faridkot	Kapurthala	Karnal	Kota**	Lucknow	Muzaffar nagar	Pantnagar*	Shahjahanpur	Sriganganagar	Mean	Rank
1	Co 11027	109.63	71.37	132.94	28.73	64.80	80.49		74.81	63.91	85.42	
2	CoH 11263	115.93	75.06	90.70	22.10	58.87	64.81		68.40	65.38	77.02	
3	CoLk 11204	108.15	81.49	102.28	45.33	69.84	79.13		73.46	69.72	83.44	
4	CoLk 11206	123.70	83.18	142.07	42.10	96.30	98.39		84.57	88.46	102.38	1
5	CoPb 11214	118.15	82.23	81.52	30.73	75.93	78.52		78.77	73.58	84.10	
6	CoS 11232	109.63	89.45	70.92	22.10	76.00	101.48		74.81	84.36	86.66	3
	Standards											
1	CoS 767	106.30	78.98	94.93	46.33	77.18	75.55		75.31	82.29	84.36	
2	CoS 8436	94.44	74.59	104.32	42.87	56.70	73.20		70.49	68.53	77.47	
3	CoPant 97222	121.11	71.56	132.62	41.20	76.37	70.27		72.84	76.46	88.75	2
	Mean	111.89	78.66	105.81	35.72	72.44	80.20		74.83	74.74	85.51	
	SE(m)	6.43		7.82	2.30	4.63	3.55		2.57			
	CD at 5%	19.28	8.60	16.72	6.70	9.82	7.52		5.45	8.01		
	CV	9.95	6.32	9.05	17.39	7.83	5.42		4.20	7.96		
Top three entries showing 10 % improvement over the best standard at each location												
Rank 1	-		CoS 11232	CoLk 11206	-	CoLk 11206	CoS 11232		CoLk 11206		CoLk 11206	
Rank 2							CoLk 11206					
Rank 3												

* Pantnagar centre did not conduct AVT (ML)-II plant trial due to failure of AVT (ML)-I plant trial (2015-16)

** The mean cane yield at Kota centre was far below the state average yield. Hence, the values were not considered for calculating zonal mean.

No. of locations where an entry is showing >10 % improvement: CoLk 11206 (4) and CoS 11232 (2).

Performance across locations: The mean cane yield of the best standard CoPant 97222 in the zone was 88.75 t/ha. The entry CoLk 11206 alone showed >10 % improvement for cane yield over the best standard and its mean cane yield was 102.38 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 11027	13.85	11.91	13.93	12.38	13.33	12.44		13.51	12.62	13.00	1
2	CoH 11263	13.85	12.29	13.70	12.60	12.83	12.13		13.89	12.11	12.93	3
3	CoLk 11204	13.18	12.19	13.56	12.23	12.37	11.83		13.05	12.41	12.60	
4	CoLk 11206	13.49	11.60	13.85	12.33	12.60	12.34		12.78	11.59	12.57	
5	CoPb 11214	12.57	12.59	12.74	12.55	12.68	12.45		13.53	11.41	12.57	
6	CoS 11232	12.94	11.41	13.64	10.88	12.03	12.37		13.01	12.59	12.36	
Standards												
1	CoS 767	12.62	11.77	12.90	12.08	12.27	12.24		12.62	11.61	12.26	
2	CoS 8436	14.06	11.44	13.55	12.33	12.83	12.58		13.75	11.95	12.81	
3	CoPant 97222	13.98	12.97	13.32	11.87	12.69	12.49		13.66	12.73	12.96	2
	Mean	13.39	12.02	13.47	12.14	12.63	12.32		13.31	12.11	12.67	
	SE(m)	0.09		0.29	0.12	0.32	0.29		0.26			
	CD at 5%	0.28	0.27	0.62	0.36	0.69	NS		0.56	0.33		
	CV	1.20	1.30	2.62	2.76	3.15	2.86		2.43	1.61		
Top three entries showing >5 % improvement over the best standard at each location												
Rank 1	No entry showed >5 % improvement over the best standard											
Rank 2												
Rank 3												

* Pantnagar centre did not conduct AVT (ML)-II plant trial due to failure of AVT (ML)-I plant trial (2015-16)

No. of locations where an entry is showing >5 % improvement: No entry showed >5 % improvement over the best standard

Performance across locations: CoPant 97222 was adjudged as the best standard in the zone for CCS % at harvest (12.96). Only one clone viz., Co 11027 showed numerically more CCS % (13.00) than CoPant 97222 but its percent improvement was less than 5 %.

Table 4.6.4 Sucrose % at harvest

Sl No	Entries	Faridkot	Kapurthala	Karnal	Kota	Lucknow	Muzaffar nagar	Pantnagar *	Shahjahanpur	Sriganganagar	Mean	Rank
1	Co 11027	20.01	17.36	19.63	18.31	18.27	18.12		19.43	18.22	18.67	1
2	CoH 11263	20.01	17.90	19.40	18.28	17.58	17.71		19.92	17.41	18.53	2
3	CoLk 11204	19.06	17.57	19.13	17.76	16.94	17.32		18.83	17.92	18.07	
4	CoLk 11206	19.25	17.17	19.62	17.90	17.26	17.94		18.32	16.79	18.03	
5	CoPb 11214	18.11	17.78	18.10	18.42	17.38	18.00		19.44	16.46	17.96	
6	CoS 11232	18.45	16.50	19.24	15.94	16.48	17.91		18.77	18.05	17.67	
	Standards											
1	CoS 767	17.99	16.82	18.41	17.56	16.81	17.74		18.26	16.82	17.55	
2	CoS 8436	20.12	16.52	19.11	17.90	17.58	18.06		19.29	17.29	18.23	
3	CoPant 97222	20.16	18.64	18.90	17.28	17.41	18.08		19.16	18.39	18.50	3
	Mean	19.24	17.36	19.06	17.71	17.30	17.88		19.05	17.48	18.13	
	SE(m)	0.07		0.35	0.19	0.44	0.33		0.27			
	CD at 5%	0.21	0.32	0.75	0.56	0.94	NS		0.57	0.49		
	CV	0.64	1.08	2.26	2.92	3.13	2.26		1.73	1.79		
Top three entries showing >5 % improvement over the best standard at each location												
Rank 1	No entry showed >5 % improvement over the best standard											
Rank 2												
Rank 3												

* Pantnagar centre did not conduct AVT (ML)-II plant trial due to failure of AVT (ML)-I plant trial (2015-16)

No. of locations where an entry is showing >5 % improvement: No entry showed >5 % improvement over the best standard

Performance across locations: CoPant 97222 was adjudged as the best among the standard for sucrose % (18.50). Two clones namely, Co 11027 (18.67 %) and CoH 11263 (18.53 %) exhibited numerically higher sucrose % than CoPant 97222 but their percent improvement was less than 5 %.

Table 4.6.5 Brix % at harvest

SI No	Entries	Faridkot	Kapurthala	Karnal	Kota	Lucknow	Muzaffarnagar	Pantnagar*	Shahjahanpur	Sriganganagar	Mean
1	Co 11027	22.60	19.98	21.00	20.83	20.39	20.81		21.71	20.54	20.98
2	CoH 11263	22.60	20.56	20.97	20.47	19.52	20.45		22.16	19.46	20.77
3	CoLk 11204	21.57	19.74	20.50	20.30	19.19	20.08		21.18	20.23	20.35
4	CoLk 11206	21.17	20.36	21.24	20.43	19.37	20.55		21.20	19.09	20.43
5	CoPb 11214	20.33	19.13	19.70	20.73	19.71	20.38		21.72	18.55	20.03
6	CoS 11232	20.23	18.70	20.63	18.53	18.79	20.31		21.13	20.24	19.82
	Standards										
1	CoS 767	19.73	18.54	20.26	20.10	18.95	20.18		20.67	19.12	19.69
2	CoS 8436	22.27	18.63	20.47	20.43	19.88	20.48		21.58	19.58	20.42
3	CoPant 97222	22.67	20.81	20.53	19.83	19.81	20.51		21.46	20.77	20.80
	Mean	21.46	19.61	20.59	20.18	19.51	20.42		21.42	19.73	20.37
	SE(m)	0.18		0.32	0.18	0.43	0.34		0.31		
	CD at 5%	0.53	0.33	0.68	0.53	2.67	NS		0.65	0.75	
	CV	1.43	1.00	1.90	2.41	0.90	2.04		1.76	2.29	

* Pantnagar centre did not conduct AVT (ML)-II plant trial due to failure of AVT (ML)-I plant trial (2015-16)

Table 4.6.6 Purity % at harvest

Sl No	Entries	Faridkot	Kapurthala	Karnal	Kota	Lucknow	Muzaffarnagar	Pantnagar	Shahjahanpur	Sriganganagar	Mean
1	Co 11027	88.57	86.92	93.46	87.99	89.58	87.04		89.50	88.71	88.97
2	CoH 11263	88.57	87.08	92.51	88.12	90.05	86.62		89.92	89.42	89.04
3	CoLk 11204	88.39	89.00	93.31	87.50	88.30	86.25		88.89	88.63	88.78
4	CoLk 11206	90.95	84.30	92.42	87.60	88.85	87.40		88.53	87.95	88.50
5	CoPb 11214	89.09	92.96	91.86	87.85	88.17	88.31		89.49	88.72	89.56
6	CoS 11232	91.19	88.25	93.27	86.20	87.69	88.18		88.84	89.21	89.10
	Standards										
1	CoS 767	91.17	90.69	90.88	87.53	88.12	87.90		88.31	87.98	89.07
2	CoS 8436	90.38	88.65	93.35	87.60	88.37	88.18		89.38	88.31	89.28
3	CoPant 97222	88.93	89.57	91.99	87.14	89.54	88.13		89.27	88.58	89.14
	Mean	89.69	88.60	92.56	87.50	88.74	87.56		89.13	88.61	89.05
	SE(m)	0.83			0.19	0.85	0.52		0.27		
	CD at 5%	2.48	1.24	NS	0.58	NS	1.10		0.57	1.18	
	CV	1.60	0.81	0.00	0.61	1.17	0.73		0.37	1.39	

Table 4.6.7 Pol % in cane and Fibre % at harvest

Sl No	Entries	Pol % in cane						Fibre % at harvest					
		Kapurthala	Karnal	Lucknow	Muzaff arnagar	Shahja hanpur	Mean	Kapurthala	Karnal	Lucknow	Muzaff arnagar	Shahjah anpur	Mean
1	Co 11027	12.67	15.17	14.16	14.35	13.93	14.06	14.96	12.73	12.48	13.92	14.90	13.80
2	CoH 11263	14.65	14.94	13.68	13.22	14.10	14.12	11.16	13.00	12.17	14.05	14.94	13.06
3	CoLk 11204	13.14	14.83	13.20	13.80	13.64	13.72	14.19	12.47	12.07	13.98	14.87	13.52
4	CoLk 11206	12.64	15.19	13.60	14.05	13.69	13.83	12.09	12.60	11.22	14.21	15.02	13.03
5	CoPb 11214	12.92	13.94	13.58	14.86	14.02	13.86	11.94	12.97	11.85	13.57	14.95	13.06
6	CoS 11232	12.62	14.87	12.72	14.16	13.79	13.63	11.55	12.73	12.78	14.11	14.81	13.20
	Standards												
1	CoS 767	13.65	14.17	12.89	14.00	13.65	13.67	11.21	13.03	13.32	14.20	15.10	13.37
2	CoS 8436	13.75	14.83	13.92	14.46	13.98	14.19	11.51	12.40	10.81	13.48	14.86	12.61
3	CoPant 97222	13.78	14.68	13.58	14.15	13.92	14.02	11.38	12.33	12.00	13.30	14.97	12.80
	Mean	13.31	14.74	13.48	14.12	13.86	13.90	12.22	12.70	12.08	13.87	14.94	13.16
	SE(m)			0.36						0.60			
	CD at 5%	0.76	0.60	0.76	-	-		0.45	0.32	1.28	-	-	
	CV	3.30	2.32	3.27	-	-		2.14	1.43	6.12	-	-	

Table 4.6.8 Juice extraction % at harvest

Sl No	Entries	Faridkot	Kapurthala	Karnal	Kota	Lucknow	Muzaffarnagar	Pantnagar	Shahjahanpur	Sriganganagar	Mean
1	Co 11027	53.58	53.45	48.40	44.53	50.54	51.11		53.62	50.63	50.73
2	CoH 11263	50.00	58.81	52.85	48.79	50.78	51.58		53.11	52.71	52.33
3	CoLk 11204	59.87	56.19	49.41	41.08	54.57	47.83		52.63	52.89	51.81
4	CoLk 11206	51.55	52.98	47.79	43.55	48.04	49.60		52.70	48.43	49.33
5	CoPb 11214	50.63	52.57	45.92	36.84	51.74	51.43		54.26	49.71	49.14
6	CoS 11232	54.75	59.91	44.99	47.85	54.29	50.00		54.47	50.84	52.14
	Standards										
1	CoS 767	59.11	61.65	48.10	39.95	54.11	50.00		52.84	51.29	52.13
2	CoS 8436	57.41	60.70	58.11	48.79	43.24	48.48		56.46	50.18	52.92
3	CoPant 97222	67.92	59.16	53.97	49.96	44.11	48.53		53.70	50.72	54.22
	Mean	56.09	57.27	49.95	44.59	50.16	49.84		53.75	50.82	51.64
	SE(m)	1.11			1.35	4.02			1.00		
	CD at 5%	3.34	3.20	4.76	3.93	NS	-		2.11	1.92	
	CV	3.44	3.24	5.45	8.17	9.81	-		2.27	3.27	

Table 4.6.9 Brix % at 10th month

Sl No	Entries	Faridkot	Kapurthala	Karnal	Kota	Lucknow	Muzaffarnagar	Pantnagar	Shahjahanpur	Sriganganagar	Mean
1	Co 11027	18.97	18.48	20.17	18.90	19.30	18.47		20.73	18.15	19.15
2	CoH 11263	17.73	17.86	19.50	19.13	19.17	18.87		21.06	18.09	18.93
3	CoLk 11204	17.27	18.66	18.87	19.00	18.53	18.74		19.82	17.91	18.60
4	CoLk 11206	18.50	16.77	19.63	19.27	19.51	18.04		19.49	17.11	18.54
5	CoPb 11214	17.07	17.74	19.57	19.20	18.83	18.60		20.25	16.72	18.50
6	CoS 11232	17.30	16.86	18.77	17.53	17.99	16.55		19.78	17.83	17.83
	Standards										
1	CoS 767	18.20	17.14	19.37	18.43	18.39	17.91		20.13	17.44	18.38
2	CoS 8436	17.53	16.46	20.13	17.47	18.62	18.40		20.28	17.89	18.35
3	CoPant 97222	20.00	18.19	20.00	18.33	19.44	18.00		20.26	18.35	19.07
	Mean	18.06	17.57	19.56	18.58	18.86	18.18		20.20	17.72	18.59
	SE(m)	0.39		0.24	0.15	0.39	0.38		0.19		
	CD at 5%	1.18	1.31	0.50	0.44	0.83	0.81		0.41	0.71	
	CV	3.79	4.34	1.47	2.18	2.85	2.56		1.16	2.14	

Table 4.6.10 Sucrose % at 10th month

Sl No	Entries	Faridkot	Kapurthala	Karnal	Kota	Lucknow	Muzaffarnagar	Pantnagar	Shahjahanpur	Sriganganagar	Mean
1	Co 11027	16.30	16.07	18.94	16.32	16.96	15.63		18.30	15.75	16.78
2	CoH 11263	15.41	16.59	17.80	16.56	16.88	16.10		18.65	15.80	16.72
3	CoLk 11204	15.17	16.86	17.04	16.42	16.30	15.95		17.30	15.55	16.32
4	CoLk 11206	16.45	14.91	17.95	16.70	16.99	15.68		16.94	14.65	16.28
5	CoPb 11214	14.80	15.63	18.03	16.63	16.35	16.14		17.76	14.46	16.23
6	CoS 11232	15.50	15.13	16.97	14.91	15.59	13.92		17.26	15.64	15.62
	Standards										
1	CoS 767	16.50	15.29	17.72	15.36	16.11	15.56		17.63	14.98	16.14
2	CoS 8436	15.47	14.66	18.94	14.84	16.35	15.86		17.80	15.43	16.17
3	CoPant 97222	17.89	16.18	18.47	15.70	17.11	15.28		17.78	15.93	16.79
	Mean	15.94	15.70	17.98	15.94	16.52	15.57		17.71	15.35	16.34
	SE(m)	0.34		0.30	0.20	0.41	0.28		0.21		
	CD at 5%	1.03	NS	0.64	0.58	0.88	0.60		0.44	0.59	
	CV	3.74	6.50	2.04	3.37	3.07	2.22		1.43	1.93	

Table 4.6.11 Purity % at 10th month

Sl No	Entries	Faridkot	Kapurthala	Karnal	Kota	Lucknow	Muzaffarnagar	Pantnagar	Shahjahanpur	Sriganganagar	Mean
1	Co 11027	85.96	86.96	93.88	86.64	87.94	84.60		88.28	86.73	87.62
2	CoH 11263	86.92	92.88	91.24	86.83	88.04	85.30		88.56	87.29	88.38
3	CoLk 11204	87.83	90.35	90.30	86.43	87.88	85.15		87.32	86.84	87.76
4	CoLk 11206	88.93	88.62	91.38	86.66	86.53	86.94		86.93	85.67	87.71
5	CoPb 11214	86.73	88.05	92.13	86.61	86.88	86.75		87.71	86.53	87.67
6	CoS 11232	89.58	89.70	90.41	85.07	86.72	84.17		87.26	87.74	87.58
	Standards										
1	CoS 767	90.65	89.16	91.52	85.92	87.24	85.90		87.61	85.91	87.99
2	CoS 8436	88.22	89.04	94.04	85.68	87.84	85.60		87.77	86.28	88.06
3	CoPant 97222	89.47	88.90	92.35	85.80	87.96	84.87		87.76	86.83	87.99
	Mean	88.25	89.30	91.92	86.18	87.45	85.48		87.69	86.65	87.86
	SE(m)	0.55			0.17	0.84	0.67				
	CD at 5%	1.65	NS	1.42	0.49	1.78	1.42		0.42	1.45	
	CV	1.08	2.63	0.89	0.53	1.17	0.96		2.28	1.31	

Table 4.6.12 CCS % at 10th month

Sl No	Entries	Faridkot	Kapurthala	Karnal	Kota	Lucknow	Muzaffarnagar	Pantnagar	Shahjahanpur	Sriganganagar	Mean
1	Co 11027	11.12	11.03	13.46	11.16	12.38	10.58		12.65	10.80	11.65
2	CoH 11263	10.57	11.74	12.49	11.37	12.32	10.94		12.92	10.87	11.65
3	CoLk 11204	10.46	11.78	11.91	11.24	11.90	10.83		11.90	10.66	11.33
4	CoLk 11206	11.41	10.34	12.61	11.47	12.40	10.76		11.62	9.98	11.32
5	CoPb 11214	10.15	10.79	12.71	11.36	11.94	11.06		12.24	9.89	11.27
6	CoS 11232	10.79	10.54	11.86	10.12	11.38	9.40		11.67	10.78	10.82
	Standards										
1	CoS 767	11.55	10.62	12.46	10.81	11.76	10.61		12.14	10.22	11.27
2	CoS 8436	10.69	10.17	13.48	10.07	11.94	10.80		12.06	10.55	11.22
3	CoPant 97222	12.44	11.22	13.04	10.70	12.49	10.36		12.25	10.92	11.68
	Mean	11.02	10.91	12.67	10.92	12.06	10.59		12.16	10.52	11.36
	SE(m)	0.24		0.24	0.12	0.30	0.19		0.20		
	CD at 5%	0.73	NS	0.52	0.35	0.64	0.40		0.43	0.39	
	CV	3.82	7.60	2.36	2.99	3.07	2.20		2.03	2.88	

Table 4.6.13 NMC at harvest ('000/ha)

Sl No	Entries	Faridkot	Kapurthala	Karnal	Kota	Lucknow	Muzaffarnagar	Pantnagar	Shahjahanpur	Sriganganagar	Mean
1	Co 11027	86.48	76.70	106.10	30.63	91.74	110.49		87.78	76.28	83.28
2	CoH 11263	97.22	88.68	95.29	29.53	91.93	88.64		90.00	83.36	83.08
3	CoLk 11204	105.00	98.25	104.71	38.53	105.45	118.51		96.91	95.72	95.39
4	CoLk 11206	108.52	101.34	113.81	62.03	112.40	122.09		99.51	98.81	102.31
5	CoPb 11214	110.93	100.29	89.20	34.53	100.15	105.18		99.63	104.39	93.04
6	CoS 11232	106.85	99.57	83.41	26.10	111.09	108.64		94.32	91.41	90.17
	Standards										
1	CoS 767	116.30	95.10	99.00	49.07	109.46	112.34		115.06	96.56	99.11
2	CoS 8436	104.81	88.17	85.11	49.73	107.36	102.09		105.93	86.28	91.18
3	CoPant 97222	100.56	98.98	104.63	44.03	103.21	100.24		95.80	91.67	92.39
	Mean	104.07	94.12	97.92	40.46	103.64	107.58		98.33	91.61	92.22
	SE(m)	6.08		5.23	2.30	5.12	4.52		6.00		
	CD at 5%	18.22	12.40	11.19	6.71	10.85	9.59		12.72	10.51	
	CV	10.11	7.62	6.55	15.36	6.05	5.15		7.47	7.06	

Table 4.6.14 Stalk length (cm)

Sl No	Entries	Faridkot	Kapurthala	Karnal	Kota	Lucknow	Muzaffarnagar	Pantnagar	Shahjahanpur	Sriganganagar	Mean
1	Co 11027	228.33	272.00	270.00	218.00	168.33	225.00		235.00	151.29	220.99
2	CoH 11263	183.55	233.00	220.00	175.00	131.67	172.00		212.00	165.26	186.56
3	CoLk 11204	226.00	256.00	228.30	189.00	160.00	232.00		218.00	180.31	211.20
4	CoLk 11206	255.66	255.00	265.00	214.00	226.67	292.00		235.00	205.46	243.60
5	CoPb 11214	238.44	252.00	233.30	226.00	208.33	190.00		211.00	175.28	216.79
6	CoS 11232	217.55	278.00	263.30	207.00	196.67	255.00		227.00	192.71	229.65
	Standards										
1	CoS 767	214.11	273.00	251.70	208.00	196.67	205.00		224.00	198.82	221.41
2	CoS 8436	179.44	252.00	213.30	221.00	118.33	146.00		171.00	181.76	185.35
3	CoPant 97222	246.33	261.00	260.00	208.00	193.33	230.00		207.00	195.91	225.20
	Mean	221.05	259.11	244.99	207.33	177.78	216.33		215.56	182.98	215.64
	SE(m)	5.52		11.78	0.17	14.81	0.80		9.94		
	CD at 5%	16.56	NS	25.18	5.00	31.39	17.00		21.07	18.07	
	CV	4.33	8.06	5.89	2.24	10.20	4.59		5.65	5.52	

Table 4.6.15 Stalk diameter (cm)

Sl No	Entries	Faridkot	Kapurthala	Karnal	Kota	Lucknow	Muzaffarnagar	Pantnagar	Shahjahanpur	Sriganganagar	Mean
1	Co 11027	2.87	2.50	2.57	2.06	2.21	2.21		2.15	2.35	2.36
2	CoH 11263	2.96	2.57	2.50	1.87	2.11	2.64		2.01	2.59	2.41
3	CoLk 11204	2.62	2.35	2.24	1.91	2.09	2.27		2.05	2.28	2.23
4	CoLk 11206	2.65	2.20	2.48	2.16	2.25	2.42		2.20	2.31	2.33
5	CoPb 11214	2.56	2.25	2.19	2.16	2.63	2.12		2.07	2.48	2.31
6	CoS 11232	2.31	1.95	2.25	2.02	2.14	2.10		2.14	2.31	2.15
	Standards										
1	CoS 767	2.57	2.10	2.24	2.08	2.71	2.05		2.00	2.21	2.24
2	CoS 8436	2.33	2.14	2.55	2.15	2.72	2.43		2.30	2.34	2.37
3	CoPant 97222	2.54	2.17	2.60	2.16	2.30	2.20		2.03	2.33	2.29
	Mean	2.60	2.25	2.40	2.06	2.35	2.27		2.11	2.36	2.30
	SE(m)	0.06		0.11	0.02	0.19	0.06		0.09		
	CD at 5%	0.19	0.18	0.23	0.08	0.41	0.13		0.19	0.12	
	CV	4.32	4.72	5.49	3.71	10.08	3.33		5.12	3.31	

Table 4.6.16 Single cane weight (kg)

Sl No	Entries	Faridkot	Kapurthala	Karnal	Kota	Lucknow	Muzaffarnagar	Pantnagar	Shahjahanpur	Sriganganagar	Mean
1	Co 11027	1.36	1.34	1.25	1.03	0.71	0.93		0.85	0.81	1.03
2	CoH 11263	1.21	1.23	0.95	0.97	0.64	0.95		0.77	0.79	0.94
3	CoLk 11204	1.18	1.10	0.98	0.90	0.66	0.68		0.83	0.73	0.88
4	CoLk 11206	1.35	1.00	1.25	1.04	0.86	0.82		1.05	0.91	1.03
5	CoPb 11214	1.14	0.91	0.91	0.98	0.76	0.74		0.80	0.69	0.87
6	CoS 11232	1.05	0.90	0.85	0.86	0.69	0.89		0.93	0.94	0.89
	Standards										
1	CoS 767	1.13	1.00	0.96	1.10	0.71	0.69		0.83	0.86	0.91
2	CoS 8436	0.93	0.80	1.23	1.03	0.53	0.76		0.75	0.79	0.85
3	CoPant 97222	1.22	1.08	1.27	0.82	0.74	0.69		0.92	0.83	0.95
	Mean	1.17	1.04	1.07	0.97	0.70	0.79		0.86	0.82	0.93
	SE(m)	0.07		0.05	0.01	0.03	0.04		0.08		
	CD at 5%	0.21	0.28	0.11	0.05	0.07	0.09		0.17	0.09	
	CV	10.35	15.76	5.85	4.33	6.14	6.40		11.12	4.68	

Table 4.6.17 Number of tillers at 120 days ('000/ha)

Sl No	Entries	Faridkot	Kapurthala	Karnal	Kota	Lucknow	Muzaffarnagar	Pantnagar	Shahjahanpur	Sriganganagar	Mean
1	Co 11027	118.52	104.35	119.06	46.73	103.60	190.73		173.95	119.29	122.03
2	CoH 11263	105.56	103.44	140.36	47.80	104.37	151.48		178.52	132.86	120.55
3	CoLk 11204	147.96	125.32	173.92	71.80	156.87	206.91		176.79	143.72	150.41
4	CoLk 11206	136.11	131.10	141.74	80.10	132.64	208.64		201.36	150.81	147.81
5	CoPb 11214	168.70	132.02	158.64	48.47	165.20	199.13		168.52	157.54	149.78
6	CoS 11232	120.56	108.04	139.12	31.73	170.29	195.68		197.65	138.62	137.71
	Standards										
1	CoS 767	167.59	115.66	148.77	63.63	160.19	177.40		184.32	146.91	145.56
2	CoS 8436	138.52	107.18	136.03	63.83	134.88	161.60		166.91	131.78	130.09
3	CoPant 97222	153.89	118.02	158.87	76.40	125.46	145.30		178.64	142.36	137.37
	Mean	139.71	116.13	146.28	58.94	139.28	181.87		180.74	140.43	137.92
	SE(m)	6.41		6.81	2.79	7.42	9.27		7.40		
	CD at 5%	19.21	9.12	14.56	8.12	15.73	19.65		15.69	14.18	
	CV	7.94	4.54	5.70	12.76	6.51	6.24		5.02	6.72	

Table 4.6.18 Germination % at 45 days

Sl No	Entries	Faridkot	Kapurthala	Karnal	Kota#	Lucknow	Muzaffarnagar	Pantnagar*	Shahjahanpur	Sriganganagar	Mean
1	Co 11027	34.72	41.99	48.18	14.33	23.47	41.94		45.09	28.29	34.75
2	CoH 11263	37.73	43.45	55.55	14.00	24.63	36.94		46.11	31.76	36.27
3	CoLk 11204	49.54	51.96	52.25	20.33	33.23	52.31		46.76	37.41	42.97
4	CoLk 11206	51.62	59.62	50.20	22.67	39.28	48.98		54.72	39.36	45.81
5	CoPb 11214	37.96	63.08	42.94	13.33	37.43	46.85		47.22	35.73	40.57
6	CoS 11232	28.47	43.70	52.14	10.00	25.46	50.46		51.30	38.85	37.55
	Standards										
1	CoS 767	46.76	50.82	47.52	21.67	35.58	46.48		47.59	35.36	41.47
2	CoS 8436	45.83	56.74	48.09	22.33	33.46	42.04		43.80	30.54	40.35
3	CoPant 97222	42.59	49.69	50.56	25.67	26.90	40.32		47.78	32.25	39.47
	Mean	41.69	51.23	49.71	18.26	31.05	45.15		47.82	34.39	39.91
	SE(m)	2.89		2.21	0.98	2.52	3.37		2.36		
	CD at 5%	8.67	7.23	4.72	2.85	5.34	7.15		5.00	4.47	
	CV	12.01	8.16	5.44	14.44	9.94	9.14		6.05	5.68	

* Pantnagar centre did not conduct AVT (ML)-II plant trial due to failure of AVT (ML)-I plant trial (2015-16) # Poor germination at Kota centre

Table 4.6.19 Assessment of entries by monitoring team

Entry	Lucknow	Shahjahanpur	Pantnagar		Uchani	Karnal	Faridkot	Kapurthala	Sriganganagar	Kota
Co 11027	Poor (excellent height but less popln)	Poor	Trial failed due to less population	Better	NC	On par	On par	On par	Poor	Poor (gapes)
CoH 11263	Poor (stunted growth)	Poorest (rusty)		Poor (rusty)	NC	Poor (yellowing)	Poor	On par	Poor	Poor (gapes)
CoLk 11204	Poor (less height)	Poor		Poor	NC	Poor	Poor	On par	Poor	Poor (gapes)
CoLk 11206	Better	Better		Better	NC	On par	On par	Better	Poor	Better
CoPb 11214	On par	On par		On par	NC	On par (lodging)	Better	Better	Poor	On par (gapes)
CoS 11232	Better (yellowing)	Poor		Better	NC	Poor	Poor	Better	Poor	Poor (gapes)
CoS 767	Best	Best		Best	NC			Best	Best	
CoS 8436					NC					
CoPant 97222					NC	Best	Best			Best

4.7 ADVANCED VARIETAL TRIAL (MIDLATE) - RATOON

Centres (9)	Faridkot, Kapurthala, Karnal, Kota*, Lucknow, Muzaffarnagar, Pantnagar*, Shahjahanpur and Sriganaganagar*
Entries (6)	Co 11027, CoH 11263, CoLk 11204, CoLk 11206, CoPb 11214 and CoS 11232.
Standards (3)	CoS 767, CoS 8436 and CoPant 97222
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, 2016
Crop duration	11 months

Note : * Kota, Pantnagar and Sriganaganagar centres did not conduct AVT (Midlate) ratoon trial.

Results of the previous year

In the AVT (ML)-I plant trial of 2015-16 season, the entry CoLk 11206 ranked first in the zone for CCS yield (11.38 t/ha) and cane yield (91.18 t/ha). CoLk 11204 was the 2nd ranked entry in the zone for CCS yield (10.06 t/ha). The 3rd ranked entry for cane yield was CoLk 11204 (80.31 t/ha). However, its improvement was not significantly at any locations. CoS 8436 was the best among the standards for CCS% (12.77) as well as sucrose % (18.36) at harvest. No test clones was significantly superior to CoS 8436 for juice quality traits.

Results of the current year

Six out of 9 centres conducted AVT (Midlate) ratoon trial during 2016-17. Three centres namely, Kota, Pantnagar and Sriganaganagar did not conduct ratoon trial due to failure of previous year plant crop trial. At Lucknow centre the entry CoS 11232 was affected by wilt in AVT (ML)-I plant crop itself, hence ratoon of this entry did not establish.

CoS 767 was the best standard for CCS yield and its zonal mean was 9.17 t/ha. Two entries namely, CoLk 11206 (10.30 t/ha) and CoLk 11204 (9.77 t/ha) recorded numerically higher CCS yield than the best standard but the percent improvement over the best standard was more than 10 % in CoLk 11206 alone. The mean cane yield of the best standard CoS 767 in the zone was 78.19 t/ha. Only one clone *viz.*, CoLk 11206 (86.61 t/ha) recorded >10 % improvement over CoS 767 for this trait, although other clones such as CoLk 1204 (83.88 t/ha) and CoPb 11214 (78.72 t/ha) recorded numerically higher cane yield than the standard. The highest CCS % (12.13) and sucrose % (17.48) at harvest was recorded in the standard CoS 8436. No test clone showed >5 % improvement over the best standard for CCS % and sucrose %. Considering both cane yield and juice quality no qualifying variety was identified. Further details are presented in Tables 4.7.1 to 4.7.13.

Table 4.7.1 CCS yield (t/ha) at harvest

Sl No	Entries	Faridkot	Kapurthala	Karnal	Kota*	Lucknow	Muzaffar nagar	Pantnagar*	Shahja hanpur	Sriganga Nagar*	Mean	Rank
1	Co 11027	10.24	7.14	14.90		5.60	7.07		7.75		8.78	
2	CoH 11263	9.41	6.90	9.24		4.84	5.55		7.71		7.27	
3	CoLk 11204	10.90	8.86	16.34		9.41	6.14		7.00		9.77	2
4	CoLk 11206	10.23	8.05	16.55		11.74	6.82		8.41		10.30	1
5	CoPb 11214	7.56	9.38	14.53		7.69	7.50		7.61		9.05	
6	CoS 11232	9.60	9.04	8.41		**	8.33		8.23		8.72	
	Standards											
1	CoS 767	10.94	8.17	13.57		7.61	6.57		8.19		9.17	3
2	CoS 8436	8.84	7.95	13.40		4.86	6.23		8.19		8.24	
3	CoPant 97222	10.81	7.46	14.41		8.19	5.54		7.86		9.05	
	Mean	9.84	8.11	13.48		7.49	6.64		7.88		8.93	
	SE(m)	0.72		0.91		0.72	0.62		0.25			
	CD at 5%	2.15	1.59	1.94		1.54	1.31		0.53			
	CV	12.63	11.35	8.25		11.75	11.43		3.93			
Top three entries showing 10 % improvement over the best standard at each location												
Rank 1			CoPb 11214	CoLk 11206		CoLk 11206	CoS 11232				CoLk 11206	
Rank 2			CoS 11232	CoLk 11204		CoLk 11204	CoPb 11214				-	
Rank 3												

Note : * Kota, Pantnagar and Sriganganagar centres did not conduct AVT (Midlate) ratoon trial

**At Lucknow centre CoS 11232 was affected by wilt in AVT (ML) plant crop itself, hence its ratoon could not be raised.

No. of locations where an entry is showing >10 % improvement: CoPb 11214 (2), CoLk 11204 (2), CoLk 11206 (2) and CoS 11232 (2).

Performance across locations: The mean CCS yield of the best standard CoS 767 in the zone was 9.17 t/ha. Two entries namely, CoLk 11206 (10.30 t/ha) and CoLk 11204 (9.77 t/ha) recorded numerically higher CCS yield than the best standard. Of these two clones, the percent improvement recorded in CoLk 11206 over CoS 767 for CCS yield was more than 10 %.

Table 4.7.2 Cane yield at harvest (t/ha)

Sl No	Entries	Faridkot	Kapurthala	Karnal	Kota*	Lucknow	Muzaffar nagar	Pantnagar*	Shahja hanpur	Sriganga Nagar*	Mean	Rank
1	Co 11027	98.15	61.66	113.71		47.51	59.13		65.56		74.29	
2	CoH 11263	92.96	57.30	78.07		42.01	45.18		64.44		63.33	
3	CoLk 11204	100.37	70.46	129.43		86.85	52.34		63.83		83.88	2
4	CoLk 11206	92.59	67.65	129.60		97.21	57.90		74.69		86.61	1
5	CoPb 11214	78.15	76.47	113.26		68.13	68.88		67.41		78.72	3
6	CoS 11232	96.30	74.31	65.39		**	71.72		69.26		75.40	
Standards												
1	CoS 767	96.30	66.76	108.73		69.59	57.16		70.62		78.19	
2	CoS 8436	73.70	64.24	106.42		41.27	53.33		58.02		66.16	
3	CoPant 97222	97.04	60.79	112.79		77.26	48.51		66.91		77.22	
	Mean	91.73	66.63	106.38		66.23	57.13		66.75		75.98	
	SE(m)	5.78		6.56		5.40	5.39		2.24			
	CD at 5%	17.32	10.64	14.03		11.58	11.43		4.75			
	CV	10.91	9.23	7.56		9.99	11.55		4.11			
Top three entries showing 10% improvement over the best standard at each location												
Rank 1			CoPb 11214	CoLk 11206		CoLk 11206	CoS 11232				CoLk 11206	
Rank 2				CoLk 11204		CoLk 11204	CoPb 11214					
Rank 3												

Note : * Kota, Pantnagar and Sriganganagar centres did not conduct AVT (Midlate) ratoon trial

**At Lucknow centre CoS 11232 was affected by wilt in AVT (ML) plant crop itself, hence its ratoon did not come up.

No. of locations where an entry is showing >10 % improvement: CoPb 11214 (2), CoLk 11204 (2), CoLk 11206 (2) and CoS 11232 (1).

Performance across locations: The mean cane yield of the best standard CoS 767 in the zone was 78.19 t/ha. Only one clone viz., CoLk 11206 (86.61 t/ha) recorded >10 % improvement over CoS 767 for cane yield, although numerically higher cane yield was recorded by clones CoLk 1204 (83.88 t/ha) and CoPb 11214 (78.72 t/ha)

Table 4.7.3 CCS % at harvest

Sl No	Entries	Faridkot	Kapurthala	Karnal	Kota*	Lucknow	Muzaffar nagar	Pantnagar*	Shahja hanpur	Sriganga Nagar*	Mean	Rank
1	Co 11027	10.38	11.60	13.11		11.79	11.95		11.85		11.78	3
2	CoH 11263	10.11	12.07	11.84		11.50	12.32		11.96		11.63	
3	CoLk 11204	10.86	12.52	12.63		10.81	11.74		10.97		11.59	
4	CoLk 11206	11.03	11.88	12.77		12.08	11.81		11.26		11.80	2
5	CoPb 11214	9.66	12.25	12.83		11.24	10.79		11.27		11.34	
6	CoS 11232	10.01	12.15	12.86		**	11.60		11.89		11.70	
	Standards NS											
1	CoS 767	11.37	12.23	12.48		10.92	11.51		11.60		11.69	
2	CoS 8436	12.00	12.38	12.59		11.76	11.68		12.39		12.13	1
3	CoPant 97222	11.14	12.27	12.78		10.65	11.43		11.75		11.67	
	Mean	10.73	12.15	12.65		11.34	11.65		11.66		11.70	
	SE(m)	0.29		0.25		0.48	0.28		0.10			
	CD at 5%	0.88	NS	0.53		NS	0.59		0.20			
	CV	4.75	5.01	2.39		5.27	2.91		1.01			
Top three entries showing 5 % improvement over the best standard at each location												
Rank 1		-	-	-		-	CoH 11263		-		-	
Rank 2												
Rank 3												

Note : * Kota, Pantnagar and Sriganganagar centres did not conduct AVT (Midlate) ratoon trial

**At Lucknow centre CoS 11232 was affected by wilt in AVT (ML) plant crop itself hence its ratoon did not establish.

No. of locations where an entry is showing >5 % improvement: CoH 11263 (1).

Performance across locations: Highest CCS % was recorded by the standard CoS 8436 (12.13 %). No test clone showed >5 % improvement over the best standard for CCS %.

Table 4.7.4 Sucrose % at harvest

Varietal Improvement Programme-AICRP (Sugarcane)
Principal Investigator's Report (2016-17)
North West Zone: AVT (Midlate) – Ratoon

Sl No	Entries	Faridkot	Kapurthala	Karnal	Kota*	Lucknow	Muzaffar nagar	Pantnagar*	Shahjahanpur	Sriganganagar*	Mean	Rank
1	Co 11027	15.15	17.01	18.68		17.24	17.35		17.23		17.11	2
2	CoH 11263	14.87	17.28	16.96		16.71	17.49		15.71		16.50	
3	CoLk 11204	15.64	17.21	17.95		15.95	17.10		16.00		16.64	
4	CoLk 11206	15.92	17.10	18.10		17.38	17.16		16.44		17.02	3
5	CoPb 11214	13.99	17.15	18.18		16.49	15.87		16.45		16.35	
6	CoS 11232	14.46	17.43	18.18		**	16.92		17.28		16.85	
	Standards											
1	CoS 767	16.40	17.46	17.73		15.89	16.71		16.89		16.85	
2	CoS 8436	17.24	17.66	17.88		17.13	17.01		17.98		17.48	1
3	CoPant 97222	15.90	17.66	18.10		15.55	16.69		17.08		16.83	
	Mean	15.51	17.33	17.97		16.54	16.92		16.78		16.85	
	SE(m)	0.38		0.31		0.67	0.28		0.81			
	CD at 5%	1.15	NS	0.65		NS	0.58		NS			
	CV	4.28	3.46	2.08		4.96	2.00		5.88			
Top three entries showing 5 % improvement over the best standard at each location												
Rank 1	No clones showed >5 % improvement over the best standard for sucrose %											
Rank 2												
Rank 3												

Note : * Kota, Pantnagar and Sriganganagar centres did not conduct AVT (midlate) ratoon.

*At Lucknow centre CoS 11232 was affected by wilt in AVT (ML) plant crop itself, hence ratoon could not be raised.

No. of locations where an entry is showing >5 % improvement: No clones showed >5 % improvement over the best standard for sucrose % at any of the centre.

Performance across locations: Highest sucrose % was recorded by the standard CoS 8436 (17.48 %). No test entry was superior to the best standard.

Table 4.7.5 Brix % at harvest

Sl No	Entries	Faridkot	Kapurthala	Karnal	Kota	Lucknow	Muzaffarnagar	Pantnagar	Shahjahanpur	Sriganganagar	Mean
1	Co 11027	17.47	19.51	20.50		19.97	19.82		19.72		19.50
2	CoH 11263	17.40	19.14	18.83		19.11	20.05		19.87		19.07
3	CoLk 11204	17.53	17.36	19.57		18.82	19.62		18.43		18.56
4	CoLk 11206	17.93	19.16	19.63		19.47	19.62		18.98		19.13
5	CoPb 11214	15.87	18.07	19.70		19.22	18.59		18.98		18.40
6	CoS 11232	16.33	19.37	19.60		-	19.52		19.78		18.92
	Standards										
1	CoS 767	18.47	19.22	19.30		18.21	19.05		19.38		18.94
2	CoS 8436	19.23	19.40	19.47		19.68	19.49		20.38		19.61
3	CoPant 97222	17.50	19.77	19.60		17.96	19.25		19.55		18.94
	Mean	17.53	19.00	19.58		19.06	19.45		19.45		19.01
	SE(m)	0.36		0.28		0.73	0.25		0.13		
	CD at 5%	1.07	0.70	0.60		NS	0.54		0.28		
	CV	3.52	2.16	1.74		4.75	1.61		0.84		

Table 4.7.6 Purity % at harvest

Sl No	Entries	Faridkot	Kapurthala	Karnal	Kota	Lucknow	Muzaffarnagar	Pantnagar	Shahjahanpur	Sriganganagar	Mean
1	Co 11027	86.71	85.85	91.11		86.33	87.55		87.38		87.49
2	CoH 11263	85.41	90.20	90.07		87.64	87.23		87.47		88.00
3	CoLk 11204	89.18	99.48	91.73		80.42	87.14		86.81		89.13
4	CoLk 11206	88.79	89.26	92.20		86.81	88.15		86.64		88.64
5	CoPb 11214	88.15	94.97	92.26		85.82	85.38		86.69		88.88
6	CoS 11232	88.51	89.97	92.80		-	86.68		87.39		89.07
	Standards										
1	CoS 767	88.77	90.85	91.86		87.24	87.53		87.15		88.90
2	CoS 8436	89.62	91.05	91.83		87.08	87.22		88.07		89.15
3	CoPant 97222	90.86	89.31	92.36		86.54	86.68		87.36		88.85
	Mean	88.44	91.22	91.80		85.99	87.06		87.22		88.68
	SE(m)	0.79				3.07	0.53		0.17		
	CD at 5%	2.38	6.64	NS		NS	1.12		0.37		
	CV	1.55	4.21	0.00		4.37	0.75		0.24		

Table 4.9.7 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 11027	12.33	14.24	13.17	11.60	12.89	12.85	16.30	13.80	13.64	14.26	15.01	14.60
2	CoH 11263	13.55	13.18	13.13	12.14	12.92	12.98	13.10	12.31	11.42	14.10	15.08	13.20
3	CoLk 11204	12.74	14.07	12.71	11.31	12.36	12.64	13.48	11.61	10.36	14.85	14.96	13.05
4	CoLk 11206	12.80	13.82	13.50	13.01	12.53	13.13	16.05	13.63	12.30	15.11	15.22	14.46
5	CoPb 11214	13.57	13.85	12.37	12.58	12.47	12.97	16.54	13.83	14.97	14.36	15.16	14.97
6	CoS 11232	12.76	13.92	-	12.29	12.76	12.93	14.28	13.47	-	14.86	14.90	14.38
	Standards												
1	CoS 767	13.23	13.54	12.29	11.98	12.68	12.74	13.51	13.61	12.70	14.57	15.27	13.93
2	CoS 8436	14.42	13.87	13.60	12.24	12.96	13.42	13.22	12.43	10.63	13.66	14.90	12.97
3	CoPant 97222	12.63	14.05	12.33	11.78	12.79	12.72	13.57	12.37	10.70	13.51	15.04	13.04
	Mean	13.11	13.84	12.89	12.10	12.71	12.93	14.45	13.01	12.09	14.36	15.06	13.84
	SE(m)		0.24	0.55					0.25	0.31			
	CD at 5%	NS	0.52	NS	-	-		1.71	0.53	0.67	-	-	
	CV	11.56	2.13	5.18	-	-		6.86	2.34	3.15	-	-	

Table 4.7.8 Juice extraction % at 12th month

Sl No	Entries	Faridkot	Kapurthala	Karnal	Kota	Lucknow	Muzaffarnagar	Pantnagar	Shahjahanpur	Sriganganagar	Mean
1	Co 11027	51.51	52.69	48.33		43.43	50.46		54.01		50.07
2	CoH 11263	52.53	53.10	45.57		51.12	51.36		53.80		51.25
3	CoLk 11204	52.83	53.60	52.33		50.06	48.92		54.89		52.10
4	CoLk 11206	49.68	48.83	48.35		49.69	50.47		51.86		49.81
5	CoPb 11214	45.51	57.19	49.21		45.51	49.74		54.16		50.22
6	CoS 11232	54.51	58.75	45.43		-	52.73		54.90		53.26
	Standards										
1	CoS 767	54.44	56.13	54.29		50.12	51.02		53.54		53.26
2	CoS 8436	53.64	57.55	55.36		45.43	52.57		55.85		53.40
3	CoPant 97222	54.21	55.56	51.09		51.95	50.38		56.64		53.31
	Mean	52.10	54.82	50.00		48.41	50.85		54.41		51.85
	SE(m)	0.69		3.04		1.53			1.22		
	CD at 5%	2.07	2.47	6.49		3.28	-		2.58		
	CV	2.30	2.61	7.44		3.87	-		2.74		

Table 4.7.9 NMC at harvest ('000/ha)

Sl No	Entries	Faridkot	Kapurthala	Karnal	Kota	Lucknow	Muzaffarnagar	Pantnagar	Shahjahanpur	Sriganganagar	Mean
1	Co 11027	94.07	56.70	107.49		71.51	103.94		108.02		90.29
2	CoH 11263	91.48	62.44	98.46		77.53	83.08		94.44		84.57
3	CoLk 11204	94.44	81.72	129.09		127.95	99.01		101.36		105.60
4	CoLk 11206	93.89	71.16	118.13		123.10	113.70		111.11		105.18
5	CoPb 11214	100.37	87.64	117.59		105.10	92.46		100.25		100.57
6	CoS 11232	117.59	68.60	81.64		-	99.01		115.56		96.48
	Standards										
1	CoS 767	124.63	71.70	125.08		112.72	108.39		116.05		109.76
2	CoS 8436	90.74	79.20	100.85		72.90	91.23		106.91		90.31
3	CoPant 97222	105.93	70.05	123.69		120.96	89.75		108.15		103.09
	Mean	101.46	72.13	111.34		101.47	97.84		106.87		98.43
	SE(m)	4.03		5.09		7.98	7.86		6.08		
	CD at 5%	12.08	7.04	10.89		17.13	16.67		12.90		
	CV	6.88	5.65	5.60		9.64	9.84		6.97		

Table 4.7.10 Stalk length (cm)

Sl No	Entries	Faridkot	Kapurthala	Karnal	Kota	Lucknow	Muzaffarnagar	Pantnagar	Shahjahanpur	Sriganganagar	Mean
1	Co 11027	252.11	258.00	271.67		198.33	153.00		223.00		226.02
2	CoH 11263	213.22	185.00	210.00		135.00	105.00		206.00		175.70
3	CoLk 11204	234.11	191.00	253.33		188.33	127.00		206.00		199.96
4	CoLk 11206	233.55	224.00	275.00		210.00	178.00		229.00		224.93
5	CoPb 11214	230.44	217.00	241.67		188.33	168.00		221.00		211.07
6	CoS 11232	234.67	250.00	231.67		-	200.00		235.00		230.27
	Standards										
1	CoS 767	201.55	230.00	248.33		216.67	126.00		230.00		208.76
2	CoS 8436	179.11	192.00	211.67		140.00	118.00		172.00		168.80
3	CoPant 97222	213.89	227.00	235.00		220.00	142.00		232.00		211.65
	Mean	221.41	219.33	242.04		187.08	146.33		217.11		206.35
	SE(m)	4.42		18.96		16.75	12.00		12.17		
	CD at 5%	13.26	23.00	40.55		35.92	23.00		25.80		
	CV	3.46	6.24	9.60		10.96	9.09		6.86		

Table 4.7.16 Stalk diameter (cm)

Sl No	Entries	Faridkot	Kapurthala	Karnal	Kota	Lucknow	Muzaffarnagar	Pantnagar	Shahjahanpur	Sriganganagar	Mean
1	Co 11027	2.57	2.62	2.45		2.30	2.42		2.53		2.48
2	CoH 11263	2.71	2.90	2.13		2.16	2.30		2.44		2.44
3	CoLk 11204	2.54	2.20	2.25		2.12	2.22		2.30		2.27
4	CoLk 11206	2.52	2.25	2.44		2.50	2.32		2.37		2.40
5	CoPb 11214	2.34	2.20	2.38		2.11	2.36		2.16		2.26
6	CoS 11232	2.28	2.28	2.02		-	2.00		2.07		2.13
	Standards										
1	CoS 767	2.39	2.10	2.32		2.11	1.88		2.15		2.16
2	CoS 8436	2.48	2.27	2.74		2.50	2.46		2.53		2.50
3	CoPant 97222	2.54	2.22	2.33		2.42	2.02		2.33		2.31
	Mean	2.49	2.34	2.34		2.28	2.22		2.32		2.33
	SE(m)	0.04				0.11	0.10		0.28		
	CD at 5%	0.13	0.17	NS		0.24	0.22		0.28		
	CV	3.10	4.45	-		5.89	5.66		6.85		

Table 4.7.12 Single cane weight (kg)

Sl No	Entries	Faridkot	Kapurthala	Karnal	Kota	Lucknow	Muzaffarnagar	Pantnagar	Shahjahanpur	Sriganganagar	Mean
1	Co 11027	1.23	1.27	1.06		0.66	0.66		0.96		0.97
2	CoH 11263	1.16	1.10	0.79		0.54	0.59		0.86		0.84
3	CoLk 11204	1.10	0.89	1.00		0.68	0.58		0.89		0.86
4	CoLk 11206	1.10	0.94	1.10		0.79	0.56		1.08		0.93
5	CoPb 11214	0.97	0.77	0.96		0.65	0.81		0.88		0.84
6	CoS 11232	0.84	1.00	0.80		-	0.75		0.73		0.82
	Standards										
1	CoS 767	0.80	0.92	0.87		0.62	0.61		0.86		0.78
2	CoS 8436	0.81	0.87	1.05		0.58	0.66		0.78		0.79
3	CoPant 97222	1.07	0.99	0.91		0.64	0.61		0.87		0.85
	Mean	1.01	0.97	0.95		0.65	0.65		0.88		0.85
	SE(m)	0.03		0.04		0.04	0.02		0.07		
	CD at 5%	0.09	0.20	0.09		0.08	0.03		0.15		
	CV	5.09	12.15	5.51		7.30	3.21		9.87		

Table 4.7.13 Number of tillers at 120 days ('000/ha)

Sl No	Entries	Faridkot	Kapurthala	Karnal	Kota*	Lucknow	Muzaffarnagar	Pantnagar*	Shahjahanpur	Sriganganagar*	Mean
1	Co 11027	104.26		138.50		66.44	184.93		172.22		133.27
2	CoH 11263	108.70		98.69		96.38	161.35		167.65		126.55
3	CoLk 11204	115.19		183.26		218.36	205.92		182.10		180.97
4	CoLk 11206	114.63		166.74		170.99	217.28		197.78		173.48
5	CoPb 11214	144.44		200.46		174.61	208.88		187.90		183.26
6	CoS 11232	134.26		80.32		**	203.45		173.46		147.87
	Standards										
1	CoS 767	159.44		173.84		167.82	184.56		184.69		174.07
2	CoS 8436	102.78		109.49		127.12	177.65		160.25		135.46
3	CoPant 97222	120.37		124.23		175.89	154.81		175.43		150.15
	Mean	122.67		141.73		149.70	188.76		177.94		156.12
	SE(m)	3.82		11.51		13.41	9.88		6.75		
	CD 5%	11.46		28.27		28.95	20.95		14.34		
	CV	5.40		11.43		11.04	6.41		4.65		

Note : * Kota, Pantnagar and Sriganganagar centres did not conduct AVT (Midlate) ratoon trial

**At Lucknow centre CoS 11232 was affected by wilt in AVT (ML) plant crop itself, hence its ratoon did not establish well.

Table 4.7.14 Assessment of entries by monitoring team

Entry	Lucknow	Shahjahan pur	Pant nagar	Muzaffar nagar	Uchani	Karnal	Faridkot	Kapur thala	Srigang anagar	Kota
Co 11027	Poor	On par	Not conducted	Better	NC	Better	On par	On par	Poor	NC
CoH 11263	Poor	Poorest		Poor	NC	Poor	Poor	Poor	Poor	NC
CoLk 11204	On par	On par		Better	NC	Better	On par	Poor	Poor	NC
CoLk 11206	Better	Better		Poor	NC	Better	On par	On par	Poor	NC
CoPb 11214	Poor	On par		Better	NC	On par	Better	On par	Poor	NC
CoS 11232	Poor	Poor		Better	NC	Poor	Poor	Poor	Poor	NC
CoS 767	Best	Best		Best	NC			Best	Best	NC
CoS 8436					NC					NC
CoPant 97222	Best				NC	Best	Best			NC

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 11027, CoH 11263, CoLk 11204, CoLk 11206, CoPb 11214 and CoS 11232
Standards (3)	CoS 767, CoS 8436 and CoPant 97222
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

Six midlate clones were evaluated along with three standards during 2015-16 in AVT-I Plant trial and during 2016-17 in AVT-II Plant and AVT-Ratoon at 9 locations. Pantnagar centre did not conduct AVT (ML) I Plant crop trial during 2015-16 due to poor germination hence there was no AVT (ML) ratoon trial. At Kota and Sriganaganagar centres AVT (ML) ratoon trials have failed. Hence, the mean CCS yield, cane yield, CCS % and sucrose % at harvest for 2 plant crop and one ratoon was calculated for the remaining centre. The results are presented from Tables 4.8.1 to 4.8.4 and also 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 10.16 t/ha. Two clones namely, CoLk 11206 (11.58 t/ha) and CoLk 11204 (10.15 t/ha) recorded numerically higher CCS yield than the best standard. The improvement in CCS yield of the clone CoLk 11206 over the best standard in the zone was 13.98 percent. At 3 locations namely, Kota, Lucknow and Muzaffarnagar CoLk 11206 showed >10 % improvement for CCS yield.

Cane yield: CoPant 97222 was adjudged as the best among standards for cane yield (80.97 t/ha). Three test clones namely, CoLk 11206 (93.61 t/ha), CoS 11232 (83.56 t/ha) and CoLk 11204 (82.37 t/ha) showed numerically higher cane yield than the best standard but the percent improvement was >10 % only in CoLk 11206 (15.61 % improvement). At 5 locations (Kapurthala, Karnal, Lucknow, Muzaffarnagar and Shahjahanpur) this clone showed >10 % improvement over the best standard.

CCS % at harvest: CoS 8436 was best among the standard for CCS %. Its zonal mean was 12.61 %. None of the test clone recorded higher CCS % than CoS 8436.

Sucrose % at harvest: The standard CoS 8436 was the best in the zone for sucrose content (18.07 %). Among the test clones, Co 11027 recorded 18.05 % sucrose and was on par with that of CoS 8436. No other test clone were superior to the best standard for this trait.

By considering cane yield and juice quality, none of the entries was identified as qualifying entry.

Table 4.8.1 CCS yield (t/ha) at harvest

Sl No	Entries	Faridkot	Kapurthala	Karnal	Kota*	Lucknow	Muzaffar nagar	Shahjah anpur	Sriganga nagar*	Weighted Mean**	Rank
1	Co 11027	11.22	8.26	15.31	7.67	7.78	8.85	9.86	7.10	9.99	
2	CoH 11263	11.14	8.74	11.10	6.85	6.90	7.09	8.97	9.01	9.08	
3	CoLk 11204	11.83	9.84	13.40	8.74	9.44	8.19	9.04	7.97	10.15	3
4	CoLk 11206	11.59	9.49	16.35	8.18	12.66	10.57	10.05	9.90	11.58	1
5	CoPb 11214	10.64	9.17	12.56	7.53	8.71	8.96	9.40	8.83	9.87	
6	CoS 11232	11.35	9.91	9.46	7.42	9.15	11.20	10.02	9.43	10.22	
	Standards										
1	CoS 767	11.24	8.25	12.37	8.04	8.87	8.56	9.12	9.20	9.72	
2	CoS 8436	10.45	8.68	13.35	7.56	6.82	8.37	9.17	8.22	9.37	
3	CoPant 97222	12.94	7.96	14.14	7.28	9.78	7.85	9.07	9.21	10.16	2
	Mean	11.38	8.92	13.12	7.70	8.90	8.85	9.41	8.76	10.02	
Top three entries showing 10 % improvement over the best standard at each location											
	Rank 1				CoLk 11206	CoLk 11206	CoS 11232			CoLk 11206	
	Rank 2						CoLk 11206				
	Rank 3										

Note : * At Kota and Sriganganagar centres ratoon trials were failed, so values given here are mean of 2 plant crops alone. ** While calculating weighted mean for the zone, CCS yield of Kota centre was not considered since the mean cane yield of AVT (ML) II plant was lower than state average.

Table 4.8.2 Cane yield (t/ha) at harvest

Sl No	Entries	Faridkot	Kapurthala	Karnal	Kota*	Lucknow	Muzaffar nagar	Shahjahanpur	Sriganganagar*	Weighted Mean**	Rank
1	Co 11027	91.27	70.71	114.85	60.02	62.24	70.94	76.09	58.71	79.38	
2	CoH 11263	90.07	73.65	86.59	54.12	54.28	57.03	70.33	73.38	72.80	
3	CoLk 11204	97.33	81.06	102.79	68.25	79.80	66.70	72.47	69.10	82.37	3
4	CoLk 11206	94.24	83.06	124.36	63.27	102.15	84.44	81.73	85.69	93.61	1
5	CoPb 11214	91.56	78.67	97.19	57.05	72.34	74.11	74.12	76.49	80.97	
6	CoS 11232	96.75	87.72	71.98	54.09	76.00	90.49	78.23	77.42	83.56	2
	Standards										
1	CoS 767	92.66	71.31	97.36	67.27	76.57	70.24	73.50	79.33	80.56	
2	CoS 8436	79.76	75.09	101.68	63.12	54.37	66.46	65.92	67.48	73.72	
3	CoPant 97222	101.68	66.92	108.49	58.94	80.51	62.64	70.95	75.02	80.97	
	Mean	92.81	76.47	100.59	60.68	73.14	71.45	73.70	73.62	80.88	
Top three entries showing 10 % improvement over the best standard at each location											
	Rank 1		CoS 11232	CoLk 11206		CoLk 11206	CoS 11232	CoLk 11206		CoLk 11206	
	Rank 2		CoLk 11206				CoLk 11206				
	Rank 3										

Note : * At Kota and Sriganganagar centres ratoon trials were failed, so values given here are mean of 2 plant crops alone. ** While calculating weighted mean for the zone, cane yield of Kota centre was not considered since the mean yield of AVT (ML) II plant was lower than state average.

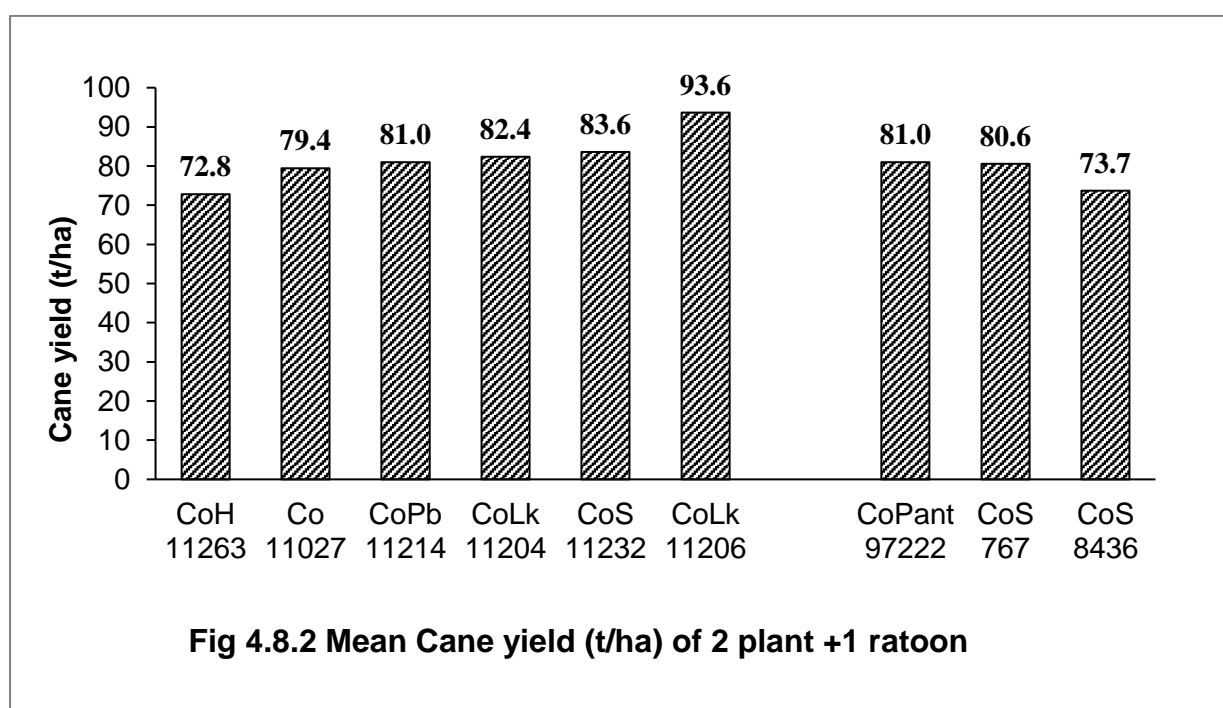
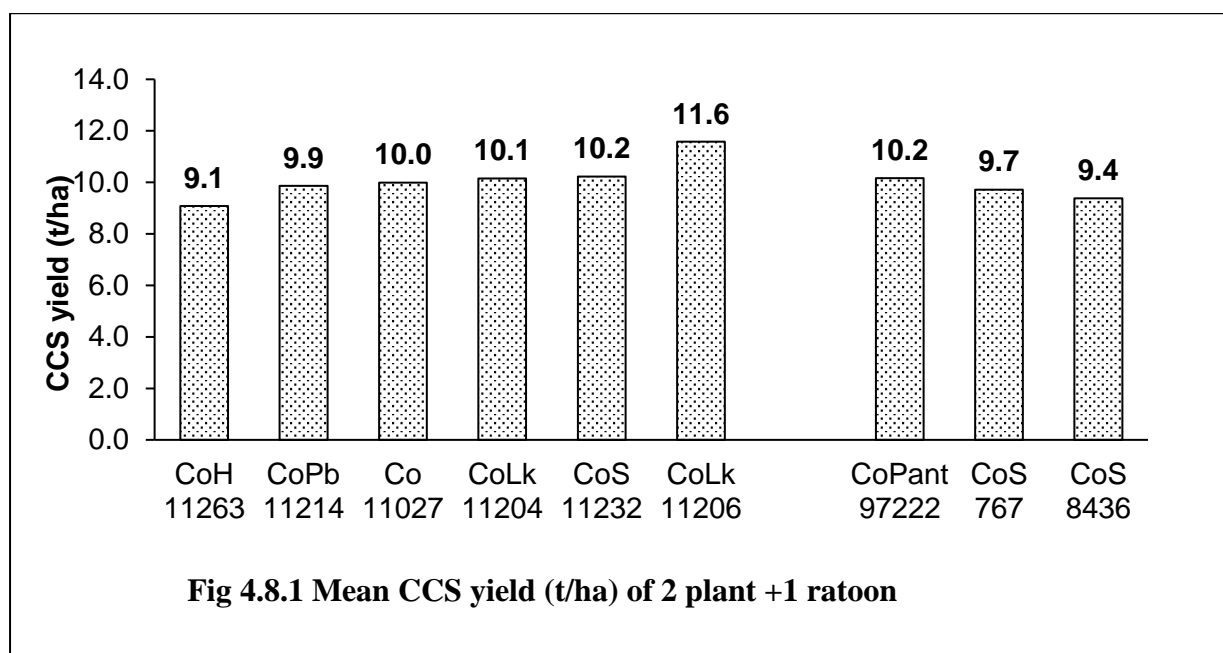
Table 4.8.3 CCS % at harvest

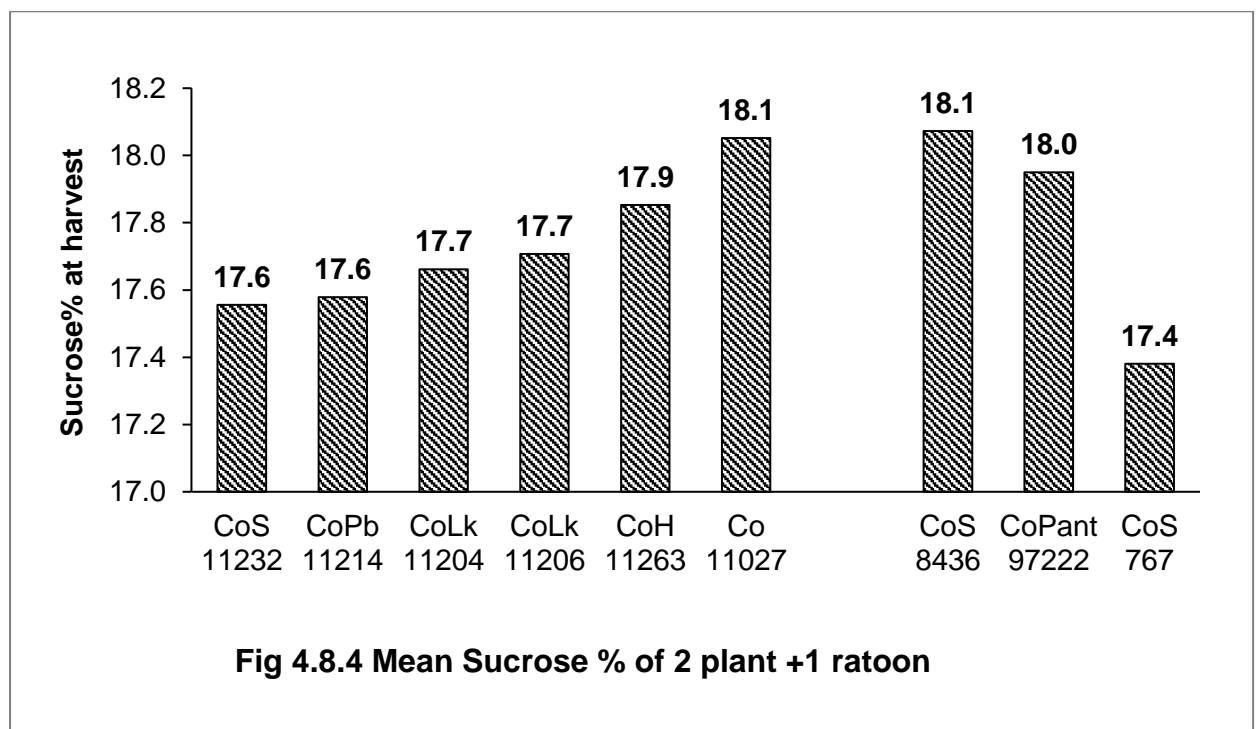
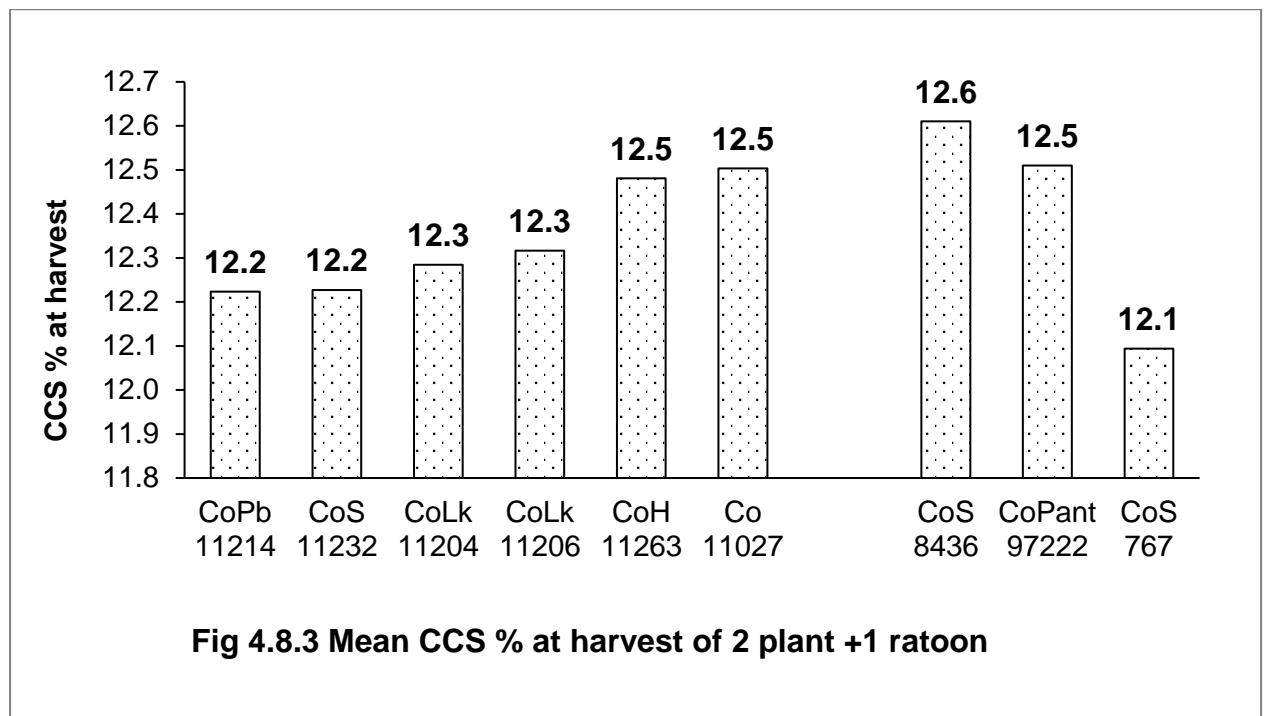
SI No	Entries	Faridkot	Kapurthala	Karnal	Kota*	Lucknow	Muzaffar nagar	Shahjahanpur	Sriganganagar*	Weighted Mean	Rank
1	Co 11027	12.24	11.95	13.28	12.61	12.46	12.45	12.90	12.04	12.50	3
2	CoH 11263	12.30	12.07	12.76	12.68	12.56	12.44	12.75	12.26	12.48	
3	CoLk 11204	12.14	12.28	13.07	12.61	11.87	12.25	12.39	11.53	12.28	
4	CoLk 11206	12.12	11.83	13.09	12.77	12.39	12.45	12.26	11.55	12.32	
5	CoPb 11214	11.46	12.28	12.92	13.00	12.00	12.02	12.60	11.55	12.22	
6	CoS 11232	11.70	11.64	13.15	12.00	12.03	12.25	12.74	12.17	12.23	
	Standards										
1	CoS 767	12.14	12.00	12.72	11.99	11.56	12.14	12.40	11.60	12.09	
2	CoS 8436	13.01	11.98	13.13	12.12	12.47	12.46	13.23	12.18	12.61	1
3	CoPant 97222	12.62	12.49	12.99	12.23	12.12	12.43	12.75	12.27	12.51	2
	Mean	12.19	12.06	13.01	12.44	12.16	12.32	12.67	11.90	12.36	
Top three entries showing 5 % improvement over the best standard at each location											
	Rank 1	-	-	-	CoPb 11214	-	-	-	-	-	
	Rank 2										
	Rank 3										

Note : * At Kota and Sriganganagar centres ratoon trials were failed, so values given here are mean of 2 plant crops alone

Table 4.8.4 Sucrose % at harvest

SI No	Entries	Faridkot	Kapurthala	Karnal	Kota*	Lucknow	Muzaffar nagar	Shahjahanpur	Sriganganagar*	Weighted Mean	Rank
1	Co 11027	17.77	17.40	18.83	18.45	17.82	18.08	18.58	17.37	18.05	2
2	CoH 11263	17.79	17.51	18.18	18.38	17.66	17.96	17.81	17.65	17.85	
3	CoLk 11204	17.42	17.40	18.52	18.28	17.01	17.50	17.88	17.41	17.66	
4	CoLk 11206	17.37	17.18	18.53	18.50	17.54	18.08	17.66	16.73	17.71	
5	CoPb 11214	16.49	17.48	18.33	18.92	17.20	17.49	18.22	16.66	17.58	
6	CoS 11232	16.75	16.84	18.58	17.45	16.48	17.79	18.38	17.49	17.56	
	Standards										
1	CoS 767	17.38	17.18	18.08	17.44	16.48	17.61	17.88	16.81	17.38	
2	CoS 8436	18.64	17.21	18.53	17.61	17.82	18.02	18.87	17.61	18.07	1
3	CoPant 97222	18.09	17.99	18.42	17.77	17.19	18.03	18.27	17.73	17.95	3
	Mean	17.52	17.35	18.44	18.09	17.24	17.84	18.17	17.27	17.76	
Top three entries showing 5 % improvement over the best standard at each location											
Rank 1	No clones showed >5 % improvement at any of the location										
Rank 2											
Rank 3											





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

Six entries, Co 11027, CoH 11263, CoLk 11204, CoLk 11206, CoPb 11214 and CoS 11232 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 8 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 1 to 3.

Results based on index of simultaneous selection for high CCS (t/ha) and stable genotypes revealed that standard, CoS 767 and the entries CoPb 11214 and CoLk 11204 were at first, second and third rank, respectively. Such a ranking differed with the ranking based only on mean data of CCS (t/ha) presented in Table 1. Considering top entries with high CCS (t/ha) and stable genotypes, none of the entries was superior than the standard, CoS 767.

Results based on index of simultaneous selection for cane yield (t/ha) and stable genotypes revealed that standard, CoS 767 and the entries CoLk 11204 and CoPb 11214 were at first, second and third rank, respectively. Such a ranking differed with the ranking based only on mean data of yield (t/ha) presented in Table 2. Considering top entries with high cane yield (t/ha) and stable genotypes, none of the entries was superior than the standard, CoS 767.

Results based on index of simultaneous selection for sucrose (%) and stable genotypes revealed that entries, Co 11027, CoPb 11214 and CoH 11263 were at first, second and third rank, respectively. Such a ranking differed with the ranking based only on mean data of sucrose content (Table 3). Considering top three entries with high sucrose and stable genotypes, Co 11027, CoPb 11214 and CoH 11263 were superior among the entries. All these entries were superior than the best standard CoPant 97222.

None of the entries was most stable genotypes and high yield for CCS (t/ha) and cane yield (t/ha) in midlate maturity group of North West Zone. All the entries recorded numerical equal sucrose (%) than best the standards, CoPant 97222.

Table 1 - 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 11027	1.11	9.51	14.90	7	5	7
CoH 11263	1.09	8.73	10.60	9	9	6
CoLk 11204	1.39	9.81	5.07	3	2	3
CoLk 11206	1.27	11.10	16.66	4	1	8
CoPb 11214	1.42	9.48	4.34	2	6	2
CoS 11232	1.09	9.74	25.57	8	4	9
Standards						
CoS 767	1.47	9.46	3.93	1	7	1
CoS 8436	1.22	9.08	6.80	5	8	4
CoPant 97222	1.20	9.78	10.48	6	3	5

Table 2 - 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 11027	1.09	75.60	822.57	7	7	7
CoH 11263	1.08	69.93	540.21	8	9	4
CoLk 11204	1.49	79.69	214.37	2	2	2
CoLk 11206	1.27	89.87	875.47	4	1	8
CoPb 11214	1.40	77.69	250.68	3	6	3
CoS 11232	1.08	79.09	1642.43	9	3	9
Standards						
CoS 767	1.57	78.53	177.51	1	4	1
CoS 8436	1.10	71.74	549.07	6	8	5
CoPant 97222	1.16	78.14	653.66	5	5	6

Table 3 - 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 11027	1.31	18.04	2.30	1	2	1
CoH 11263	1.28	17.87	2.39	3	4	4
CoLk 11204	1.28	17.68	2.30	2	6	2
CoLk 11206	1.24	17.70	2.70	6	5	6
CoPb 11214	1.17	17.60	3.64	9	7	9
CoS 11232	1.22	17.47	2.76	7	8	7
Standards						
CoS 767	1.26	17.36	2.37	5	9	3
CoS 8436	1.22	18.04	3.34	8	1	8
CoPant 97222	1.26	17.94	2.67	4	3	5

4.9 ADVANCED VARIETAL TRIAL (MIDLATE) - I 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
Standard (3)	CoS 767, CoS 8436 and CoPant 97222
Design	RBD
Replications	3
Plot size	Gross : 8 Rows x 6m x 0.75 m Net : 6 Rows x 5 m x 0.75 m
Bud rate	12 buds/ metre
Planting time	February / March, 2016
Crop duration	12 months

Results of the previous year

During 2015-16, fifteen entries were evaluated in IVT (ML) trial along with three standards. CoPant 12226 was the top ranked entry in the zone for CCS yield (12.11 t/ha) as well as for cane yield (99.44 t/ha). Co 12029 ranked 2nd for cane and sugar yield. Its CCS yield was 11.99 t/ha and cane yield was 96.89 t/ha. The 3rd, 4th and 5th ranked entries in the zone for CCS yield, respectively were CoPb 12182 (11.73 t/ha), CoS 12232 (11.39 t/ha) and Co 12028 (11.18 t/ha). Their CCS yield were higher than that of the best standard CoS 8436 (9.71 t/ha). For juice quality, Co 12028 was the top ranked entry with CCS % of 12.92 % and sucrose % of 18.52. The next best entry for juice quality was CoH 12262. However, on the basis of red rot reaction, yield and quality traits, 9 clones *viz.*, Co 12028, CoH 12262, CoLk 12206, CoPant 12223, CoPant 12224, CoPant 12225, CoPb 12181, CoPb 12182, CoPb 12212 were rejected and the remaining six (Co 12029, CoH 12263, CoLk 12205, CoPant 12226, CoPb 12211 and CoS 12232) were advanced to AVT (ML)-I Plant trial.

Results of the current year

In the AVT (ML)-I plant trial of 2016-17 season, the mean cane yield of best standard CoPant 97222 in the zone was 82.27 t/ha. Two entries showed >10 % improvement in cane yield over the best standard CoPant 97222. They were CoPant 12226 (99.07 t/ha) and Co 12029 (94.21 t/ha). The mean CCS yield of the best standard CoPant 97222 was 10.37 t/ha. The two test clones which showed higher cane yield 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 % (13.04) 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. As per the criteria, CoPant 12226 was selected as qualifying entry which recorded >10 % improvement for cane yield and numerically superior for juice sucrose content in comparison to CoPant 97222. 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	Karnal	Kota	Lucknow	Muzaffar nagar	Pantnagar	Shahja hanpur	Sriganga nagar	Mean	Rank
1	Co 12029	14.31	9.94	18.21	11.24	9.58	12.15	6.87	11.45	12.82	11.84	2
2	CoH 12263	14.00	8.49	9.19	11.43	6.75	10.23	8.33	10.21	9.35	9.78	
3	CoLk 12205	12.62	9.16	10.11	11.12	11.27	11.16	8.96	10.61	11.79	10.76	
4	CoPant 12226	17.47	9.25	15.02	11.82	8.64	13.12	14.39	11.41	12.31	12.60	1
5	CoPb 12211	14.79	8.47	11.88	10.29	6.00	9.38	5.76	8.45	8.29	9.26	
6	CoS 12232	14.84	8.59	14.72	11.20	6.02	13.35	7.55	11.36	11.17	10.98	3
	Standards											
1	CoS 767	12.32	8.14	10.09	9.93	8.77	9.45	10.79	9.75	9.85	9.90	
2	CoS 8436	12.10	8.50	12.17	9.54	5.44	9.83	8.15	9.18	8.95	9.32	
3	CoPant 97222	14.86	8.06	14.59	9.71	8.54	9.04	8.93	9.18	10.44	10.37	
	Mean	14.15	8.73	12.89	10.70	7.89	10.86	8.86	10.18	10.55	10.53	
	SE(m)	0.62		1.37	0.31	0.65	0.88	0.19	0.55			
	CD at 5%	1.86	0.93	2.94	0.91	10.06	1.86	0.56	1.17	1.38		
	CV	7.58	6.20	13.05	7.86	1.37	9.97	3.64	6.64	8.42		
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	CoS 12232	CoPant 12226		Co 12029	CoPant 12226	
Rank 2					CoH 12263		CoPant 12226			CoPant 12226	Co 12029	
Rank 3					Co 12029		Co 12029			CoLk 12205		

No. of locations where an entry is showing >10 % improvement: Co 12029 (5), CoPant 12226 (5), CoLk 12205 (4), CoS 12232 (2) and CoH 12263 (1).

Performance across locations: Two entries showed >10 % improvement for CCS yield over the best standard CoPant 97222 (10.37 t/ha). They were:- CoPant 12226 (12.60 t/ha) and Co 12029 (11.84 t/ha).

Table 4.9.2 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	115.19	86.40	126.23	92.73	77.58	91.35	58.33	91.60	108.45	94.21	2
2	CoH 12263	109.26	80.40	66.17	91.37	56.53	77.53	68.98	80.46	80.38	79.01	
3	CoLk 12205	104.07	84.28	78.66	92.67	94.70	84.94	73.70	88.40	94.71	88.46	3
4	CoPant 12226	133.33	83.02	109.18	94.77	67.15	99.87	108.52	90.86	104.92	99.07	1
5	CoPb 12211	124.07	79.78	84.04	85.97	51.87	72.47	46.94	70.62	72.83	76.51	
6	CoS 12232	121.85	73.10	104.06	92.10	47.99	101.11	59.17	90.99	89.50	86.65	
	Standards											
1	CoS 767	98.89	69.63	73.33	80.13	73.58	72.10	88.52	76.79	85.56	79.84	
2	CoS 8436	87.04	72.56	86.07	78.60	44.05	73.21	62.59	69.63	73.34	71.90	
3	CoPant 97222	119.63	68.13	105.69	79.23	71.40	67.53	72.87	73.70	82.27	82.27	
	Mean	112.59	77.48	92.60	87.51	64.98	82.23	71.07	81.45	88.00	84.21	
	SE(m)	5.3		8.93	1.67	4.65	4.77	1.41	6.23			
	CD at 5%	15.88	7.48	19.09	4.87	8.77	10.11	4.24	13.20	9.76		
	CV	8.15	5.59	11.81	5.15	9.86	7.10	3.45	9.52	8.79		
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	CoS 12232	CoPant 12226	Co 12029	Co 12029	CoPant 12226	
Rank 2			CoLk 12205		Co 12029		CoPant 12226		CoS 12232	CoPant 12226	Co 12029	
Rank 3			CoPant 12226		CoLk 12205		Co 12029		CoPant 12226	CoLk 12205		

No. of locations where an entry is showing >10 % improvement: CoPant 12226 (7), Co 12029 (6), CoLk 12205 (6), CoS 12232 (3) and CoH 12263 (2).

Performance across locations: Two entries showed more than 10 % improvement for cane yield over the best standard CoPant 97222 (82.27 t/ha). They were: CoPant 12226 (99.07 t/ha) and Co 12029 (94.21 t/ha).

Table 4.9.3 CCS % at harvest

SI No	Entries	Faridkot	Kapurthala	Karnal	Kota	Lucknow	Muzaffar nagar	Pantnagar	Shahjahanpur	Sriganganagar	Mean	Rank
1	Co 12029	12.42	11.95	14.43	12.13	12.33	13.31	11.78	12.50	11.82	12.52	
2	CoH 12263	12.82	12.30	13.89	12.51	11.89	13.20	12.08	12.64	11.63	12.55	
3	CoLk 12205	12.12	12.71	12.89	11.99	11.90	13.14	12.17	11.99	12.44	12.37	
4	CoPant 12226	13.10	12.87	13.75	12.48	12.88	13.14	13.26	12.55	11.73	12.86	2
5	CoPb 12211	11.92	11.99	14.09	11.97	11.57	12.95	12.27	11.96	11.38	12.23	
6	CoS 12232	12.20	12.38	14.12	12.26	12.52	13.27	12.76	12.49	12.48	12.72	3
	Standards											
1	CoS 767	12.46	12.93	13.74	12.40	11.95	13.11	12.20	12.69	11.51	12.55	
2	CoS 8436	13.91	12.96	14.15	12.15	12.33	13.44	13.02	13.18	12.21	13.04	1
3	CoPant 97222	12.43	12.30	13.80	12.25	11.99	13.39	12.25	12.45	12.70	12.62	
	Mean	12.60	12.49	13.87	12.24	12.15	13.22	12.42	12.49	11.99	12.61	
	SE(m)	0.14		0.34	0.11	0.35	0.25	0.22	0.26			
	CD at 5%	0.42	0.47	0.74	0.33	3.49	NS	0.65	0.55	0.45		
	CV	1.94	2.19	3.06	2.53	0.73	2.35	3.03	2.54	1.72		
Top three entries showing 5 % improvement over the best standard at each location												
Rank 1	No clones showed 5 % and above improvement over the best standard											
Rank 2												
Rank 3												

No. of locations where an entry is showing >5 % improvement: No clones showed >5 % improvement over the best standard for CCS %.

Performance across locations: Highest CCS % at harvest was recorded by the standard CoS 8436 (13.04 %). No test clone was numerically superior to the best standard. However, CoPant 12226 was numerically superior (12.86 %) to the standard CoPant 97222.

Table 4.9.4 Sucrose % at harvest

Sl No	Entries	Faridkot	Kapurthala	Karnal	Kota	Lucknow	Muzaffar nagar	Pantnagar	Shahja hanpur	Sriganga nagar	Mean	Rank
1	Co 12029	17.90	17.20	20.58	17.63	17.71	19.23	17.18	18.09	17.15	18.07	
2	CoH 12263	18.42	17.76	19.64	18.14	17.07	19.10	17.49	18.27	16.73	18.07	
3	CoLk 12205	17.38	18.25	18.36	17.45	17.23	19.24	17.63	17.38	18.05	17.89	
4	CoPant 12226	18.67	18.52	19.31	18.11	18.45	18.98	19.19	18.16	17.21	18.51	2
5	CoPb 12211	17.08	17.55	19.82	17.42	16.75	18.69	17.84	17.91	16.59	17.74	
6	CoS 12232	17.54	17.94	19.95	17.80	17.94	19.22	18.48	18.02	18.12	18.33	3
	Standards											
1	CoS 767	18.03	18.54	19.30	18.00	17.14	19.01	17.70	18.33	16.75	18.09	
2	CoS 8436	19.85	18.58	20.08	17.66	17.73	19.41	18.88	18.87	17.65	18.75	1
3	CoPant 97222	17.70	17.66	19.49	17.80	17.24	19.37	17.77	18.02	18.37	18.16	
	Mean	18.06	18.00	19.61	17.78	17.47	19.14	18.02	18.12	17.40	18.18	
	SE(m)	0.19		0.34	0.15	0.45	0.33	0.3	0.28			
	CD at 5%	0.56	0.65	0.72	0.45	3.14	NS	0.89	0.59	0.58		
	CV	1.78	2.10	2.11	2.33	0.95	2.12	2.85	1.87	1.81		
Top three entries showing 5 % improvement over the best standard at each location												
Rank 1	No clones showed 5 % and above improvement over the best standard											
Rank 2												
Rank 3												

No. of locations where an entry is showing >5 % improvement: No clones showed >5 % improvement over the best standard for sucrose% at any of the Centre.

Performance across locations: Highest sucrose % was recorded by the standard CoS 8436 (18.75 %). No test entry was superior to the best standard.

Table 4.9.5 Brix % at harvest

Sl No	Entries	Faridkot	Kapurthala	Karnal	Kota	Lucknow	Muzaffarnagar	Pantnagar	Shahjahanpur	Sriganganagar	Mean
1	Co 12029	20.10	19.28	22.63	20.17	19.78	21.72	19.80	20.46	19.53	20.39
2	CoH 12263	20.57	20.02	21.17	20.67	19.01	21.65	19.83	20.66	18.71	20.25
3	CoLk 12205	19.30	20.35	20.13	20.00	19.55	21.69	20.03	19.78	20.55	20.15
4	CoPant 12226	20.50	20.75	20.50	20.97	20.46	21.45	21.73	20.55	20.05	20.77
5	CoPb 12211	18.93	20.35	21.13	19.97	19.00	21.39	20.43	20.31	19.08	20.07
6	CoS 12232	19.60	20.37	21.47	20.67	19.93	21.82	21.03	20.41	20.67	20.66
	Standards										
1	CoS 767	20.43	20.62	20.53	20.53	19.04	21.62	20.17	20.70	19.18	20.31
2	CoS 8436	21.83	20.65	21.87	20.20	19.85	21.92	21.50	21.22	19.96	21.00
3	CoPant 97222	19.37	19.69	20.97	20.33	19.30	21.95	20.27	20.41	20.81	20.34
	Mean	20.07	20.23	21.16	20.39	19.55	21.69	20.53	20.50	19.84	20.44
	SE(m)	0.20		0.43	0.18	0.42	0.33	0.33	0.27		
	CD at 5%	0.60	0.87	0.91	0.53	2.65	NS	1.00	0.58	0.79	
	CV	1.73	2.49	2.47	2.42	0.90	1.87	2.81	1.63	2.51	

Table 4.9.6 Purity % at harvest

Sl No	Entries	Faridkot	Kapurthala	Karnal	Kota	Lucknow	Muzaffarnagar	Pantnagar	Shahjahanpur	Sriganganagar	Mean
1	Co 12029	89.05	89.21	91.10	87.41	89.58	88.53	86.77	88.36	87.81	88.65
2	CoH 12263	89.56	88.71	92.87	87.98	89.81	88.22	88.18	88.43	89.41	89.24
3	CoLk 12205	90.04	89.69	91.18	87.25	88.57	87.88	88.00	87.87	87.83	88.70
4	CoPant 12226	91.09	89.25	94.24	87.99	90.28	88.50	88.29	88.34	86.08	89.34
5	CoPb 12211	90.20	86.21	93.90	84.93	88.15	87.38	87.33	88.18	86.94	88.14
6	CoS 12232	89.47	88.13	92.92	87.54	90.05	88.08	87.75	88.29	87.66	88.88
	Standards										
1	CoS 767	88.26	89.95	94.07	87.68	90.00	87.90	87.76	88.53	87.36	89.06
2	CoS 8436	90.91	89.99	91.99	87.43	89.35	88.58	87.81	88.91	88.42	89.27
3	CoPant 97222	91.39	89.69	93.02	87.54	89.32	88.25	87.68	88.26	88.30	89.27
	Mean	90.00	88.98	92.81	87.31	89.46	88.15	87.73	88.35	87.76	88.95
	SE(m)	0.47			0.84	0.90	0.60	0.44	0.19		
	CD at 5%	1.41	2.01	NS	2.44	1.24	NS	1.33	0.40	1.82	
	CV	0.91	1.31	0.00	2.58	NS	0.84	0.87	0.26	1.46	

Table 4.9.7 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	13.19	15.89	13.82	14.23	13.59	14.14	10.95	12.80	11.99	13.94	15.41	13.02
2	CoH 12263	13.85	15.21	13.35	14.07	13.73	14.04	10.86	12.53	11.80	14.20	15.30	12.94
3	CoLk 12205	14.15	14.16	13.31	14.32	13.10	13.81	14.94	12.87	12.72	14.09	15.36	14.00
4	CoPant 12226	13.30	14.79	14.26	13.94	13.69	14.00	11.08	13.40	12.69	14.36	15.27	13.36
5	CoPb 12211	12.76	14.77	12.64	13.57	13.66	13.48	12.42	15.47	14.55	14.90	15.09	14.49
6	CoS 12232	13.90	14.99	13.88	14.16	13.75	14.14	14.05	14.87	12.62	14.32	15.24	14.22
	Standards												
1	CoS 767	13.95	14.74	13.27	13.96	13.62	13.91	13.81	13.67	12.56	14.07	15.46	13.91
2	CoS 8436	14.40	15.61	14.03	14.14	14.12	14.46	14.46	12.27	10.87	13.96	14.96	13.30
3	CoPant 97222	13.96	15.09	13.34	14.21	13.71	14.06	13.49	12.60	12.76	14.13	15.19	13.63
	Mean	13.72	15.03	13.54	14.07	13.66	14.00	12.90	13.39	12.51	14.22	15.25	13.65
	SE(m)		0.27	0.41					0.22	1.06			
	CD at 5%	0.76	0.58	3.71	-	-		0.70	0.47	10.42	-	-	
	CV	3.21	2.22	0.87	-	-		3.17	2.01	NS	-	-	

Table 4.9.8 Juice extraction % at 12th month

Sl No	Entries	Faridkot	Kapurthala	Karnal	Kota	Lucknow	Muzaffarnagar	Pantnagar	Shahjahanpur	Sriganganagar	Mean
1	Co 12029	55.88	58.50	57.21	38.03	49.35	52.43		52.18	50.29	51.73
2	CoH 12263	55.17	55.33	53.71	44.93	46.39	51.68		55.82	49.87	51.61
3	CoLk 12205	58.11	58.57	50.87	45.40	49.34	48.75		52.49	52.36	51.99
4	CoPant 12226	55.48	54.23	53.43	42.33	49.03	49.04		53.04	51.41	51.00
5	CoPb 12211	62.33	57.50	44.09	43.83	52.28	45.45		54.38	51.32	51.40
6	CoS 12232	57.92	60.19	51.20	44.17	54.59	48.15		53.33	50.54	52.51
	Standards										
1	CoS 767	57.04	56.29	50.51	50.43	45.94	52.85		53.92	52.46	52.43
2	CoS 8436	54.63	57.46	57.37	43.87	50.05	50.00		57.53	51.18	52.76
3	CoPant 97222	58.53	56.26	52.35	43.43	54.31	48.39		56.45	51.27	52.62
	Mean	57.23	57.15	52.30	44.05	50.14	49.64		54.35	51.19	52.01
	SE(m)	0.75		2.61	1.20	3.95			1.23		
	CD at 5%	2.24	NS	5.58	3.50	9.65	-		2.60	1.78	
	CV	2.26	5.14	6.11	7.37	NS	-		2.77	2.86	

Table 4.9.9 Brix % at 10th month

Sl No	Entries	Faridkot	Kapurthala	Karnal	Kota	Lucknow	Muzaffarnagar	Pantnagar	Shahjahanpur	Sriganganagar	Mean
1	Co 12029	17.37	18.60	19.57	18.40	19.54	19.32	17.87	19.04	17.77	18.61
2	CoH 12263	17.53	17.14	18.30	19.33	17.01	18.95	18.63	18.65	16.48	18.00
3	CoLk 12205	15.67	17.92	19.10	19.47	18.49	19.05	18.53	17.93	18.32	18.28
4	CoPant 12226	17.93	17.70	17.37	17.80	19.92	18.48	19.20	19.39	18.27	18.45
5	CoPb 12211	17.20	17.36	19.13	19.43	18.06	18.33	18.23	18.35	17.37	18.16
6	CoS 12232	17.70	19.02	19.00	19.43	19.50	18.32	19.10	19.19	18.27	18.84
	Standards										
1	CoS 767	18.93	18.68	18.80	19.80	18.13	18.95	18.43	18.84	17.80	18.71
2	CoS 8436	19.13	18.56	19.37	18.83	19.17	19.58	19.50	19.73	17.60	19.05
3	CoPant 97222	19.10	18.98	19.30	19.57	19.43	19.60	18.73	19.78	18.44	19.21
	Mean	17.84	18.22	18.88	19.12	18.81	18.95	18.69	18.99	17.81	18.59
	SE(m)	0.16		0.34	0.13	0.65	0.35	0.31	0.23		
	CD at 5%	0.49	1.00	0.72	0.37	4.24	0.74	0.92	0.48	0.68	
	CV	1.58	3.19	2.18	1.78	1.38	2.25	2.85	1.46	1.97	

Table 4.9.10 Sucrose % at 10th month

Sl No	Entries	Faridkot	Kapurthala	Karnal	Kota	Lucknow	Muzaffarnagar	Pantnagar	Shahjahanpur	Sriganganagar	Mean
1	Co 12029	15.55	16.56	18.34	15.80	17.31	16.81	14.89	16.47	15.16	16.32
2	CoH 12263	15.66	15.24	17.42	16.77	14.45	16.23	15.41	16.04	14.22	15.72
3	CoLk 12205	13.80	15.78	17.34	16.90	15.66	16.54	15.48	15.27	15.70	15.83
4	CoPant 12226	15.86	15.95	17.19	15.19	17.94	15.56	16.16	16.84	15.50	16.24
5	CoPb 12211	15.35	15.36	15.13	16.87	15.81	15.79	15.35	15.74	14.01	15.49
6	CoS 12232	15.82	16.94	16.32	16.87	17.18	15.64	15.93	16.63	15.68	16.33
	Standards										
1	CoS 767	17.00	16.78	16.97	17.25	15.80	16.37	15.16	16.26	15.46	16.34
2	CoS 8436	17.06	16.78	17.72	16.25	16.88	17.06	16.31	17.21	15.01	16.70
3	CoPant 97222	17.02	17.00	17.73	17.00	16.59	17.08	15.88	17.26	16.01	16.84
	Mean	15.90	16.27	17.13	16.54	16.40	16.34	15.62	16.41	15.19	16.20
	SE(m)	0.17		0.49	0.13	0.82	0.37	0.33	0.24		
	CD at 5%	0.52	0.89	1.04	0.38	6.15	0.79	0.98	0.51	0.52	
	CV	1.88	3.18	3.46	2.13	1.75	2.79	3.64	1.81	1.67	

Table 4.9.11 Purity % at 10th month

Sl No	Entries	Faridkot	Kapurthala	Karnal	Kota	Lucknow	Muzaffarnagar	Pantnagar	Shahjahanpur	Sriganganagar	Mean
1	Co 12029	89.54	88.96	93.11	85.89	88.56	86.87	83.29	86.50	85.29	87.56
2	CoH 12263	89.29	88.94	91.20	86.72	84.98	86.10	82.67	85.98	86.31	86.91
3	CoLk 12205	88.09	88.12	90.62	86.83	83.33	86.80	83.51	85.27	85.72	86.48
4	CoPant 12226	88.44	90.16	90.48	85.31	89.84	84.16	84.15	86.83	84.84	87.13
5	CoPb 12211	89.26	88.18	87.11	86.79	87.53	86.14	84.17	85.74	85.59	86.72
6	CoS 12232	89.38	89.06	89.58	86.81	88.08	85.39	83.39	86.53	85.84	87.12
	Standards										
1	CoS 767	89.77	89.85	90.24	87.11	87.08	86.35	82.25	86.27	86.91	87.31
2	CoS 8436	89.17	90.41	91.50	86.29	88.09	87.13	83.62	87.26	85.34	87.65
3	CoPant 97222	89.09	89.57	91.85	86.92	88.51	87.30	84.77	87.39	86.83	88.03
	Mean	89.11	89.25	90.63	86.52	87.33	86.25	83.54	86.42	85.85	87.21
	SE(m)	0.42		1.16	0.11	1.65	0.62	0.56	0.30		
	CD at 5%	1.27	NS	2.49	0.33	2.31	1.32	1.69	0.63	1.74	
	CV	0.82	1.91	1.57	0.35	3.49	0.89	1.17	0.42	1.22	

Table 4.9.12 CCS % at 10th month

Sl No	Entries	Faridkot	Kapurthala	Karnal	Kota	Lucknow	Muzaffarnagar	Pantnagar	Shahjahanpur	Sriganganagar	Mean
1	Co 12029	10.82	11.49	12.99	10.78	11.99	11.53	10.00	11.27	10.30	11.24
2	CoH 12263	10.88	10.57	12.23	11.49	9.80	11.08	10.30	10.94	9.72	10.78
3	CoLk 12205	9.53	10.89	12.13	11.42	10.61	11.34	10.41	10.39	10.70	10.82
4	CoPant 12226	10.97	11.14	12.02	10.33	12.52	10.50	10.91	11.55	10.51	11.16
5	CoPb 12211	10.67	10.61	10.40	11.57	10.88	10.79	10.36	10.72	9.25	10.58
6	CoS 12232	11.00	11.76	11.85	11.57	11.86	10.64	10.70	11.39	10.69	11.27
	Standards										
1	CoS 767	11.84	11.70	11.85	11.87	10.86	11.20	10.11	11.11	10.60	11.24
2	CoS 8436	11.85	11.73	12.46	11.11	11.65	11.72	10.97	11.83	10.20	11.50
3	CoPant 97222	11.81	11.83	12.48	11.66	11.28	11.73	10.76	11.86	10.98	11.60
	Mean	11.04	11.30	12.05	11.31	11.27	11.17	10.50	11.23	10.33	11.13
	SE(m)	0.13		0.41	0.12	0.75	0.28	0.25	0.18		
	CD at 5%	0.40	0.69	0.86	0.36	8.17	0.59	0.75	0.38	0.46	
	CV	2.11	3.53	4.11	2.98	NS	3.05	4.11	1.97	2.81	

Table 4.9.13 NMC at harvest ('000/ha)

Sl No	Entries	Faridkot	Kapurthala	Karnal	Kota	Lucknow	Muzaffarnagar	Pantnagar*	Shahjahanpur	Sriganganagar	Mean
1	Co 12029	107.96	96.61	97.53	83.07	116.36	104.93	45.46	114.32	104.28	96.72
2	CoH 12263	107.22	82.82	67.90	84.07	72.99	109.87	44.44	102.47	88.41	84.47
3	CoLk 12205	112.22	94.26	88.12	74.77	113.27	114.94	50.65	112.35	98.36	95.44
4	CoPant 12226	105.37	91.28	98.30	82.13	77.39	120.61	72.13	108.20	109.72	96.13
5	CoPb 12211	111.11	84.45	80.56	73.57	89.43	110.49	45.00	94.94	86.84	86.27
6	CoS 12232	127.59	82.88	100.23	82.00	65.97	117.40	41.57	100.00	99.93	90.84
	Standards										
1	CoS 767	111.30	89.31	75.70	85.73	92.59	107.90	71.02	101.85	94.16	92.17
2	CoS 8436	97.04	80.12	84.49	77.40	82.30	95.06	57.41	98.40	87.43	84.41
3	CoPant 97222	102.04	95.50	91.90	82.17	83.56	111.35	47.59	97.16	92.62	89.32
	Mean	109.09	88.58	87.19	80.55	88.21	110.28	52.81	103.30	95.75	90.64
	SE(m)	5.15		4.33	1.60	6.17	4.51	1.54	5.66		
	CD at 5%	15.44	6.87	9.27	4.64	8.56	9.57	4.61	11.99	11.29	
	CV	8.17	4.48	6.09	5.34	13.07	5.01	5.05	6.71	8.51	

* The number of millable canes recorded at Pantnagar centre appears to be low.

Table 4.9.14 Stalk length (cm)

Sl No	Entries	Faridkot	Kapurthala	Karnal	Kota	Lucknow	Muzaffarnagar	Pantnagar	Shahjahanpur	Sriganganagar	Mean
1	Co 12029	268.33	263.00	240.00	241.00	233.33	222.00	205.00	229.00	222.76	236.05
2	CoH 12263	237.22	295.00	213.33	253.00	181.67	192.00	229.00	227.00	204.65	225.87
3	CoLk 12205	296.67	285.00	245.00	287.00	238.33	245.00	284.00	249.00	210.94	260.10
4	CoPant 12226	313.33	290.00	236.67	291.00	183.33	258.00	274.00	245.00	234.82	258.46
5	CoPb 12211	327.22	302.00	261.67	265.00	190.00	208.00	211.00	210.00	204.71	242.18
6	CoS 12232	277.78	277.00	273.33	235.00	195.00	225.00	225.00	235.00	221.43	240.50
	Standards										
1	CoS 767	266.11	265.00	226.67	217.00	211.67	205.00	246.00	238.00	208.21	231.52
2	CoS 8436	185.55	227.00	183.33	256.00	143.33	157.00	156.00	161.00	189.34	184.28
3	CoPant 97222	284.44	283.00	283.33	218.00	196.67	192.00	233.00	193.00	196.24	231.08
	Mean	272.96	276.33	240.37	251.44	197.04	211.56	229.22	220.78	210.34	234.45
	SE(m)	6.97		17.60	0.02	6.95	1.60	1.70	8.67		
	CD at 5%	20.91	31.00	37.63	7.00	43.20	35.00	5.20	18.39	15.16	
	CV	4.42	6.65	8.97	2.44	14.73	9.58	13.14	4.39	6.68	

Table 4.9.15 Stalk diameter (cm)

Sl No	Entries	Faridkot	Kapurthala	Karnal	Kota	Lucknow	Muzaffarnagar	Pantnagar	Shahjahanpur	Sriganganagar	Mean
1	Co 12029	2.79	2.32	2.71	2.15	2.37	2.37	2.42	2.43	2.28	2.43
2	CoH 12263	2.86	2.67	2.47	2.14	2.21	2.40	2.70	2.51	2.41	2.49
3	CoLk 12205	2.55	2.37	2.35	2.39	2.12	2.33	2.58	2.30	2.19	2.35
4	CoPant 12226	2.70	2.47	2.50	1.87	2.42	2.13	2.66	2.46	2.36	2.40
5	CoPb 12211	2.55	2.33	2.31	2.07	2.14	1.97	2.27	2.25	2.28	2.24
6	CoS 12232	2.49	2.50	2.31	2.25	2.10	2.13	2.39	2.43	2.24	2.32
	Standards										
1	CoS 767	2.62	2.17	2.42	2.23	2.20	2.03	2.46	2.36	2.19	2.30
2	CoS 8436	2.60	2.20	2.65	2.01	2.43	2.40	2.66	2.48	2.38	2.42
3	CoPant 97222	2.71	2.20	2.61	1.81	2.14	2.30	2.67	2.18	2.33	2.33
	Mean	2.65	2.36	2.48	2.10	2.24	2.23	2.53	2.38	2.30	2.36
	SE(m)	0.06		0.10	0.05	0.08	0.13	0.11	0.08		
	CD at 5%	0.18	NS	0.21	0.16	4.65	0.28	0.33	0.18	0.11	
	CV	3.86	8.96	4.84	7.14	0.18	7.37	7.48	4.33	2.69	

Table 4.9.16 Single cane weight (kg)

Sl No	Entries	Faridkot	Kapurthala	Karnal	Kota	Lucknow	Muzaffarnagar	Pantnagar	Shahjahanpur	Sriganganagar	Mean
1	Co 12029	1.18	1.31	1.29	0.83	0.67	0.93	1.26	1.03	0.94	1.05
2	CoH 12263	1.12	1.66	0.97	1.24	0.78	0.78	1.53	0.67	0.92	1.07
3	CoLk 12205	1.07	1.39	0.89	0.86	0.84	0.81	1.45	0.91	0.89	1.01
4	CoPant 12226	1.38	1.58	1.11	1.09	0.88	0.85	1.66	0.92	0.98	1.16
5	CoPb 12211	1.24	1.32	1.04	1.19	0.58	0.67	1.02	0.82	0.84	0.97
6	CoS 12232	1.06	1.12	1.04	0.99	0.73	0.88	1.41	0.94	0.92	1.01
	Standards										
1	CoS 767	1.04	1.04	0.97	0.70	0.79	0.74	1.24	0.74	0.88	0.91
2	CoS 8436	0.93	0.94	1.02	0.77	0.54	0.86	1.08	0.80	0.85	0.87
3	CoPant 97222	1.17	1.10	1.15	0.87	0.86	0.66	1.51	0.90	0.87	1.01
	Mean	1.13	1.27	1.05	0.95	0.74	0.80	1.35	0.86	0.90	1.01
	SE(m)	0.09		0.07	0.03	0.04	0.03	0.05	0.07		
	CD at 5%	0.27	0.33	0.15	0.09	6.53	0.06	0.14	0.15	0.08	
	CV	13.53	15.31	8.25	8.69	0.08	4.25	6.17	10.05	5.48	

Table 4.9.17 Number of tillers at 120 days (*000/ha)

Sl No	Entries	Faridkot	Kapurthala	Karnal	Kota	Lucknow	Muzaffarnagar	Pantnagar	Shahjahanpur	Sriganganagar	Mean
1	Co 12029	139.44	125.46	122.45	116.57	129.01	212.71	67.69	197.28	154.29	140.54
2	CoH 12263	128.15	107.72	92.59	115.60	100.63	193.20	53.61	171.73	139.63	122.54
3	CoLk 12205	133.33	122.45	115.20	115.97	137.89	206.41	82.31	204.44	133.74	139.08
4	CoPant 12226	116.11	118.60	125.15	117.60	96.06	215.55	96.11	201.36	161.81	138.71
5	CoPb 12211	152.22	109.80	107.02	118.33	103.79	159.62	49.44	173.09	134.16	123.05
6	CoS 12232	181.48	106.87	129.40	115.03	81.80	209.38	51.02	185.68	149.29	134.44
	Standards										
1	CoS 767	136.11	116.51	92.83	116.77	112.96	213.45	103.43	171.60	143.76	134.16
2	CoS 8436	132.59	104.17	115.51	119.70	92.20	190.36	68.98	199.26	134.91	128.63
3	CoPant 97222	151.67	125.39	104.09	111.17	98.46	183.82	53.98	189.26	141.45	128.81
	Mean	141.23	115.22	111.58	116.30	105.87	198.28	69.62	188.19	143.67	132.22
	SE(m)	5.31		7.55	1.33	4.61	6.44	1.49	11.30		
	CD at 5%	15.91	7.76	16.14	3.86	5.34	13.65	4.45	23.95	13.82	
	CV	6.51	3.90	8.28	3.07	9.77	3.98	3.70	7.35	6.41	

Table 4.9.18 Germination % at 45 days

Sl No	Entries	Faridkot	Kapurthala	Karnal	Kota	Lucknow	Muzaffarnagar	Pantnagar	Shahjahanpur	Sriganganagar	Mean
1	Co 12029	41.98	59.38	49.59	45.33	40.67	53.70	30.42	57.22	39.46	46.42
2	CoH 12263	37.04	53.24	46.06	39.67	23.62	45.01	27.22	59.26	35.78	40.77
3	CoLk 12205	32.41	50.81	46.23	40.67	37.95	52.12	32.29	59.81	31.92	42.69
4	CoPant 12226	33.95	49.59	42.93	42.67	29.79	49.62	36.01	55.19	36.76	41.83
5	CoPb 12211	30.25	49.54	41.60	40.67	30.51	46.38	22.43	48.98	31.82	38.02
6	CoS 12232	35.49	44.68	41.95	44.67	16.03	47.96	25.00	51.11	37.57	38.27
	Standards										
1	CoS 767	34.88	46.76	36.11	42.67	34.88	48.14	36.25	50.09	34.78	40.51
2	CoS 8436	31.17	38.60	45.42	46.67	32.64	39.81	28.96	50.46	31.56	38.37
3	CoPant 97222	37.96	43.11	41.78	43.33	28.17	37.96	28.61	51.02	33.49	38.38
	Mean	35.01	48.41	43.52	42.93	30.47	46.74	29.69	53.68	34.79	40.58
	SE(m)	1.33			1.49	1.48	3.29	0.64	3.52		
	CD at 5%	3.99	7.69	NS	4.33	5.96	6.99	1.90	7.46	3.42	
	CV	6.59	9.19	0.00	9.34	3.14	8.63	3.71	8.02	7.16	

Table 4.9.19 Assessment of entries by monitoring team

Entry	Lucknow	Shahjahan pur	Pantnagar	Muzaffar nagar	Karnal	Faridkot	Kapur thala	Sriganga nagar	Kota
Co 12029	Better	Better	On par	Better	Better	Better	Better	Better	Better
CoH 12263	Poor	Poor	Poor	On par	Poor	Poor	On par	Poor	Better
CoLk 12205	Better	Better	On par	On par	On par	On par	Poor	On par	Better
CoPant 12226	Poor	On par	Better	Better	Better	Better	Better	Poor	Better
CoPb 12211	Poor	Poor	Poor	Poor	On par	Better	On par	Poor	Poor
CoS 12232	Poor	On par	Poor	Better	On par	On par	On par	Poor	On par
CoS 767	Best	Best	Best	Best			Best	Best	Best
CoS 8436									
CoPant 97222					Best	Best			

4.10 INITIAL VARIETAL TRIAL (MIDLATE)

Centres (9)	Faridkot, Kapurthala, Kota, Lucknow, Muzaffarnagar, Pantnagar, Shahjahanpur, Sriganaganagar and Uchani
Entries (13)	1. Co 13035 (Co 98008 x Co 89003) 2. Co 13036 (Co 0240 x Co 8347) 3. CoH 13261 (CoS 8436 PC) 4. CoH 13262 (CoH 76 x Co 62198) 5. CoH 13263 (Co 89003 GC) 6. CoLk 13204 (CoH 56 GC) 7. CoLk 13205 (Co 1158 x CoLk 8001) 8. CoPant 13223 (MS 68/47 X Co 1148) 9. CoPant 13224 (Co 1158 X Co Pant 90223) 10. CoPb 13182 (BO 91 x Co 86002) 11. CoPb 13183 (CoSe 95422 PC) 12. CoS 13232 (CoH 56 GC) 13. CoS 13233.(ISH 69 x CoS 922630)
Standards (3)	CoS 767, CoS 8436 and CoPant 97222
Design	RBD
Replications	3
Plot size	Gross : 6 Rows x 6m x 0.75 m Net : 4 Rows x 5m x 0.75 m
Bud rate	12 buds/ metre
Planting time	February / March, 2016
Crop duration	12 months

Results of the previous year

These clones were multiplied in the respective centres during 2015-16 for conducting IVT trial during 2016-17.

Results of the current year

In the IVT (ML) trial of 2016-17 season, the mean cane yield of the best standard CoPant 97222 in the zone was 81.21 t/ha. Five entries showed 10 % and above improvement over the best standard for this character. They were 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). The mean CCS yield of the best standard CoPant 97222 was 10.19 t/ha. Two entries showed >10 % improvement over CoPant 97222. They were:- CoPb 13183 (11.74 t/ha) and CoH 13263 (11.65 t/ha). The mean sucrose % of the best standard CoS 8436 in the zone was 18.24. Although few clones such as CoH 13261 (18.73 %), CoH 13262 (18.51%) and CoH 13263(18.48 %) recorded numerically higher sucrose % than the best standard, the improvement was not above

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5 % over CoS 8436. Similarly, the mean CCS % of the best standard (CoS 8436) in the zone was 12.62 and none of the test entries showed 5 % and above improvement over CoS 8436. The entry CoH 13263 was identified as the qualifying entry as it recorded >10 % improvement in cane yield and on numerically superior performance for juice sucrose over the best standard CoPant 97222. Further details are presented in Tables 4.10.1 to 4.10.19.

Table 4.10.1 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	17.28	10.12	10.61	11.33	9.29	9.13	11.49	11.29	9.37	11.10	
2	Co 13036	15.87	9.61	9.12	6.58	7.91	5.37	9.79	11.03	9.19	9.39	
3	CoH 13261	15.43	9.87	**	11.18	8.23	9.07	8.73	8.44	11.94	10.36	
4	CoH 13262	13.89	10.45	6.87	9.91	13.00	8.56	9.27	9.94	10.72	10.29	
5	CoH 13263	19.59	9.32	10.90	9.67	12.17	11.46	9.84	10.65	11.29	11.65	2
6	CoLk 13204	16.04	8.41	8.41	10.33	10.38	9.29	9.65	11.11	5.65	9.92	
7	CoLk 13205	17.21	8.62	9.45	9.11	8.25	11.08	11.06	13.78	10.95	11.06	
8	CoPant 13223	13.98	7.95	8.63	7.65	8.47	8.55	10.56	12.88	8.90	9.73	
9	CoPant 13224	16.46	9.81	9.79	4.71	12.56	12.60	10.13	13.22	11.29	11.17	
10	CoPb 13182	18.34	10.57	10.37	10.30	9.63	8.84	11.45	12.13	9.20	11.20	3
11	CoPb 13183	18.28	*	9.10	8.69	12.46	12.37	10.40	14.60	7.99	11.74	1
12	CoS 13232	16.94	8.37	8.24	9.49	13.24	7.96	10.56	8.04	9.41	10.25	
13	CoS 13233	17.95	8.91	8.94	7.43	12.38	8.07	9.04	9.78	10.92	10.38	
	Standards											
1	CoS 767	12.56	8.94	9.09	8.21	9.00	9.78	9.32	10.11	9.46	9.61	
2	CoS 8436	12.33	8.12	9.34	5.55	9.57	8.46	9.18	9.02	9.01	8.95	
3	CoPant 97222	16.09	9.10	8.95	8.03	9.03	11.01	9.79	9.62	10.07	10.19	
	Mean	16.14	9.21	9.19	8.64	10.35	9.48	10.02	10.98	9.71	10.44	
	SE(m)	0.96		0.77	0.92	0.87	0.31	0.58		0.34		
	CD at 5%	2.89	NS	2.24	13.03	1.86	0.88	1.25	1.93	0.99		
	CV	8.42	9.85	13.56	1.88	8.42	5.59	5.84	7.27	6.07		
Top three entries showing 10 % improvement over the best standard at each location												
	Rank 1	CoH 13263	CoPb 13182	CoH 13263	Co 13035	CoS 13232	CoPant 13224	Co 13035	CoPb 13183	CoH 13261	CoPb 13183	
	Rank 2	CoPb 13182	CoH 13262	Co 13035	CoH 13261	CoH 13262	CoPb 13183	CoPb 13182	CoLk 13205	CoPant 13224	CoH 13263	
	Rank 3	CoPb 13183	Co 13035	CoPb 13182	CoLk 13204	CoPant 13224	-	CoLk 13205	CoPant 13224	CoH 13263	-	

*At Kapurthala, the entry CoPb 13183 failed due to red rot. **At Kota centre, the entry CoH 13261 was damaged by wild animal

No. of locations where an entry is showing >10 % improvement: Co 13035 (5), CoH 13263 (5), CoPb 13182 (5), CoPant 13224 (4), CoPb 13183 (4), CoH 13262 (3), CoLk 13205 (3), CoH 13261 (2), CoS 13232 (2), CoLk 13204 (1), CoPant 13223 (1) and CoS 13233 (1).

Performance of the entries across locations: Two entries showed >10 % improvement for CCS yield over the best standard CoPant 97222 (10.19 t/ha). They were:-CoPb 13183 (11.74 t/ha) and CoH 13263 (11.65 t/ha).

Table 4.10.2 Cane yield (t/ha) at harvest

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Sl No	Entries	Faridkot	Kapurthala	Kota	Lucknow	Muzaffar nagar	Pantnagar	Shahja hanpur	Sriganga nagar	Uchani	Mean	Rank
1	Co 13035	121.11	87.96	90.60	87.44	69.72	68.33	83.06	101.41	91.13	88.97	
2	Co 13036	116.11	82.77	77.97	53.12	60.28	40.00	75.83	99.29	71.07	75.16	
3	CoH 13261	113.33	81.93	**	89.21	68.61	64.81	68.33	73.36	92.13	81.46	
4	CoH 13262	103.89	87.79	77.00	80.74	100.80	62.59	71.67	84.71	87.20	84.04	
5	CoH 13263	144.44	97.22	93.43	78.12	94.44	82.22	78.61	89.43	85.40	93.70	3
6	CoLk 13204	126.67	93.02	90.37	87.74	82.21	68.15	75.83	87.24	75.93	87.46	
7	CoLk 13205	142.22	82.10	83.50	90.81	67.22	89.63	88.89	112.68	93.07	94.46	2
8	CoPant 13223	122.78	83.70	84.80	74.07	70.83	65.56	83.89	107.58	72.60	85.09	
9	CoPant 13224	120.56	91.26	89.97	40.24	91.94	90.74	81.11	118.26	86.87	90.11	
10	CoPb 13182	140.56	91.78	89.20	94.78	75.83	64.81	85.28	101.71	80.60	91.62	
11	CoPb 13183	136.11	*	76.40	83.82	98.88	93.89	83.06	122.51	71.40	95.76	1
12	CoS 13232	121.67	72.10	74.53	73.26	103.88	61.11	84.72	75.78	71.83	82.10	
13	CoS 13233	152.78	79.20	78.97	66.76	95.55	63.15	71.67	84.29	87.80	86.69	
Standards												
1	CoS 767	98.89	76.02	81.20	70.37	70.55	74.07	74.72	89.41	84.60	79.98	
2	CoS 8436	92.78	71.92	78.40	45.91	72.22	61.48	68.06	76.63	72.40	71.09	
3	CoPant 97222	114.44	78.87	80.47	63.17	68.05	81.85	74.17	82.28	87.60	81.21	
	Mean	123.02	83.84	83.12	73.72	80.69	70.77	78.06	94.16	81.98	85.56	
	SE(m)	7.03		2.81	7.08	6.49	1.67	4.52		1.94		
	CD at 5%	21.19	14.12	8.29	11.76	13.85	4.82	9.63	11.28	5.64		
	CV	8.08	7.85	5.54	14.46	8.05	4.08	5.79	9.73	4.10		
Top three entries showing 10 % improvement over the best standard at each location												
Rank 1	CoS 13233	CoH 13263	CoH 13263	CoPb 13182	CoS 13232	CoPb 13183	CoLk 13205	CoPb 13183		CoPb 13183		
Rank 2	CoH 13263	CoLk 13204	Co 13035	CoLk 13205	CoH 13262		CoPb 13182	CoPant 13224		CoLk 13205		
Rank 3	CoLk 13205	CoPb 13182	CoLk 13204	CoH 13261	CoPb 13183		CoS 13232	CoLk 13205		CoH 13263		

*At Kapurthala, the entry CoPb 13183 failed due to red rot. **At Kota centre, the entry CoH 13261 was damaged by wild animal

No. of locations where an entry is showing >10 % improvement: CoPant 13183 (6), Co 13035 (5), CoH 13263 (5), CoLk 13204 (5), CoPb 13182 (5), CoLk 13205 (4), CoPant 13224 (4), CoS 13232 (4), CoH 13262 (3), Co 13036 (1), CoH 13261 (1) and CoPant 13223 (2).

Performance of the entries across locations: Five entries showed >10 % improvement for cane yield over the best standard CoPant 97222 (81.21 t/ha). They were:-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).

Table 4.10.3 CCS % at harvest

Sl No	Entries	Faridkot	Kapurthala	Kota	Lucknow	Muzaffar nagar	Pantnagar	Shahja hanpur	Sriganga nagar	Uchani	Mean	Rank
1	Co 13035	14.26	13.10	11.72	12.97	13.34	13.35	13.86	11.13	10.28	12.67	
2	Co 13036	13.65	13.13	12.13	12.33	13.02	13.61	12.92	11.11	12.93	12.76	
3	CoH 13261	13.62	13.58	**	12.48	12.66	13.98	12.77	11.51	12.95	12.94	1
4	CoH 13262	13.36	13.01	12.81	12.29	12.82	13.68	12.93	11.73	12.30	12.77	3
5	CoH 13263	13.56	12.76	11.67	12.38	13.05	13.94	12.51	11.91	13.23	12.78	2
6	CoLk 13204	12.66	12.34	10.02	11.78	12.63	13.62	12.73	12.73	7.45	11.77	
7	CoLk 13205	12.10	12.02	11.92	10.03	12.34	12.37	12.44	12.23	11.77	11.91	
8	CoPant 13223	11.40	11.11	10.25	10.38	12.60	13.04	12.58	11.97	12.24	11.73	
9	CoPant 13224	13.66	12.01	10.88	11.75	13.80	13.88	12.49	11.18	13.00	12.52	
10	CoPb 13182	13.05	11.97	11.61	10.90	12.78	13.64	13.43	11.93	11.44	12.31	
11	CoPb 13183	13.43	*	11.93	10.40	12.68	13.18	12.57	11.92	11.21	12.17	
12	CoS 13232	13.92	12.65	11.09	12.97	12.77	13.01	12.47	10.60	13.08	12.51	
13	CoS 13233	11.75	11.79	11.50	11.15	12.83	12.76	12.61	11.60	12.43	12.05	
Standards												
1	CoS 767	12.70	12.13	11.18	11.67	12.90	13.20	12.48	11.31	11.18	12.08	
2	CoS 8436	13.29	11.60	11.93	12.09	13.21	13.77	13.48	11.77	12.44	12.62	
3	CoPant 97222	14.06	11.52	11.11	12.72	13.20	13.44	13.19	11.70	11.49	12.49	
	Mean	13.15	12.31	11.45	11.77	12.91	13.40	12.84	11.65	11.84	12.38	
	SE(m)	0.07		0.11	0.6	2.92	0.23	0.4		0.37		
	CD at 5%	0.20	0.69	0.32	6.27	NS	0.65	NS	0.98	1.08		
	CV	0.70	2.62	1.56	1.23	2.27	2.91	3.09	3.97	5.42		
Top three entries showing 5 % improvement over the best standard at each location												
	Rank 1	-	CoH 13261	CoH 13262	-	-	-	-	CoLk 13204	CoH 13263	-	
	Rank 2		Co 13036							CoS 13232		
	Rank 3		Co 13035									

*At Kapurthala, the entry CoPb 13183 failed due to red rot. **At Kota centre, the entry CoH 13261 was damaged by wild animal

No. of locations where an entry is showing >5 % improvement: CoH 13262 (2), CoH 13263 (2), Co 13036 (1), Co 13035 (1), CoH 13261 (1), CoLk 13204 (1) and CoS 13232 (1)

Performance of the entries across locations: Clones such as CoH 13261 (12.94 %), CoH 13263 (12.78 %) and CoH 13262 (12.77 %) occupied top 3 positions for CCS % and recorded numerically higher CCS % than the best standard CoS 8436 (12.62 %), no clone showed >5 % improvement over CoS 8436 at zonal level.

Table 4.10.4 Sucrose % at harvest

Sl No	Entries	Faridkot	Kapurthala	Kota	Lucknow	Muzaffar nagar	Pantnagar	Shahja hanpur	Sriganga nagar	Uchani	Mean	Rank
1	Co 13035	20.30	18.66	17.08	18.56	19.27	19.38	19.89	16.28	15.53	18.33	
2	Co 13036	19.70	18.70	17.63	17.76	18.86	19.40	18.66	16.22	18.86	18.42	
3	CoH 13261	19.58	19.31	**	17.92	18.33	20.39	18.45	16.76	19.09	18.73	1
4	CoH 13262	19.16	18.59	18.55	17.60	18.68	19.82	18.67	17.07	18.43	18.51	2
5	CoH 13263	19.48	18.27	17.01	17.77	18.93	20.20	18.11	17.29	19.29	18.48	3
6	CoLk 13204	18.55	17.80	14.77	16.99	18.49	19.82	18.17	18.40	12.15	17.24	
7	CoLk 13205	17.37	17.43	17.35	14.95	17.95	17.92	18.01	17.72	17.40	17.34	
8	CoPant 13223	16.38	16.18	15.08	15.08	18.27	19.02	18.19	17.39	18.00	17.07	
9	CoPant 13224	19.42	17.50	15.97	16.83	18.84	20.13	18.11	16.36	19.19	18.04	
10	CoPb 13182	18.54	17.22	16.94	15.75	18.60	19.77	19.16	17.34	16.50	17.76	
11	CoPb 13183	19.34	*	17.35	15.14	18.35	19.11	18.00	17.33	16.82	17.68	
12	CoS 13232	19.82	18.11	16.22	18.63	18.55	18.94	18.06	16.13	18.96	18.16	
13	CoS 13233	17.03	16.89	16.77	16.20	18.68	18.58	18.20	16.91	18.39	17.52	
Standards												
1	CoS 767	18.18	17.44	16.35	16.79	18.72	19.11	18.11	16.48	16.32	17.50	
2	CoS 8436	18.96	16.62	17.35	17.33	19.11	19.85	19.39	17.10	18.44	18.24	
3	CoPant 97222	20.16	16.77	16.25	18.20	19.04	19.53	18.97	16.97	16.50	18.04	
	Mean	18.87	17.70	16.71	16.97	18.67	19.44	18.51	16.98	17.49	17.94	
	SE(m)	0.07		0.15	0.8	0.38	0.33	0.46		0.4		
	CD at 5%	0.22	0.91	0.44	5.81	NS	0.95	0.97	1.03	1.15		
	CV	0.55	2.40	1.45	1.64	2.06	2.92	2.46	3.55	3.91		
Top three entries showing 5 % improvement over the best standard at each location												
Rank 1			CoH 13261	CoH 13262					CoLk 13204			
Rank 2			Co 13036									
Rank 3			Co 13035									

*At Kapurthala, the entry CoPb 13183 failed due to red rot. **At Kota centre, the entry CoH 13261 was damaged by wild animal

No. of locations where an entry is showing >5 % improvement: CoH 13262 (2), Co 13036 (1), Co 13035 (1), Co 13036 (1) and CoLk 13204 (1)

Performance of the entries across locations: Clones such as CoH 13261 (18.73 %), CoH 13262 (18.51 %) and CoH 13263 (18.48 %) ranked top 3 positions for sucrose % and their sucrose value were numerically higher than that of the best standard CoS 8436 (18.24 %), no clone showed >5 % improvement for sucrose % than CoS 8436.

Table 4.10.5 Brix % at harvest

Sl No	Entries	Faridkot	Kapurthala	Kota	Lucknow	Muzaffarnagar	Pantnagar	Shahjahanpur	Sriganganagar	Uchani	Mean
1	Co 13035	22.20	20.43	19.63	20.52	21.74	21.86	22.16	18.86	19.10	20.72
2	Co 13036	22.20	20.46	20.17	19.94	21.40	22.00	21.03	18.73	21.70	20.85
3	CoH 13261	21.90	21.08	**	19.99	20.79	23.47	20.84	19.24	22.50	21.23
4	CoH 13262	21.30	20.51	21.07	19.51	21.49	22.53	21.04	19.56	22.40	21.05
5	CoH 13263	21.75	20.26	19.57	19.81	21.54	22.97	20.54	19.72	22.20	20.93
6	CoLk 13204	21.55	20.04	17.40	19.12	21.44	22.73	20.58	20.79	17.00	20.07
7	CoLk 13205	19.35	19.82	19.90	17.95	20.54	20.37	20.46	20.11	20.60	19.90
8	CoPant 13223	18.30	18.55	17.70	17.25	20.79	21.90	20.59	19.86	21.10	19.56
9	CoPant 13224	21.20	20.11	18.57	18.68	21.14	22.90	20.53	18.97	22.60	20.52
10	CoPb 13182	20.20	19.28	19.57	17.79	21.34	22.47	20.99	19.84	18.60	20.01
11	CoPb 13183	21.70	*	19.90	17.35	20.79	21.73	20.44	19.83	20.50	20.28
12	CoS 13232	21.70	20.05	18.80	20.76	21.19	21.73	20.50	20.14	21.60	20.72
13	CoS 13233	19.35	18.75	19.33	18.52	21.44	21.33	20.62	19.46	21.80	20.07
	Standards										
1	CoS 767	20.15	19.50	19.27	18.80	21.34	21.67	20.61	18.96	18.80	19.90
2	CoS 8436	20.85	18.43	19.90	19.25	21.64	22.33	21.69	19.53	21.90	20.61
3	CoPant 97222	22.40	19.25	18.83	20.14	21.44	22.33	21.05	19.34	18.40	20.35
	Mean	21.01	19.77	19.31	19.09	21.25	22.15	20.85	19.56	20.68	20.42
	SE(m)	0.14		0.15	0.84	0.37	0.40	0.46	-	0.30	
	CD at 5%	0.44	1.10	0.44	5.40	NS	1.16	NS	0.98	1.06	
	CV	0.97	2.68	1.27	1.72	1.77	3.14	2.19	3.08	3.05	

*At Kapurthala, the entry CoPb 13183 failed due to red rot. **At Kota centre, the entry CoH 13261 was damaged by wild animal

Table 4.10.6 Purity % at harvest

Sl No	Entries	Faridkot	Kapurthala	Kota	Lucknow	Muzaffarnagar	Pantnagar	Shahjahanpur	Sriganganagar	Uchani	Mean
1	Co 13035	91.44	91.37	86.98	90.42	88.63	87.71	89.76	86.34	81.27	88.21
2	Co 13036	88.74	91.38	87.40	89.01	88.10	88.20	88.71	86.59	86.80	88.33
3	CoH 13261	89.41	91.62	-	89.63	88.19	86.88	88.51	87.16	84.97	88.30
4	CoH 13262	89.96	90.63	88.07	90.22	86.96	88.05	88.71	87.29	82.42	88.03
5	CoH 13263	89.56	90.17	86.92	89.75	87.87	87.99	88.14	87.71	86.89	88.33
6	CoLk 13204	86.07	88.83	84.90	88.82	86.24	87.20	88.27	88.51	71.48	85.59
7	CoLk 13205	89.77	87.92	87.19	86.32	87.39	88.00	88.05	88.13	84.59	87.48
8	CoPant 13223	89.51	87.20	85.22	87.51	87.90	86.83	88.32	87.56	85.49	87.28
9	CoPant 13224	91.60	87.04	86.03	90.15	89.10	87.90	88.19	86.28	84.80	87.90
10	CoPb 13182	91.78	89.31	86.56	88.66	87.18	87.99	86.16	87.39	88.84	88.21
11	CoPb 13183	89.13	-	87.23	87.20	88.28	87.92	88.03	87.41	82.22	87.18
12	CoS 13232	91.34	90.31	86.28	90.47	87.56	87.13	88.10	80.08	88.13	87.71
13	CoS 13233	87.99	90.10	86.74	88.94	87.12	87.09	88.16	86.92	84.35	87.49
	Standards										
1	CoS 767	90.22	89.44	86.37	87.66	87.71	88.18	88.28	86.92	86.63	87.93
2	CoS 8436	90.94	90.17	87.20	90.16	88.31	88.70	89.40	87.56	84.08	88.50
3	CoPant 97222	89.98	87.20	86.28	90.41	88.80	87.46	89.04	87.72	89.73	88.51
	Mean	89.84	89.51	86.62	89.08	87.83	87.70	88.36	86.85	84.54	87.81
	SE(m)	0.54		0.14	1.15	0.6	0.5	1.11		1.84	
	CD at 5%	1.63	NS	0.42	1.59	1.28	1.44	NS	1.83	5.35	
	CV	0.85	1.59	0.27	2.36	0.68	0.99	1.26	1.24	3.78	

Table 4.10.7 Pol % in cane and Fibre % at harvest

SI No	Entries	Pol % in cane at harvest				Fibre % at harvest			
		Lucknow	Muzaffarnagar	Shahjahanpur	Mean	Lucknow	Muzaffarnagar	Shahjahanpur	Mean
1	Co 13035	14.69	14.33	14.74	14.59	10.83	14.65	15.10	13.53
2	Co 13036	13.46	13.87	13.95	13.76	14.17	13.90	15.15	14.41
3	CoH 13261	14.28	13.59	13.92	13.93	10.30	14.11	15.19	13.20
4	CoH 13262	13.61	13.64	13.89	13.71	12.65	14.38	14.92	13.98
5	CoH 13263	13.88	14.11	12.57	13.52	11.90	14.27	15.20	13.79
6	CoLk 13204	13.05	13.62	13.65	13.44	13.19	14.98	15.90	14.69
7	CoLk 13205	11.54	13.45	13.31	12.77	12.81	14.17	14.79	13.92
8	CoPant 13223	11.38	13.54	13.91	12.94	14.46	13.27	14.87	14.20
9	CoPant 13224	13.20	13.98	13.29	13.49	11.57	14.09	14.90	13.52
10	CoPb 13182	12.31	13.17	13.94	13.14	11.89	13.90	14.68	13.49
11	CoPb 13183	11.24	13.55	12.55	12.45	15.81	14.46	14.77	15.01
12	CoS 13232	14.41	13.70	13.57	13.89	12.65	14.63	15.70	14.33
13	CoS 13233	12.77	13.19	13.83	13.26	11.20	13.49	14.94	13.21
	Standards								
1	CoS 767	12.98	13.71	13.48	13.39	12.70	13.86	15.27	13.94
2	CoS 8436	13.69	14.04	14.25	13.99	11.02	13.80	14.87	13.23
3	CoPant 97222	14.08	13.96	14.02	14.02	12.64	14.06	14.70	13.80
	Mean	13.16	13.72	13.68	13.52	12.49	14.13	15.06	13.89
	SE(m)	0.6		0.4		104		0.24	
	CD at 5%	6.10	-	NS		10.20	-	NS	
	CV	1.34	-	5.80		2.12	-	3.22	

Table 4.10.8 Juice extraction % at harvest

Sl No	Entries	Faridkot	Kapurthala	Kota	Lucknow	Muzaffarnagar	Pantnagar	Shahjahanpur	Sriganganagar	Uchani	Mean
1	Co 13035	55.78	55.60	44.90	54.07	55.55	***	54.96	50.24	***	53.01
2	Co 13036	51.59	53.37	44.37	48.41	50.00		53.82	52.79		50.62
3	CoH 13261	58.55	56.86	-	55.84	50.00		55.68	50.18		54.52
4	CoH 13262	59.33	57.51	42.90	47.61	51.61		55.96	52.34		52.47
5	CoH 13263	59.34	56.71	50.27	50.07	51.29		53.27	48.94		52.84
6	CoLk 13204	52.69	51.72	43.60	49.97	48.48		55.03	51.14		50.38
7	CoLk 13205	57.36	54.90	43.27	49.88	51.95		56.04	52.08		52.21
8	CoPant 13223	54.42	55.56	47.57	48.42	49.73		54.86	48.96		51.36
9	CoPant 13224	54.33	53.03	45.60	51.77	54.42		54.98	50.29		52.06
10	CoPb 13182	56.38	57.40	42.10	51.37	44.68		57.43	49.99		51.34
11	CoPb 13183	51.22	-	40.70	45.30	52.27		53.98	50.13		48.93
12	CoS 13232	56.20	57.73	42.77	47.89	53.51		53.57	49.97		51.66
13	CoS 13233	59.90	60.91	44.03	54.84	45.97		57.87	50.32		53.41
	Standards										
1	CoS 767	57.07	56.79	42.77	47.69	41.43		52.86	52.08		50.10
2	CoS 8436	57.16	54.89	44.97	50.66	51.47		53.11	50.98		51.89
3	CoPant 97222	58.49	56.39	44.97	48.31	42.42		55.68	50.69		50.99
	Mean	56.24	55.96	44.32	50.13	49.67		54.94	50.70		51.74
	SE(m)	1.22		0.75	4.74			1.97			
	CD at 5%	3.66	3.05	2.19	11.57	-		NS	2.53		
	CV	3.06	2.55	2.75	9.67	-		3.59	2.40		

Note:***Pantnagar and Uchani centres did not report data on juice extraction %.

Table 4.10.9 Brix % at 10th month

Sl No	Entries	Faridkot	Kapurthala	Kota	Lucknow	Muzaffarnagar	Pantnagar	Shahjahanpur	Sriganganagar	Uchani	Mean
1	Co 13035	18.65	18.88	17.87	20.28	20.27	18.60	20.54	17.48	17.60	18.91
2	Co 13036	17.95	18.88	18.20	19.02	20.42	19.83	20.06	16.93	20.70	19.11
3	CoH 13261	19.55	19.40	-	18.22	19.62	20.10	19.83	17.88	21.60	19.53
4	CoH 13262	17.30	18.97	19.33	18.69	19.27	19.03	20.49	17.34	20.70	19.01
5	CoH 13263	17.35	16.68	17.67	19.25	19.32	18.50	18.22	17.58	18.50	18.12
6	CoLk 13204	15.35	16.00	15.43	18.02	19.67	18.50	18.24	18.08	18.60	17.54
7	CoLk 13205	16.15	17.61	18.13	16.46	17.67	17.23	18.11	18.81	19.20	17.71
8	CoPant 13223	14.60	15.87	15.93	17.68	17.27	18.67	18.09	17.61	16.90	16.96
9	CoPant 13224	17.40	16.92	16.33	18.69	18.94	19.70	18.85	16.81	18.50	18.02
10	CoPb 13182	18.90	18.26	17.67	17.48	17.67	21.07	19.55	17.34	19.30	18.58
11	CoPb 13183	18.15	-	18.57	18.21	19.02	18.23	19.10	17.57	17.80	18.33
12	CoS 13232	17.30	19.13	16.73	19.65	19.02	18.00	19.59	18.48	20.80	18.74
13	CoS 13233	15.35	17.39	17.53	17.62	18.22	17.33	19.06	17.76	18.90	17.68
	Standards										
1	CoS 767	18.20	19.32	17.33	18.70	19.37	18.30	18.99	16.92	19.60	18.53
2	CoS 8436	17.10	17.47	18.67	18.67	19.57	18.43	20.24	17.84	19.10	18.57
3	CoPant 97222	18.15	18.68	17.53	18.98	19.72	19.00	20.19	17.93	18.80	18.78
	Mean	17.34	17.96	17.53	18.48	19.07	18.78	19.32	17.65	19.16	18.38
	SE(m)	0.32		0.13	0.67	0.48	0.32	0.3		0.3	
	CD at 5%	0.97	1.00	0.37	4.41	1.02	0.91	0.65	0.93	0.87	
	CV	2.63	2.62	1.18	1.36	2.53	2.92	1.57	2.96	2.69	

Table 4.10.10 Sucrose % at 10th month

Sl No	Entries	Faridkot	Kapurthala	Kota	Lucknow	Muzaffarnagar	Pantnagar	Shahjahanpur	Sriganganagar	Uchani	Mean
1	Co 13035	16.77	16.63	15.22	18.01	17.75	15.80	18.10	14.92	14.81	16.45
2	Co 13036	15.69	16.71	15.60	15.99	17.66	16.85	17.57	14.36	17.94	16.49
3	CoH 13261	17.26	17.36	-	16.42	17.03	17.06	17.32	15.26	18.83	17.07
4	CoH 13262	15.81	17.08	16.77	16.47	16.71	16.43	18.04	14.70	17.52	16.61
5	CoH 13263	15.48	14.16	15.05	16.68	16.93	15.65	15.59	14.97	16.25	15.64
6	CoLk 13204	13.00	13.46	12.75	15.44	16.47	15.65	15.63	15.60	15.76	14.86
7	CoLk 13205	14.16	15.33	15.53	13.95	14.31	14.43	15.50	16.32	16.36	15.10
8	CoPant 13223	13.15	13.82	13.26	15.20	15.18	16.04	15.47	15.06	13.66	14.54
9	CoPant 13224	15.50	15.39	13.67	16.43	16.45	16.87	16.26	14.24	15.72	15.61
10	CoPb 13182	17.01	16.51	15.05	15.21	15.16	18.20	17.01	14.79	16.95	16.21
11	CoPb 13183	15.87	-	15.98	15.59	16.01	15.59	16.54	15.07	14.60	15.66
12	CoS 13232	14.66	16.80	14.09	17.27	16.22	15.20	17.06	16.04	18.52	16.21
13	CoS 13233	13.83	15.96	14.91	15.30	15.53	14.83	16.48	15.20	15.53	15.29
	Standards										
1	CoS 767	16.02	17.04	14.70	16.21	16.61	15.75	16.41	14.51	16.65	15.99
2	CoS 8436	15.27	16.05	16.08	16.36	16.87	15.97	17.76	15.23	16.49	16.23
3	CoPant 97222	16.29	16.65	14.91	16.90	17.31	16.40	17.71	15.49	15.84	16.39
	Mean	15.36	15.93	14.90	16.09	16.39	16.05	16.78	15.11	16.34	15.90
	SE(m)	0.26		0.13	0.72	0.46	0.29			0.34	
	CD at 5%	0.78	1.36	0.38	5.45	0.98	0.83	0.69	0.82	0.98	
	CV	2.40	3.99	1.40	1.46	2.80	3.12	1.94	2.66	3.56	

Table 4.10.11 Purity % at 10th month

Sl No	Entries	Faridkot	Kapurthala	Kota	Lucknow	Muzaffarnagar	Pantnagar	Shahjahanpur	Sriganganagar	Uchani	Mean
1	Co 13035	89.94	88.03	85.21	89.28	87.59	84.92	88.10	85.38	84.09	86.95
2	Co 13036	87.44	88.47	85.71	83.85	86.49	84.93	87.59	84.84	86.56	86.21
3	CoH 13261	88.26	89.50	-	88.48	86.83	84.87	87.34	85.39	87.07	87.22
4	CoH 13262	91.36	90.02	86.72	88.12	86.72	86.33	88.04	84.82	84.55	87.41
5	CoH 13263	89.19	84.88	85.19	86.62	87.62	84.57	85.57	85.19	87.69	86.28
6	CoLk 13204	84.67	83.95	82.59	86.86	85.85	84.59	85.66	86.32	84.92	85.05
7	CoLk 13205	87.67	87.05	85.76	84.78	86.66	83.75	85.56	86.78	85.08	85.90
8	CoPant 13223	90.04	87.11	83.24	85.98	87.73	85.93	85.49	85.56	80.71	85.75
9	CoPant 13224	89.08	90.95	83.71	87.91	86.85	85.64	86.24	84.76	84.81	86.66
10	CoPb 13182	89.98	90.41	85.19	87.15	85.82	86.43	87.00	85.32	87.74	87.23
11	CoPb 13183	87.41	-	86.02	85.61	86.29	85.48	86.57	85.47	81.93	85.60
12	CoS 13232	84.76	87.82	84.15	87.88	85.28	84.43	87.09	86.81	89.19	86.38
13	CoS 13233	90.05	91.78	85.04	86.79	85.28	85.53	86.46	85.61	82.31	86.54
	Standards										
1	CoS 767	88.02	88.20	84.82	85.05	85.74	86.05	86.42	85.78	84.95	86.11
2	CoS 8436	89.27	91.86	86.12	87.93	86.21	86.66	87.77	85.39	86.23	87.49
3	CoPant 97222	89.72	89.13	85.03	89.06	87.77	85.42	87.69	86.43	84.44	87.19
	Mean	88.55	88.61	84.97	86.96	86.55	85.35	86.79	85.62	85.14	86.50
	SE(m)	0.74		0.12	1.66	1.21	0.53	0.34		1.3	
	CD at 5%	2.22	3.86	0.36	2.34	NS	1.52	0.72	1.68	3.78	
	CV	1.18	2.03	0.24	NS	1.40	1.07	0.39	1.57	2.65	

Table 4.10.12 CCS % at 10th month

Sl No	Entries	Faridkot	Kapurthala	Kota	Lucknow	Muzaffarnagar	Pantnagar	Shahjahanpur	Sriganganagar	Uchani	Mean
1	Co 13035	11.69	11.48	10.34	12.49	12.22	10.71	12.50	10.14	9.99	11.28
2	Co 13036	10.79	11.56	10.63	10.79	12.08	11.43	12.10	9.73	12.28	11.27
3	CoH 13261	11.93	12.08	-	11.46	11.67	11.57	11.91	10.37	12.93	11.74
4	CoH 13262	11.10	11.91	11.49	11.38	11.45	11.23	12.65	9.67	11.86	11.42
5	CoH 13263	10.75	9.60	10.22	11.42	11.66	10.59	10.61	10.16	11.19	10.69
6	CoLk 13204	8.80	9.08	8.52	10.51	11.89	10.59	10.64	10.66	10.68	10.15
7	CoLk 13205	9.76	10.52	10.57	9.45	10.49	9.72	10.55	11.19	11.10	10.37
8	CoPant 13223	9.17	9.49	8.90	10.37	10.47	10.94	10.52	10.25	9.02	9.90
9	CoPant 13224	10.76	10.79	9.20	11.33	11.28	11.49	11.12	9.64	10.66	10.70
10	CoPb 13182	11.86	11.54	10.22	10.44	10.34	12.45	11.68	10.05	11.68	11.14
11	CoPb 13183	10.91	-	10.91	10.62	11.22	10.60	11.32	10.21	9.72	10.69
12	CoS 13232	9.93	11.58	9.51	11.91	11.03	10.28	11.72	11.00	12.87	11.09
13	CoS 13233	9.65	11.23	10.30	10.49	10.55	10.09	11.27	10.35	10.36	10.48
	Standards										
1	CoS 767	11.06	11.77	9.96	11.11	11.31	10.75	11.23	9.89	11.30	10.93
2	CoS 8436	10.61	11.30	11.12	11.27	11.53	10.85	12.49	10.36	11.27	11.20
3	CoPant 97222	11.34	11.56	10.12	11.73	11.93	11.16	12.19	10.60	10.71	11.26
	Mean	10.63	11.03	10.13	11.05	11.32	10.90	11.53	10.27	11.10	10.89
	SE(m)	0.19		0.11	0.56	0.35	0.22	0.26		0.29	
	CD at 5%	0.56	1.13	0.33	6.18	0.76	0.62	0.56	0.57	0.84	
	CV	2.48	4.78	1.78	1.14	3.14	3.42	2.26	3.39	4.52	

Table 4.10.13 Number of millable canes (NMC) at harvest ('000/ha)

Sl No	Entries	Faridkot	Kapurthala	Kota	Lucknow	Muzaffarnagar	Pantnagar	Shahjahanpur	Sriganganagar	Uchani	Mean
1	Co 13035	98.61	82.95	79.37	93.04	93.05	52.96	96.94	119.54	140.00	95.16
2	Co 13036	101.67	75.09	80.00	91.60	104.71	38.89	93.33	102.34	123.70	90.15
3	CoH 13261	107.50	82.14	-	128.50	117.49	50.37	86.39	92.29	143.70	101.05
4	CoH 13262	106.11	85.91	82.87	107.78	115.00	45.74	93.33	89.73	139.30	96.20
5	CoH 13263	130.00	91.25	86.13	121.23	113.05	56.11	101.94	95.81	139.70	103.91
6	CoLk 13204	125.56	90.88	88.10	121.48	109.16	62.22	115.00	91.57	144.00	105.33
7	CoLk 13205	135.28	88.81	89.23	127.80	91.38	67.78	117.50	112.41	136.70	107.43
8	CoPant 13223	129.44	98.92	73.00	107.78	97.77	58.33	99.17	97.69	138.00	100.01
9	CoPant 13224	99.44	79.06	74.80	58.75	108.33	63.70	104.17	119.38	143.30	94.55
10	CoPb 13182	90.00	85.08	80.20	111.73	95.83	44.63	96.39	98.82	139.30	93.55
11	CoPb 13183	111.11	-	85.93	123.05	113.88	73.52	96.64	110.94	137.70	106.60
12	CoS 13232	125.56	71.13	75.00	112.69	114.44	48.70	99.72	85.57	139.00	96.87
13	CoS 13233	108.33	80.68	73.13	62.97	103.60	45.37	90.00	97.38	146.00	89.72
	Standards										
1	CoS 767	109.72	80.22	79.40	106.30	111.94	64.63	104.17	101.71	147.70	100.64
2	CoS 8436	87.22	70.79	76.27	102.20	105.27	57.22	99.17	96.29	138.00	92.49
3	CoPant 97222	96.39	88.10	82.07	101.94	100.27	52.41	103.89	98.86	144.30	96.47
	Mean	110.12	83.40	80.37	104.93	105.95	55.16	99.86	100.65	140.03	98.13
	SE(m)	3.31		2.02	7.48	6.39	2.32	5.35		1.38	
	CD at 5%	9.97	13.02	5.87	8.73	13.62	6.70	11.40	10.49	4.02	
	CV	4.25	7.28	4.06	15.27	6.04	7.29	5.35	7.50	1.71	

Table 4.10.14 Stalk length (cm)

Sl No	Entries	Faridkot	Kapurthala	Kota	Lucknow	Muzaffarnagar	Pantnagar	Shahjahanpur	Sriganganagar	Uchani	Mean
1	Co 13035	297.67	285.00	295.00	201.67	215.00	219.00	226.00	210.41	239.30	243.23
2	Co 13036	267.17	293.00	288.00	191.67	205.00	196.00	236.00	206.37	220.00	233.69
3	CoH 13261	229.34	255.00	-	163.33	137.00	199.00	210.00	193.29	244.70	203.96
4	CoH 13262	222.17	251.00	238.00	185.00	283.00	197.00	273.00	198.36	236.70	231.58
5	CoH 13263	283.67	256.00	233.00	156.67	185.00	212.00	199.00	200.71	234.00	217.78
6	CoLk 13204	231.84	263.00	238.00	165.00	225.00	195.00	215.00	205.84	226.70	218.38
7	CoLk 13205	308.67	272.00	230.00	223.33	205.00	254.00	259.00	224.91	262.00	248.77
8	CoPant 13223	313.00	293.00	232.00	206.67	210.00	209.00	215.00	231.58	196.70	234.11
9	CoPant 13224	316.33	274.00	265.00	158.33	222.00	233.00	211.00	234.41	235.30	238.82
10	CoPb 13182	316.67	265.00	283.00	230.00	220.00	234.00	238.00	216.36	236.70	248.86
11	CoPb 13183	294.00	-	250.00	205.00	237.00	263.00	234.00	233.72	225.30	242.75
12	CoS 13232	250.59	228.00	244.00	155.00	226.00	216.00	229.00	189.45	195.30	214.82
13	CoS 13233	306.00	265.00	228.00	198.33	243.00	224.00	182.00	206.84	220.70	230.43
	Standards										
1	CoS 767	290.50	273.00	213.00	181.67	218.00	232.00	227.00	210.57	242.70	232.05
2	CoS 8436	208.50	215.00	259.00	113.33	152.00	162.00	166.00	193.38	192.00	184.58
3	CoPant 97222	228.50	288.00	246.00	185.00	220.00	238.00	197.00	199.71	228.00	225.58
	Mean	272.79	265.07	249.47	182.50	212.69	217.69	219.81	209.74	227.26	228.09
	SE(m)	5.38		0.05	12.82	1.5	1.4	22		4.24	
	CD at 5%	16.23	NS	15.40	8.40	33.00	39.00	47.10	19.72	12.30	
	CV	2.79	7.86	3.43	25.57	7.28	10.84	10.16	9.14	3.23	

Table 4.10.15 Stalk diameter (cm)

Sl No	Entries	Faridkot	Kapurthala	Kota	Lucknow	Muzaffarnagar	Pantnagar	Shahjahanpur	Sriganganagar	Uchani	Mean
1	Co 13035	2.50	2.83	2.71	2.84	2.55	2.51	2.56	2.39	2.29	2.58
2	Co 13036	2.42	2.24	2.43	2.68	2.25	2.25	1.97	2.31	2.21	2.31
3	CoH 13261	2.62	2.68	-	2.81	2.30	2.89	2.37	2.39	2.34	2.55
4	CoH 13262	2.55	2.40	2.37	2.74	2.60	2.92	2.60	2.41	2.40	2.55
5	CoH 13263	2.51	2.45	2.31	2.76	2.30	2.95	2.18	2.42	2.17	2.45
6	CoLk 13204	2.35	2.00	2.40	2.61	1.95	2.48	2.22	2.19	1.73	2.21
7	CoLk 13205	2.27	2.10	2.26	2.38	2.40	2.52	2.33	2.18	2.15	2.29
8	CoPant 13223	2.13	2.20	2.21	2.63	2.15	2.64	2.08	2.31	2.17	2.28
9	CoPant 13224	2.33	2.35	2.51	3.21	2.15	2.70	2.74	2.30	2.31	2.51
10	CoPb 13182	2.77	2.50	2.79	2.59	2.35	2.76	2.66	2.36	2.21	2.55
11	CoPb 13183	2.40	-	2.46	2.57	2.20	2.47	2.23	2.32	2.04	2.34
12	CoS 13232	2.43	2.38	2.23	2.63	2.35	2.80	2.45	2.26	1.93	2.38
13	CoS 13233	2.63	2.28	2.32	3.33	2.40	3.25	2.77	2.28	2.18	2.60
	Standards										
1	CoS 767	2.35	2.50	2.18	2.46	2.05	2.43	2.26	2.19	2.02	2.27
2	CoS 8436	2.72	2.23	2.45	2.85	2.50	2.61	2.47	2.37	2.31	2.50
3	CoPant 97222	2.60	2.23	2.29	2.80	2.10	2.77	2.24	2.35	2.14	2.39
	Mean	2.47	2.36	2.39	2.74	2.29	2.68	2.38	2.31	2.16	2.42
	SE(m)	0.06		0.05	0.19	0.13	0.13	0.19		0.03	
	CD at 5%	0.17	0.36	0.13	8.57	0.27	0.37	0.41	0.11	0.08	
	CV	3.19	7.16	3.11	0.39	5.63	8.25	8.07	4.43	2.17	

Table 4.10.16 Single cane weight (kg)

Sl No	Entries	Faridkot	Kapurthala	Kota	Lucknow	Muzaffarnagar	Pantnagar	Shahjahanpur	Sriganganagar	Uchani	Mean
1	Co 13035	1.39	1.79	0.92	0.94	0.98	1.27	0.89	0.85	0.74	1.09
2	Co 13036	1.31	1.26	1.25	0.58	0.61	1.00	1.26	0.90	0.72	0.99
3	CoH 13261	1.23	1.60	-	0.69	0.59	1.26	0.81	0.74	0.71	0.95
4	CoH 13262	1.15	1.36	1.13	0.75	1.04	1.30	0.73	0.89	0.70	1.01
5	CoH 13263	1.23	1.20	0.77	0.65	0.97	1.45	0.72	0.91	0.78	0.96
6	CoLk 13204	1.10	0.89	0.98	0.72	0.76	1.05	0.82	0.77	0.58	0.85
7	CoLk 13205	1.14	1.11	0.93	0.71	0.77	1.30	0.86	0.91	0.74	0.94
8	CoPant 13223	1.00	1.29	0.83	0.70	0.76	1.10	1.26	1.08	0.63	0.96
9	CoPant 13224	1.35	1.40	1.16	0.68	0.91	1.40	0.91	0.98	0.71	1.06
10	CoPb 13182	1.76	1.51	1.27	0.85	0.88	1.42	1.23	0.93	0.63	1.16
11	CoPb 13183	1.38	-	0.99	0.68	1.05	1.27	0.71	1.10	0.66	0.98
12	CoS 13232	0.99	1.02	1.48	0.65	0.99	1.23	0.86	0.93	0.68	0.98
13	CoS 13233	1.57	1.67	1.13	1.06	0.92	1.36	1.19	0.81	0.78	1.17
	Standards										
1	CoS 767	1.09	1.02	0.94	0.66	0.71	1.13	0.87	0.83	0.66	0.88
2	CoS 8436	1.24	0.92	0.87	0.45	0.69	1.04	0.78	0.82	0.64	0.83
3	CoPant 97222	1.24	1.20	1.02	0.62	0.70	1.53	0.80	0.89	0.67	0.96
	Mean	1.26	1.28	1.04	0.71	0.83	1.26	0.92	0.90	0.69	0.99
	SE(m)	0.09		0.02	0.06	0.05	0.05	0.18		0.01	
	CD at 5%	0.27	0.40	0.07	9.77	0.11	0.15	0.39	0.18	0.03	
	CV	10.08	14.74	3.60	0.12	6.46	7.19	19.90	8.94	2.46	

Table 4.10.17 Number of shoots at 240 days ('000/ha)

Sl No	Entries	Faridkot	Kapurthala	Kota	Lucknow	Muzaffarnagar	Pantnagar	Shahjahanpur	Sriganganagar	Uchani	Mean
1	Co 13035	127.89	89.97	85.40	96.16					145.30	108.94
2	Co 13036	113.58	86.88	93.60	95.31					133.00	104.47
3	CoH 13261	122.33	92.90	0.00	136.63					149.30	100.23
4	CoH 13262	115.78	94.29	91.03	117.63					144.00	112.55
5	CoH 13263	158.44	97.38	91.03	130.67					142.00	123.90
6	CoLk 13204	157.49	98.61	96.17	132.87					148.00	126.63
7	CoLk 13205	180.01	99.07	82.57	174.46					141.00	135.42
8	CoPant 13223	151.19	96.45	83.13	114.49					142.00	117.45
9	CoPant 13224	111.91	91.20	82.43	68.22					148.70	100.49
10	CoPb 13182	110.28	86.88	93.27	128.07					143.30	112.36
11	CoPb 13183	124.53	0.00	85.57	130.53					140.00	96.13
12	CoS 13232	150.19	77.16	90.77	119.72					142.70	116.11
13	CoS 13233	118.66	82.10	86.40	77.98					150.00	103.03
	Standards										
1	CoS 767	128.72	84.88	86.07	111.64					152.00	112.66
2	CoS 8436	96.11	91.36	97.70	111.27					144.00	108.09
3	CoPant 97222	107.03	78.70	85.77	102.63					149.30	104.69
	Mean	129.63	84.24	83.18	115.52					144.66	111.45
	CD at 5%	8.43	8.86	5.02	10.43					5.03	
	CV	3.05	4.60	3.14	20.10					2.08	

Table 4.10.18 Number of tillers at 120 days ('000/ha)

Sl No	Entries	Faridkot	Kapurthala	Kota	Lucknow	Muzaffarnagar	Pantnagar	Shahjahanpur	Sriganganagar	Uchani	Mean
1	Co 13035	164.17	98.61	107.13	114.20	183.05	59.26	196.11	178.41	174.00	141.66
2	Co 13036	130.00	97.22	102.47	104.31	157.49	47.41	190.28	144.73	142.70	124.07
3	CoH 13261	144.17	104.78	-	155.63	186.66	55.74	167.22	135.28	170.70	140.02
4	CoH 13262	129.72	100.62	112.00	139.49	201.66	54.63	182.50	132.56	164.70	135.32
5	CoH 13263	193.33	100.77	110.10	161.73	198.60	100.93	197.22	138.78	162.00	151.50
6	CoLk 13204	193.33	102.78	112.97	167.28	178.60	108.33	205.83	145.45	171.30	153.99
7	CoLk 13205	227.78	103.70	105.07	206.98	175.82	95.74	217.22	182.21	166.00	164.50
8	CoPant 13223	176.39	100.46	106.10	132.20	163.88	77.22	180.00	152.34	157.70	138.48
9	CoPant 13224	130.83	98.46	89.23	77.47	175.55	84.63	189.44	189.71	168.70	133.78
10	CoPb 13182	135.83	102.47	94.73	149.79	142.77	53.15	183.33	151.52	163.30	130.77
11	CoPb 13183	142.22	-	89.23	151.81	177.21	90.19	202.22	171.43	150.70	146.88
12	CoS 13232	178.61	93.06	108.93	169.05	201.38	61.11	200.28	128.82	157.30	144.28
13	CoS 13233	132.78	101.85	110.00	100.93	178.32	72.41	171.67	151.71	168.30	132.00
	Standards										
1	CoS 767	154.17	87.35	108.70	155.76	186.66	82.04	194.44	151.36	170.30	143.42
2	CoS 8436	110.28	101.39	106.70	143.91	151.66	61.30	176.67	138.43	161.00	127.93
3	CoPant 97222	121.94	85.03	108.47	108.57	148.05	63.15	175.56	149.76	170.00	125.61
	Mean	154.10	98.57	104.79	139.94	175.46	72.95	189.37	152.66	163.67	139.64
	SE(m)	4.12		2.02	5.4	14.2	3.31	12.41		2.42	
	CD at 5%	12.43	10.09	5.87	4.72	30.27	9.56	26.45	19.93	7.01	
	CV	3.78	4.77	3.12	11.02	8.26	7.86	6.55	7.98	2.56	

Table 4.10.19 Germination % at 45 days

Sl No	Entries	Faridkot	Kapurthala	Kota	Lucknow	Muzaffarnagar	Pantnagar	Shahjahanpur	Sriganganagar	Uchani	Mean
1	Co 13035	27.78	51.39	43.33	33.79	37.29	23.33	50.42	31.48	49.33	38.68
2	Co 13036	27.55	46.18	43.33	29.56	28.54	20.42	42.50	33.36	49.67	35.68
3	CoH 13261	42.36	40.51	-	29.33	44.16	22.22	53.75	29.51	48.00	38.73
4	CoH 13262	20.60	52.08	42.00	21.97	41.46	21.39	42.29	30.74	48.33	35.65
5	CoH 13263	40.74	53.24	45.00	50.26	37.71	32.92	47.08	39.63	50.00	44.06
6	CoLk 13204	37.96	51.50	39.33	35.10	30.21	36.39	56.88	39.28	51.00	41.96
7	CoLk 13205	40.05	53.13	44.33	54.83	41.87	34.31	57.71	40.17	46.33	45.86
8	CoPant 13223	30.56	55.56	43.00	26.07	33.12	30.97	45.63	38.57	48.67	39.13
9	CoPant 13224	34.49	55.21	39.00	11.70	49.58	31.66	44.79	42.28	45.67	39.38
10	CoPb 13182	35.65	57.99	44.67	25.44	33.95	21.39	44.38	36.16	49.00	38.74
11	CoPb 13183	42.82	-	43.00	47.17	37.08	31.67	59.38	37.71	46.33	43.14
12	CoS 13232	39.35	54.86	38.00	35.78	39.79	24.03	51.88	30.28	42.67	39.63
13	CoS 13233	31.48	50.69	43.67	17.87	37.29	27.22	41.46	34.48	50.33	37.17
	Standards										
1	CoS 767	31.48	53.47	42.67	34.50	38.95	28.75	45.21	41.28	48.67	40.55
2	CoS 8436	29.63	51.27	42.33	25.83	35.41	23.47	52.92	35.84	49.67	38.49
3	CoPant 97222	30.32	54.40	38.67	26.00	34.58	25.14	54.58	40.57	50.33	39.40
	Mean	33.93	52.10	42.16	31.58	37.56	27.21	49.43	36.33	48.38	39.77
	SE(m)	1.33		0.9	2.63	4.31	1.83	3.5		1.29	
	CD at 5%	4.02	7.13	2.62	10.19	9.19	5.28	7.46	3.92	3.75	
	CV	5.56	6.39	3.46	5.37	11.35	11.63	7.08	6.82	4.63	

Table 4.10.20 Assessment of entries by monitoring team

Entry	Lucknow	Shahjahan pur	Pant nagar	Muzaffar nagar	Uchani	Faridkot	Kapur thala	Sriganga nagar	Kota
Co 13035	Better	On par	On par	Better	Better	Better	On par	Better	Better
Co 13036	Poor	Poor	Poor	Better	Better	Better	On par	Poor	Poor
CoH 13261	Poor	Poor	Poor	On par	On par	Better	Poor	Poor	Poor
CoH 13262	On Par	Poor	Poor	On par	Poor	Poor	Poor	Poor	Poor
CoH 13263	On par	On par	On par	Poor	Better	Better	On par	Poor	Poor
CoLk 13204	Poor	Poor	On Par	On Par	On Par	On par	Poor	On par	Better
CoLk 13205	Better	Better	Better	On par	On par	Better	On par	Better	Better
CoPant 13223	On Par	On Par	Poor	Poor	Poor	On par	On par	Better	On par
CoPant 13224	Poor	On par	Better	On par	On par	Better	On par	Better	Better
CoPb 13182	Better	On Par	Better	On Par	On Par	Better	Better	On par	Better
CoPb 13183	Better	On Par	Better	Better	On Par	Better	Poor	Better	On par
CoS 13232	On Par	On Par	On Par	Poor	Poor	Poor	Poor	Poor	Poor
CoS 13233	On Par	Poor	Better	Better	Better	Better	Better	Poor	On par
CoS 767	Best	Best	Best	Best	Best	Best	Best	Best	Best
CoS 8436									
CoPant 97222									

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	AVT Midlate I Plant	IVT Midlate
1	Bethuadahari	C	C	C	C	C	C	C	C
2	Buralikson	C	C	C	C	C	C	C	C
3	Gorakhpur	C	C	C	C	C	C	C	C*
4	Motipur	NC**	C	C	C	C	C	C	C
5	Pusa	C	C	C	C	C	C	C	C
6	Seorahi	C	C	C	C	C	C	C	C

C – Trial conducted; C* - Trial conducted but data not provided due to poor crop stand
NC** – Not conducted

5.1. ADVANCED VARIETAL TRIAL (EARLY) – II PLANT

Centers (6)	Bethuadahari, Buralikson, Gorakhpur, Motipur, Pusa and Seorahi
Entries (4)	CoP 11436, CoP 11437, CoP 11438 and CoSe 11451
Standards (2)	BO 130 and CoSe 95422
Design	RBD
Replications	Three
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, 2016
Crop duration	10 months

Results of the previous year:

Four early entries were evaluated along with two standards in six centers of North Central and North East zones during 2015 - 16. All the four test entries performed better for CCS (t/ha) and cane yield (t/ha) than the standards (BO 130 and CoSe 95422). CoP 11438 (10.45 t/ha) ranked first in the zone and it was among top three in all the six locations. CoP 11438 (85.08 t/ha) was the top yielder in the zone and it was among top three in all the locations tested except Bethuadahari. CoP 11438 (12.25 %) was the best entry for CCS that ranked first in the zone and it was among top three in all the locations except Motipur. CoP 11438 (17.73 %) was the best entry in the zone and ranked first for juice sucrose.

Results of the current year:

The data on cane yield and quality of the Advanced Varietal Trial - Early II plant crop conducted with four test entries and two standards in five centers (Bethuadahari, Buralikson, Gorakhpur, Pusa and Seorahi) are presented in tables 5.1.1 to 5.1.20. CoSe 95422 (9.39 t/ha) was the better standard for commercial cane sugar yield (t/ha) and cane yield (78.36 t/ha). CoSe 11451 (10.11 t/ha) was the top ranking entry and Co 11438 (9.69 t/ha) was the second best ranking entry for CCS (t/ha). CoSe 11451 and CoP 11438 performed better with more than ten per cent improvement for CCS (t/ha) over the better standard at Seorahi and Gorakhpur. For cane yield, three test entries viz., CoSe 11451 (81.82 t/ha), CoP 11438 (79.28 t/ha) and CoP 11436 (78.47 t/ha) were superior cane than the better standard CoSe 95422 and recorded more than 10 per cent improvement over better standard for cane yield (t/ha) at Seorahi and Gorakhpur. BO 130 was the better standard for CCS (%) and for juice sucrose (%). Three test clones (CoP 11438, CoSe 11451 and CoP 11437) performed better than BO 130 (11.89 %) for CCS%. CoP 11438 (12.17 %) and CoSe 11451 were the best entries compared to the better standard BO 130 and they showed more than five per cent improvement for CCS% than CoSe 95422 at Gorakhpur. For sucrose per cent three early entries (CoSe 11451, CoP 11438, and CoP 11437) were better than the standard BO130 (17.01 %). CoSe 11451 (17.62 %) was the best entry in the zone that recorded the highest overall mean juice sucrose % and significantly superior over the standard CoSe 95422 at Buralikson. CoP 11438 (17.37 %) was the second best entry and found to be significantly superior over the standard CoSe 95422 at Seorahi and Gorakhpur. None of the entries was identified as qualifying entry.

Table 5.1.1. CCS (t/ha) at harvest

S. No.	Entries	Seo rahi	Gora khpur	Pusa	Moti pur	Bethua dahari	Bura likson	Mean	Over all rank
1	CoP 11436	9.96	9.75*	11.03	-	6.42	7.63	8.96	
2	CoP 11437	10.08	6.29	11.41	-	7.38	11.25	9.28	
3	CoP 11438	11.05	10.28*	9.53	-	6.88	10.73	9.69	2
4	CoSe 11451	10.38	11.15*	10.83	-	7.90	10.27	10.11	1
Standards									
1	BO 130	8.84	7.90	11.17	-	8.41	10.35	9.33	
2	CoSe 95422	8.50	8.23	10.40	-	7.25	12.57	9.39	
	GM	9.80	7.47	10.73		7.37	10.47		
	SE	-	0.58	0.31	-	-	0.37		
	CD	-	1.24	0.97	-	-	1.25		
	CV	-	9.74	4.92	-	-	11.23		
Qualifying entries at each locations									
	1	CoP 11438	CoSe 11451	-	-	-	-	-	
	2	CoSe 11451	CoP 11438	-	-	-	-	-	
	3	CoP 11437	CoP 11436	-	-	-	-	-	

Qualifying entries: CoP 11438(2), CoSe 11451(2), CoP 11436 (1) & CoP 11437(1)

Performance across the locations:

CoSe 95422 (9.39 t/ha) was the better standard for commercial cane sugar yield (t/ha). CoSe 11451 (10.11 t/ha) was the top ranking entry followed by CoP 11438 (9.69 t/ha) across the zone and recorded more than ten per cent improvement over the better standard at Seorahi and Gorakhpur. CoSe 11451, CoP 11438 and CoP 11436 recorded significantly superior CCS (t/ha) over the better standard (CoSe 95422) at Gorakhpur. None of the entries was found to be qualifying entry recording ten per cent improvement over the best standard.

Table 5.1.2. Cane Yield (t/ha) at harvest

S. No.	Entries	Seo rahi	Gora khpur	Pusa	Moti pur	Bethua dahari	Bura likson	Mean	Overall rank
1	CoP 11436	83.11*	82.78	90.64	-	74.21	61.60	78.47	3
2	CoP 11437	82.81*	51.56	100.93	-	71.43	83.60	78.07	
3	CoP 11438	87.26*	81.67*	75.91	-	72.36	79.20	79.28	2
4	CoSe 11451	85.33*	86.66*	86.45	-	75.87	74.80	81.82	1
Standards									
1	BO 130	73.33	67.78	92.06	-	74.75	83.60	78.30	
2	CoSe 95422	69.93	70.11	86.97	-	72.40	92.40	78.36	
	GM	80.30	73.43	88.83		73.50	79.20		
	SE	-	2.19	3.47	-	-	1.88		
	CD	8.16	4.68	11.06	-	-	6.50		
	CV	5.58	9.02	6.76	-	-	11.50		
Qualifying entries at each locations									
	1	CoP 11438	CoSe 11451	-	-	-	-	-	
	2	CoSe 11451	CoP 11436	-	-	-	-	-	
	3	CoP 11436	CoP 11438	-	-	-	-	-	

Qualifying entries: CoSe 11451(2), CoP 11438(2) & CoP 11436(2)

Performance across the locations:

CoSe 95422 (78.36 t/ha) was the better standard for cane yield (t/ha). Three early test entries CoSe 11451 (81.82 t/ha), CoP 11438 (79.28 t/ha) and CoP 11436 (78.47 t/ha) performed better than the standard CoSe 95422 and these entries were with more than ten per cent improvement in cane yield (t/ha) than the respective standards at Seorahi and Gorakhpur. All the four entries viz., CoSe 11451, CoP 11438, CoP 11436 & CoP 11437 have recorded significantly superior cane yield (t/ha) over the better standard (BO 130), at Seorahi and Gorakhpur. CoSe 11451 & CoP 11438 recorded significantly superior cane yield than the better standard CoSe 95422. The entries CoSe 11451 and CoP 11438 recorded 4.42 % and 1.17 % improvement over the best standard CoSe 95422 across the locations.

Table 5.1.3. CCS (%) at harvest

S. No.	Entries	Seo rahi	Gora khpur	Pusa	Moti pur	Bethua dahari	Bura likson	Mean	Ove rall rank
1	CoP 11436	11.98	11.78	12.16	-	8.65	12.40	11.39	
2	CoP 11437	12.17	12.20*	11.32	-	10.34	13.46	11.90	2
3	CoP 11438	12.65*	12.58*	12.56	-	9.50	13.55	12.17	1
4	CoSe 11451	12.15	12.02	12.53	-	10.40	13.73	12.17	1
Standards									
1	BO 130	12.05	11.65	12.13	-	11.24	12.38	11.89	
2	CoSe 95422	12.15	11.73	11.95	-	9.55	13.60	11.80	
	GM	12.19	11.99	12.11		9.95	13.19		
	SE	-	0.16	0.19	-	-	0.08		
	CD	0.37	0.36	0.62	-	-	0.24		
	CV	1.70	2.04	2.78	-	-	4.05		
Qualifying entries at each locations									
	1	-	CoP 11438	-	-	-	-	-	
	2	-	-	-	-	-	-	-	
	3	-	-	-	-	-	-	-	

Qualifying entry: CoP 11438(1)

Performance across the locations:

BO 130 (11.89 %) was the better standard for CCS (%) and three test entries (CoP 11438, CoSe 11451 and CoP 11437) performed better than this standard. CoP 11438 (12.17 %) and CoSe 11451 were the best entries as compared to the better standard BO 130. CoP 11438 (11.73 %) showed more than five per cent improvement over the standard (CoSe 95422) for CCS % at Gorakhpur. The entry CoP 11437 (11.90 %) recorded significantly superior CCS % over the standard BO 130. None of the entries was found to be qualifying entry recording five per cent improvement over the best standard.

Table 5.1.4. Sucrose (%) at harvest

S. No.	Entries	Seo rahi	Gora khpur	Pusa	Moti pur	Bethua dahari	Bura likson	Mean	Ove rall rank
1	CoP 11436	17.34	17.09	17.48	-	12.66	17.50	16.41	
2	CoP 11437	17.60	17.61*	16.79	-	14.99	18.85	17.17	3
3	CoP 11438	18.34*	17.58*	17.91	-	13.81	19.20	17.37	2
4	CoSe 11451	17.56	17.39	18.11	-	15.02	20.00*	17.62	1
Standards									
1	BO 130	17.42	16.90	17.50	-	16.22	17.00	17.01	
2	CoSe 95422	17.64	17.03	17.27	-	13.88	18.98	16.96	
	GM	17.65	17.27	17.51	-	14.43	18.59		
	SE	-	0.18	0.22	-	-	0.08		
	CD	0.52	0.39	0.71	-	-	0.24		
	CV	1.64	1.49	2.21	-	-	3.70		
Qualifying entries at each locations									
	1	-	-	-	-	-	-	-	
	2	-	-	-	-	-	-	-	
	3	-	-	-	-	-	-	-	

Qualifying entries: Nil

Performance across the locations:

Among the standards, BO 130 (17.01 %) was better for juice sucrose and three early entries (CoSe 11451, CoP 11438, and CoP 11437) performed better than this standard. CoSe 11451 (17.62 %) was the best entry in the zone that recorded the highest overall mean juice sucrose % and significantly superior over the better standard CoSe 95422 at Buralikson. CoP 11438 (17.37 %) was the second best entry and found to be significantly superior over the better standard CoSe 95422 at Seorahi and Gorakhpur. The entry CoP 11437 was the third for juice sucrose (17.17 %) and significantly superior over the better standard CoSe 95422 at Gorakhpur. The entries CoSe 11451 and CoP 11438 recorded only 3.86 % and 2.12 % improvement over the better standard (BO 130) across the locations.

Table 5.1.5. Brix (%) at harvest

S. No.	Entries	Seo rahi	Gora khpur	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	CoP 11436	16.88	19.46	19.67	-	14.67	19.28	16.98
2	CoP 11437	17.28	19.85	20.00	-	17.02	21.35	19.19
3	CoP 11438	18.02	20.34	19.67	-	15.78	20.00	17.89
4	CoSe 11451	17.62	19.70	20.47	-	16.92	22.00	19.46
Standards								
1	BO 130	17.40	19.25	19.73	-	18.27	19.10	18.69
2	CoSe 95422	17.98	19.45	19.53	-	15.86	20.30	18.08
	SE	17.53	19.68	19.85	-	16.42	20.34	
	CD	-	0.22	0.46	-	-	0.23	
	CV	0.58	0.47	1.02	-	-	0.77	

Table 5.1.6. Purity (%) at harvest

S. No.	Entries	Seo rahi	Gora khpur	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	CoP 11436	88.21	87.80	88.90	-	86.26	87.20	86.73
2	CoP 11437	88.32	88.68	88.30	-	88.02	83.31	85.67
3	CoP 11438	87.96	89.06	86.70	-	87.53	87.28	87.41
4	CoSe 11451	88.57	88.28	87.10	-	88.77	87.00	87.89
Standards								
1	BO 130	88.35	87.79	88.67	-	88.76	88.70	88.73
2	CoSe 95422	87.61	87.58	88.40	-	87.51	87.20	87.36
	SE	-	-	0.85	-	-	0.67	
	CD	0.66	-	1.56	-	-	2.12	
	CV	0.41	-	1.68	-	-	4.30	

Table 5.1.7. Pol (%) cane at harvest

S. No.	Entries	Seo rahi	Gora khpur	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	CoP 11436	12.79	-	14.47	-	-	-	13.63
2	CoP 11437	12.97	-	13.96	-	-	-	13.47
3	CoP 11438	13.51	-	14.95	-	-	-	14.23
4	CoSe 11451	13.01	-	14.80	-	-	-	13.91
Standards								
1	BO 130	12.93	-	14.51	-	-	-	13.72
2	CoSe 95422	12.99	-	14.07	-	-	-	13.53
	SE	-	-	0.37	-	-	-	
	CD	-	-	1.03	-	-	-	
	CV	-	-	4.45	-	-	-	

Table 5.1.8. Extraction (%) at harvest

S. No.	Entries	Seo rahi	Gora khpur	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	CoP 11436	61.52	-	58.40	-	-	-	59.96
2	CoP 11437	62.46	-	62.35	-	-	-	62.41
3	CoP 11438	59.42	-	61.75	-	-	-	60.59
4	CoSe 11451	62.16	-	59.77	-	-	-	60.97
Standards								
1	BO 130	60.82	-	60.50	-	-	-	60.66
2	CoSe 95422	59.56	-	57.75	-	-	-	58.66
	SE	-	-	1.66	-	-	-	
	CD	-	-	2.30	-	-	-	
	CV	-	-	3.39	-	-	-	

Table 5.1.9. Fibre (%) at harvest

S. No.	Entries	Seo rahi	Gora khpur	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	CoP 11436	13.86	-	12.22	-	-	-	13.04
2	CoP 11437	13.80	-	11.85	-	-	-	12.83
3	CoP 11438	13.32	-	11.50	-	-	-	12.41
4	CoSe 11451	13.32	-	12.85	-	-	-	13.09
Standards								
1	BO 130	13.58	-	12.10	-	-	-	12.84
2	CoSe 95422	13.64	-	13.50	-	-	-	13.57
	SE	-	-	0.13	-	-	-	
	CD	-	-	0.41	-	-	-	
	CV	-	-	1.79	-	-	-	

Table 5.1.10. Number of Millable Canes ('000/ha) at harvest

S. No.	Entries	Seo rahi	Gora khpur	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	CoP 11436	120.00	139.00	121.23	-	124.88	77.86	116.59
2	CoP 11437	124.00	103.00	116.31	-	122.72	125.33	118.27
3	CoP 11438	129.00	135.00	88.86	-	122.39	150.60	125.17
4	CoSe 11451	121.00	154.00	112.31	-	120.63	120.00	125.59
Standards								
1	BO 130	121.00	111.00	112.98	-	124.35	92.80	112.43
2	CoSe 95422	102.00	115.00	113.63	-	118.45	122.66	114.35
	SE	-	7.92	4.29	-	-	2.10	
	CD	12.55	16.89	13.70	-	-	7.40	
	CV	5.75	8.85	6.71	-	-	12.50	

Table 5.1.11. Stalk Length (cm) at harvest

S. No.	Entries	Seo rahi	Gora khpur	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	CoP 11436	222.00	230.00	271.33	-	234.00	150.00	221.47
2	CoP 11437	212.00	215.00	289.33	-	240.00	216.00	234.47
3	CoP 11438	218.00	251.00	275.00	-	230.00	195.00	233.80
4	CoSe 11451	215.00	244.00	269.00	-	232.00	195.00	231.00
Standards								
1	BO 130	198.00	211.00	270.33	-	235.00	202.00	223.27
2	CoSe 95422	205.00	200.00	265.33	-	239.00	206.00	223.07
	SE	-	14.01	4.18	-	-	0.15	
	CD	0.14	29.86	13.33	-	-	0.25	
	CV	3.88	8.81	2.65	-	-	11.30	

Table 5.1.12. Stalk Diameter (cm) at harvest

S. No.	Entries	Seo rahi	Gora khpur	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	CoP 11436	2.10	2.20	2.54	-	2.37	2.03	2.25
2	CoP 11437	2.00	1.95	2.74	-	2.41	2.26	2.27
3	CoP 11438	2.10	2.35	2.83	-	2.32	2.19	2.36
4	CoSe 11451	2.20	2.25	2.67	-	2.33	1.79	2.25
Standards								
1	BO 130	1.90	2.20	2.61	-	2.37	1.27	2.07
2	CoSe 95422	2.00	2.00	2.54	-	2.37	2.33	2.25
	SE	-	-	0.04	-	-	0.09	
	CD	0.17	-	0.12	-	-	0.27	
	CV	4.62	-	2.52	-	-	8.33	

Table 5.1.13. Single Cane Weight (kg) at harvest

S. No.	Entries	Seo rahi	Gora khpur	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	CoP 11436	0.72	0.64	0.75	-	0.81	1.00	0.78
2	CoP 11437	0.70	0.60	0.87	-	0.95	1.00	0.82
3	CoP 11438	0.65	0.73	0.86	-	0.73	0.73	0.74
4	CoSe 11451	0.74	0.74	0.77	-	0.75	0.65	0.73
Standards								
1	BO 130	0.60	0.65	0.82	-	0.80	0.66	0.71
2	CoSe 95422	0.64	0.60	0.77	-	0.82	1.00	0.77
	SE	-	0.02	0.02	-	-	0.02	
	CD	0.05	0.04	0.07	-	-	0.06	
	CV	4.51	4.86	4.84	-	-	7.30	

Table 5.1.14. CCS (%) at 240 days

S. No.	Entries	Seo rahi	Gora khpur	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	CoP 11436	9.21	10.06	11.04	-	7.02	10.10	9.49
2	CoP 11437	11.02	11.06	11.18	-	8.57	12.33	10.83
3	CoP 11438	10.62	11.15	12.00	-	7.69	10.16	10.32
4	CoSe 11451	10.79	10.52	10.40	-	7.62	10.30	9.93
Standards								
1	BO 130	10.90	10.14	11.08	-	8.92	10.38	10.28
2	CoSe 95422	10.32	10.81	9.89	-	7.74	10.00	9.75
	SE	-	0.42	0.31	-	-	0.13	
	CD	0.21	0.91	1.00	-	-	0.56	
	CV	1.13	5.72	4.96	-	-	3.54	

Table 5.1.15. Sucrose (%) at 240 days

S. No.	Entries	Seo rahi	Gora khpur	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	CoP 11436	13.69	14.80	15.34	-	10.53	14.80	13.83
2	CoP 11437	15.98	16.14	16.24	-	12.73	17.20	15.66
3	CoP 11438	15.65	16.29	17.36	-	11.49	15.50	15.26
4	CoSe 11451	15.73	15.39	15.16	-	11.59	14.80	14.53
Standards								
1	BO 130	15.88	15.87	16.13	-	13.33	16.10	15.46
2	CoSe 95422	15.05	15.76	14.46	-	11.53	15.58	14.48
	SE	-	-	0.37	-	-	0.15	
	CD	0.28	-	1.19	-	-	0.56	
	CV	1.01	-	4.10	-	-	1.80	

Table 5.1.16. Brix (%) at 240 days

S. No.	Entries	Seo rahi	Gora khpur	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	CoP 11436	16.35	17.37	17.53	-	12.83	18.30	16.48
2	CoP 11437	18.44	18.58	18.53	-	15.21	18.21	17.79
3	CoP 11438	18.41	18.82	19.67	-	13.86	18.50	17.85
4	CoSe 11451	18.12	17.84	17.47	-	14.47	18.80	17.34
Standards								
1	BO 130	18.25	18.32	18.50	-	16.11	18.60	17.96
2	CoSe 95422	19.44	18.17	16.73	-	13.83	18.30	17.29
	SE	-	0.20	0.41	-	-	0.15	
	CD	0.48	0.43	1.30	-	-	0.45	
	CV	1.46	3.39	3.91	-	-	1.65	

Table 5.1.17. Purity (%) at 240 days

S. No.	Entries	Seo rahi	Gora khpur	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	CoP 11436	83.72	85.24	87.53	-	82.07	86.50	85.01
2	CoP 11437	86.67	86.83	87.87	-	83.74	90.32	87.09
3	CoP 11438	85.00	86.50	88.30	-	82.92	80.62	84.67
4	CoSe 11451	86.82	86.29	86.83	-	80.11	78.35	83.68
Standards								
1	BO 130	86.99	86.63	87.20	-	82.77	84.00	85.52
2	CoSe 95422	80.53	86.75	86.47	-	83.33	79.32	83.28
	SE	-	0.42	0.55	-	-	0.77	
	CD	1.53	0.91	1.91	-	-	2.30	
	CV	0.99	5.72	1.09	-	-	3.50	

Table 5.1.18. Number of Shoots ('000/ha) at 240 days

S. No.	Entries	Seo rahi	Gora khpur	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	CoP 11436	-	-	141.13	-	151.26	69.84	120.74
2	CoP 11437	-	-	133.54	-	147.54	120.23	133.77
3	CoP 11438	-	-	80.43	-	131.29	144.50	118.74
4	CoSe 11451	-	-	119.75	-	134.37	180.50	144.87
Standards								
1	BO 130	-	-	146.60	-	121.28	88.54	118.81
2	CoSe 95422	-	-	150.77	-	130.04	120.67	133.83
	SE	-	-	5.96	-	-	1.56	
	CD	-	-	19.00	-	-	5.34	
	CV	-	-	8.02	-	-	11.43	

Table 5.1.19. Number of Tillers ('000/ha) at 120 days

S. No.	Entries	Seo rahi	Gora khpur	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	CoP 11436	206.00	231.00	86.37	-	134.75	52.94	142.21
2	CoP 11437	209.00	172.00	64.40	-	131.27	84.04	132.14
3	CoP 11438	214.00	226.00	43.03	-	120.22	89.17	138.48
4	CoSe 11451	200.00	238.00	61.62	-	123.16	67.61	138.08
Standards								
1	BO 130	207.00	186.00	79.69	-	102.78	40.77	123.25
2	CoSe 95422	167.00	193.00	72.46	-	122.74	78.32	126.70
	SE	-	13.86	3.86	-	-	2.01	
	CD	8.28	29.55	12.31	-	-	5.31	
	CV	2.26	9.43	9.83	-	-	12.3	

Table 5.1.20. Germination (%) at 45 days

S. No.	Entries	Seo rahi	Gora khpur	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	CoP 11436	48.24	41.08	44.60	-	38.17	33.42	41.10
2	CoP 11437	47.50	34.70	42.71	-	37.38	53.05	43.07
3	CoP 11438	40.18	40.25	38.50	-	26.42	56.29	40.33
4	CoSe 11451	44.44	42.40	37.20	-	27.82	42.50	38.87
Standards								
1	BO 130	46.94	32.62	39.82	-	21.21	25.74	33.27
2	CoSe 95422	40.93	34.35	40.52	-	27.46	49.44	38.54
	SE	-	2.38	1.29	-	-	1.30	
	CD	7.59	5.08	4.12	-	-	3.11	
	CV	9.39	18.31	5.51	-	-	12.20	

Table 5.1.21. Assessment of entries by monitoring team constituted by AICRP(S)

Entries	Gorakhpur	Seorahi	Pusa	Motipur	Bethuadahari	Buralikson
1. CoP 11436						
2. CoP 11437						
3. CoP 11438						
4. CoSe 11451						
Standards						
1. BO 130						
2. CoSe 95422						

Table 5.1.22 Assessment of entries by monitoring team

Entries	Gorakhpur	Seorahi	Pusa	Motipur	Bethuadhari	Buralikson
CoP 11436	Better	On par	On par	Not implemented	On par	Poor
CoP 11437	Poor	On par	On par		Better	On par
CoP 11438	Poor	On par	On par		Better	On par
CoSe 11451	Better	Better	On par		Better	Poor
Standards						
BO 130	Poor	Good	Best	Not implemented	Best	Poor
CoSe 95422	Poor	Best	Good		Good	Best

5.2. ADVANCED VARIETAL TRIAL -EARLY – (RATOON)

Centers (6)	Bethuadahari, Buralikson, Gorakhpur, Motipur, Pusa and Seorahi
Entries (4)	CoP 11436, CoP 11437, CoP 11438 and CoSe 11451
Standards (2)	BO 130 and CoSe 95422
Design	RBD
Replications	Three
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:

Four early entries were evaluated along with two standards in six centers of North Central and North East zones during 2015 - 16. All the four test entries performed better for CCS (t/ha) and cane yield (t/ha) than the standards (BO 130 and CoSe 95422). CoP 11438 (10.45 t/ha) ranked first in the zone and it was among top three in all the six locations. CoP 11438 (85.08 t/ha) was the top yielder in the zone and it was among top three in all the locations tested except Bethuadahari. CoP 11438 (12.25 %) was the best entry for CCS that ranked first in the zone and it was among top three in all the locations except Motipur. CoP 11438 (17.73 %) was the best entry in the zone and ranked first for juice sucrose.

Results of the current year:

The data on cane yield and juice quality of five test entries and two standards are presented in tables 5.2.1 to 5.2.20. CoSe 11451 (8.48 t/ha) was the top ranking entry for CCS yield; significantly superior over the better standard BO 130 (8.36 t/ha) and also showed more than ten per cent improvement at Gorakhpur. CoP 11437 (8.34 t/ha) was the second best entry as compared to the better standard BO 130 and showed more than ten per cent improvement in CCS (t/ha) at Seorahi. CoSe 11451, CoP 11436 and CoP 11438 recorded significantly superior CCS (t/ha) over the better standard BO 130 and recorded more than ten per cent CCS yield improvement at Gorakhpur. BO 130 was the better standard for cane yield and recorded 69.70 t/ha. Three test entries viz., CoP 11436 (72.77 t/ha), CoSe 11451 (72.45 t/ha) & CoP 11437 (70.55 t/ha) performed better than standard BO 130. CoP 11436 and CoSe 11451 recorded more than ten per cent improvement for cane yield (t/ha) than BO 130 at Seorahi and CoSe 95422 at Gorakhpur. For CCS (%) & sucrose (%) BO 130 was the better standard and recorded 12.02% for CCS & 17.21% for sucrose. None of the test entries were found superior over the better standard (BO 130) for CCS (%) & sucrose (%). None of the entries were qualified by recording ten per cent improvement for cane yield or five per cent improvement for sucrose.

Table 5.2.1. CCS (t/ha) at harvest

S. No.	Entries	Seo rahi	Gora khpur	Pusa	Moti pur	Bethua dahari	Bura likson	Mean	Ove rall rank
1	CoP 11436	8.80	8.29*	11.92	7.42	6.27	5.44	8.02	
2	CoP 11437	9.09	6.27	12.16	8.18	7.14	7.23	8.34	2
3	CoP 11438	9.73	8.19*	8.21	8.18	6.57	8.73	8.27	4
4	CoSe 11451	8.82	8.39*	10.04	7.87	7.58	8.20	8.48	1
Standards									
1	BO 130	8.13	7.00	11.81	7.81	8.05	7.33	8.36	3
2	CoSe 95422	7.01	6.70	8.81	8.17	6.77	8.31	7.63	
	GM	8.60	7.47	10.49	7.94	7.06	7.54		
	SE	-	0.36	0.42	-	-	0.35		
	CD	-	0.77	1.34	-	-	1.33		
	CV	-	11.14	6.97	-	-	11.32		
Qualifying entries at each locations									
	1	CoP 11438	CoSe 11451	-	-	-	-	-	
	2	CoP 11437	CoP 11436	-	-	-	-	-	
	3	-	CoP 11438	-	-	-	-	-	

Qualifying entries: CoP 11438(2), CoP 11436 (1), CoP 11437(1) & CoSe 11451(1)

Performance across the locations:

BO 130 (8.36 t/ha) was the better standard for commercial cane sugar yield (t/ha). CoSe 11451 (8.48 t/ha) was the top ranking entry for CCS yield. It was significantly superior over the better standard (BO 130) and showed more than ten per cent improvement at Gorakhpur. CoP 11437 (8.34 t/ha) was the second best entry and showed more than ten per cent improvement for CCS (t/ha) than this standard at Seorahi. CoSe 11451, CoP 11436 and CoP 11438 recorded significantly superior CCS over the best standard BO 130 and recorded more than ten per cent CCS yield improvement at Gorakhpur. None of the entries were qualified by recording ten per cent improvement over the best standard across the locations.

Table 5.2.2. Cane Yield (t/ha) at harvest

S. No.	Entries	Seo rahi	Gora khpur	Pusa	Moti pur	Bethua dahari	Bura likson	Mean	Overall rank
1	CoP 11436	81.33	75.38	104.35	68.86	64.03	42.66	72.77	1
2	CoP 11437	79.22	58.56	103.35	70.02	60.81	51.35	70.55	3
3	CoP 11438	83.33	74.44	69.26	72.66	61.63	61.15	70.41	4
4	CoSe 11451	82.33	76.11	85.87	67.34	66.18	56.84	72.45	2
Standards									
1	BO 130	67.67	60.56	98.82	67.76	65.45	57.96	69.70	
2	CoSe 95422	62.11	63.33	83.10	70.96	62.68	59.74	66.99	
	GM	76.00	68.06	90.79	69.60	63.46	54.95		
	SE	-	4.78	2.50	1.10	-	1.88		
	CD	4.64	10.20	7.97	3.33	-	6.40		
	CV	4.05	9.95	4.76	3.17	-	12.20		
Qualifying entries at each locations									
	1	CoP 11438	CoSe 11451	-	-	-	-	-	
	2	CoSe 11451	CoP 11436	-	-	-	-	-	
	3	CoP 11436	CoP 11438	-	-	-	-	-	

Qualifying entries: CoP 11436(2), CoSe 11451(2) & CoP 11438(2)

Performance across the locations:

BO 130 (69.70 t/ha) was the better standard for cane yield (t/ha). All the four early test entries performed better than standard BO 130. CoP 11436 and CoSe 11451 ranked first (72.77 t/ha) and second (72.45 t/ha). Both entries recorded more than ten per cent improvement over the better standard at Seorahi (BO 130) and Gorakhpur (CoSe 95422). CoP 11438 ranked fourth with more than ten per cent improvement over the better standard for cane yield (t/ha) at Seorahi (BO 130) and Gorakhpur (CoSe 95422).

Table 5.2.3. CCS (%) at harvest

S. No.	Entries	Seo rahi	Gora khpur	Pusa	Moti pur	Bethua dahari	Bura likson	Mean	Ove rall rank
1	CoP 11436	10.82	11.08	11.42	10.77	9.79	12.60	11.08	
2	CoP 11437	11.48	10.90	11.74	11.68	11.74	14.15	11.95	2
3	CoP 11438	11.68	10.99	11.86	11.26	10.65	14.29	11.79	
4	CoSe 11451	10.72	11.00	11.69	11.68	11.46	14.43	11.83	3
Standards									
1	BO 130	12.01	11.57	11.95	11.53	12.29	12.78	12.02	1
2	CoSe 95422	11.30	10.64	10.61	11.51	10.81	13.90	11.46	
	GM	11.34	11.03	11.55	11.41	11.12	13.69		
	SE	-	-	0.30	0.21	-	0.08		
	CD	0.19	-	0.91	-	-	0.25		
	CV	1.11	-	4.54	3.8	-	4.15		
Qualifying entries at each locations									
	1	-	-	-	-	-	-	-	
	2	-	-	-	-	-	-	-	
	3	-	-	-	-	-	-	-	

Qualifying entry: Nil

Performance across the locations:

BO 130 (12.02 %) was the better standard for CCS and none of the test entries performed better than this standard.

Table 5.2.4. Sucrose (%) at harvest

S. No.	Entries	Seo rahi	Gora khpur	Pusa	Moti pur	Bethua dahari	Bura likson	Mean	Ove rall rank
1	CoP 11436	15.80	16.23	16.57	16.67	14.24	17.60	16.19	
2	CoP 11437	16.64	15.91	16.99	17.01	16.90	19.20	17.11	2
3	CoP 11438	16.92	16.13	17.19	16.96	15.43	19.48*	17.02	3
4	CoSe 11451	15.64	16.06	16.64	17.05	16.52	20.10*	17.00	4
Standards									
1	BO 130	17.37	16.85	17.25	16.53	17.67	17.60	17.21	1
2	CoSe 95422	16.40	15.46	15.50	17.05	15.62	19.00	16.51	
	GM	16.46	16.11	16.69	16.88	16.06	18.83		
	SE	-	-	3.10	0.23	-	0.09		
	CD	0.24	-	0.99	-	-	0.30		
	CV	0.99	-	3.22	2.79	-	2.60		
Qualifying entries at each locations									
	1	-	-	-	-	-	CoSe 11451	-	
	2	-	-	-	-	-	-	-	
	3	-	-	-	-	-	-	-	

Qualifying entries: CoSe 11451(1)

Performance across the locations:

Among the standards, BO 130 (17.21 %) was better for juice sucrose and none of the test entries performed better than this standard. CoSe 11451 and CoP 11438 showed significantly superior performance for sucrose % than the better standard (CoSe 95422) at Buralikson.

Table 5.2.5. Brix (%) at harvest

S. No.	Entries	Seo rahi	Gora khpur	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	CoP 11436	18.12	18.85	18.87	17.32	16.28	19.30	18.12
2	CoP 11437	18.92	18.35	19.23	19.92	18.93	21.45	19.47
3	CoP 11438	19.32	18.82	19.53	17.45	17.49	20.35	18.83
4	CoSe 11451	18.22	18.52	18.20	19.29	18.57	22.23	19.17
Standards								
1	BO 130	19.72	19.37	19.43	18.84	19.73	19.00	19.35
2	CoSe 95422	18.72	17.66	17.93	17.79	17.66	20.15	18.32
	SE	-	0.28	0.31	0.30	-	0.25	
	CD	0.22	0.60	1.00	0.90	-	0.80	
	CV	0.80	3.48	2.88	3.25	-	2.50	

Table 5.2.6. Purity (%) at harvest

S. No.	Entries	Seo rahi	Gora khpur	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	CoP 11436	86.57	86.10	87.80	88.49	87.44	87.60	87.33
2	CoP 11437	87.95	86.68	88.23	86.90	89.25	85.20	87.37
3	CoP 11438	88.01	85.74	88.00	92.05	88.20	87.21	88.20
4	CoSe 11451	86.67	86.68	88.17	88.24	88.94	85.20	87.32
Standards								
1	BO 130	88.31	87.01	88.53	89.02	89.54	87.30	88.29
2	CoSe 95422	87.62	87.53	86.10	89.98	88.44	85.10	87.46
	SE	-	-	0.52	1.25	-	0.54	
	CD	0.55	-	1.53	-	-	1.50	
	CV	0.41	-	1.03	2.81	-	3.60	

Table 5.2.7. Pol (%) cane at harvest

S. No.	Entries	Seo rahi	Gora khpur	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	CoP 11436	11.65	-	13.64	12.66	-	-	12.65
2	CoP 11437	12.30	-	14.09	12.85	-	-	13.08
3	CoP 11438	12.48	-	14.28	12.88	-	-	13.21
4	CoSe 11451	11.59	-	13.65	12.95	-	-	12.73
Standards								
1	BO 130	12.81	-	14.26	12.63	-	-	13.23
2	CoSe 95422	12.10	-	12.62	13.01	-	-	12.58
	SE	-	-	0.30	-	-	-	
	CD	-	-	0.96	-	-	-	
	CV	-	-	3.78	-	-	-	

Table 5.2.8. Extraction (%) at harvest

S. No.	Entries	Seo rahi	Gora khpur	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	CoP 11436	59.16	-	57.10	48.00	-	-	54.75
2	CoP 11437	59.48	-	61.32	52.25	-	-	57.68
3	CoP 11438	60.34	-	59.80	59.25	-	-	59.80
4	CoSe 11451	60.12	-	57.60	57.00	-	-	58.24
Standards								
1	BO 130	60.52	-	59.50	58.00	-	-	59.34
2	CoSe 95422	59.46	-	56.75	51.50	-	-	55.90
	SE	-	-	1.01	0.88	-	-	
	CD	-	-	1.30	2.67	-	-	
	CV	-	-	2.98	3.26	-	-	

Table 5.2.9. Fibre (%) at harvest

S. No.	Entries	Seo rahi	Gora khpur	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	CoP 11436	13.42	-	12.65	14.04	-	-	13.37
2	CoP 11437	13.25	-	12.07	14.46	-	-	13.26
3	CoP 11438	13.42	-	11.91	14.08	-	-	13.14
4	CoSe 11451	13.34	-	12.95	14.07	-	-	13.45
Standards								
1	BO 130	13.46	-	12.35	13.62	-	-	13.14
2	CoSe 95422	13.28	-	13.61	13.70	-	-	13.53
	SE	-	-	0.07	0.17	-	-	
	CD	-	-	0.21	0.51	-	-	
	CV	-	-	0.91	2.45	-	-	

Table 5.2.10. Number of Millable Canes ('000/ha) at harvest

S. No.	Entries	Seo rahi	Gora khpur	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	CoP 11436	156.00	142.00	130.83	127.54	129.25	60.94	124.43
2	CoP 11437	159.00	115.00	121.59	123.34	143.45	73.36	122.62
3	CoP 11438	158.00	149.00	85.04	141.96	142.64	87.36	127.33
4	CoSe 11451	155.00	150.00	109.83	125.20	135.11	81.20	126.06
Standards								
1	BO 130	158.00	121.00	116.44	122.38	144.83	96.60	126.54
2	CoSe 95422	121.00	127.00	113.32	193.86	120.98	74.67	125.14
	SE	-	4.77	4.40	4.10	-	2.05	
	CD	6.45	10.17	14.05	12.38	-	6.40	
	CV	2.82	10.72	6.76	5.91	-	11.35	

Table 5.2.11. Stalk Length (cm) at harvest

S. No.	Entries	Seo rahi	Gora khpur	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	CoP 11436	218.00	240.00	263.67	207.00	229.33	160.00	219.67
2	CoP 11437	210.00	206.00	278.67	188.75	236.67	217.00	222.85
3	CoP 11438	216.00	248.00	264.67	176.00	226.00	220.00	225.11
4	CoSe 11451	215.00	238.00	251.67	186.50	227.67	210.00	221.47
Standards								
1	BO 130	195.00	211.00	262.67	215.25	230.67	180.00	215.77
2	CoSe 95422	200.00	216.00	254.33	195.00	235.00	167.00	211.22
	SE	-	0.16	3.91	3.50	-	1.70	
	CD	0.12	0.34	12.48	10.55	-	2.30	
	CV	3.83	10.09	2.58	3.59	-	11.50	

Table 5.2.12. Stalk Diameter (cm) at harvest

S. No.	Entries	Seo rahi	Gora khpur	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	CoP 11436	2.10	2.24	2.47	2.10	2.26	1.83	2.17
2	CoP 11437	2.00	2.08	2.57	2.27	2.29	2.10	2.22
3	CoP 11438	2.10	1.84	2.65	2.12	2.22	1.88	2.14
4	CoSe 11451	2.20	2.34	2.51	2.45	2.19	1.60	2.22
Standards								
1	BO 130	1.90	2.05	2.45	2.35	2.22	1.67	2.11
2	CoSe 95422	2.00	1.95	2.38	1.87	2.20	2.00	2.07
	SE	-	0.10	0.04	0.07	-	0.07	
	CD	0.13	0.21	0.12	0.22	-	0.24	
	CV	4.39	6.54	2.50	6.93	-	5.50	

Table 5.2.13. Number of Shoots ('000/ha) at 240 days

S. No.	Entries	Seo rahi	Gora khpur	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	CoP 11436	-	-	118.06	153.48	139.25	66.54	119.33
2	CoP 11437	-	-	103.42	158.69	153.24	78.40	123.44
3	CoP 11438	-	-	69.59	160.63	152.74	89.33	118.07
4	CoSe 11451	-	-	69.41	139.72	145.71	85.10	109.99
Standards								
1	BO 130	-	-	82.29	124.50	155.50	100.5	115.70
2	CoSe 95422	-	-	120.37	177.61	130.26	78.33	126.64
	SE	-	-	2.70	3.31	-	1.80	
	CD	-	-	8.60	9.98	-	4.66	
	CV	-	-	4.97	4.34	-	12.3	

Table 5.2.14. Number of Tillers ('000/ha) at 120 days

S. No.	Entries	Seorahi	Gorakhpur	Pusa	Motipur	Bethuadahari	Buralikson	Mean
1	CoP 11436	201.00	236.00	111.01	202.24	154.11	58.40	160.46
2	CoP 11437	203.00	191.00	84.88	159.27	182.17	81.52	150.31
3	CoP 11438	204.00	247.00	56.43	191.75	173.26	87.30	159.96
4	CoSe 11451	198.00	252.00	59.40	141.42	161.27	86.33	149.74
Standards								
1	BO 130	201.00	204.00	65.98	177.05	162.47	95.35	150.98
2	CoSe 95422	160.00	212.00	112.03	199.22	140.12	77.31	150.11
	SE	-	8.19	4.65	3.58	-	1.62	
	CD	9.15	17.46	14.85	10.81	-	5.35	
	CV	3.12	11.01	9.87	4.01	-	13.50	

Table 5.2.15. Assessment of entries by monitoring team constituted by AICRP(S)

Entries	Gorakhpur	Seorahi	Pusa	Motipur	Bethuadahari	Buralikson
1. CoP 11436						
2. CoP 11437						
3. CoP 11438						
4. CoSe 11451						
Standards						
1. BO 130						
2. CoSe 95422						

Table 5.2.16 Assessment of entries by monitoring team

Entries	Gorakhpur	Seorahi	Pusa	Motipur	Bethuadhari	Buralikson
CoP 11436	Better	On par	Better	On par	On par	On par
CoP 11437	Poor	On par	On par	On par	On par	On par
CoP 11438	Better	On par	On par	Better	On par	On par
CoSe 11451	On par	Better	On par	On par	Better	Poor
Standards						
BO 130	Best	Poor	Good	Best	Poor	Best
CoSe 95422	Poor	Best	Best	Good	Best	Good

5.3. ADVANCED VARIETAL TRIAL (EARLY)

Mean of two plant and one ratoon crops (2015-17)

In the North Central and North East zones, four midlate clones were evaluated along with two standards during the crop seasons 2015 - 17. AVT I plant crop and AVT (Ratoon) were conducted by all the six centres. Motipur centre did not conduct the AVT II plant trial. 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.** Bethuadahari centre data was not considered for calculating the general mean (weighted average) because the cane yield at harvest (t/ha) was lower than the state average. The salient results pertaining to CCS (t/ha), cane yield (t/ha), CCS% and sucrose % are given below.

Commercial Cane Sugar (t/ha):

BO 130 was the better standard with a mean CCS yield of 8.12 t/ha. All the four test entries recorded more than ten per cent improvement over the better standard BO 130 for CCS yield. CoSe 11451 (9.35 t/ha) was the best entry that ranked first with 15.10 % improvement and it performed well in three (Seorahi, Gorakhpur & Bethuadahari) out of six locations tested. CoP 11437 (9.32 t/ha) ranked second with 14.78 % improvement and performed well in three locations (Seorahi, Pusa & Buralikson). The third best entry was CoP 11436 (9.14 t/ha) with 12.55% improvement and it performed well at Seorahi, Gorakhpur and Pusa.

Cane Yield (t/ha):

CoSe 95422 was the best among the standards for cane yield with 72.28 t/ha. All the test entries performed better than the standards for cane yield. CoP 11438 (79.15 t/ha) was the top yielder that ranked first followed by CoP 11437 (77.05 t/ha) in the zone and both performed well in two locations (Seorahi & Pusa). CoP 11436 was the third best entry (76.80 t/ha) and it performed well in three locations viz., Seorahi, Gorakhpur & Pusa.

Commercial Cane Sugar (%):

BO 130 was the better standard with a mean CCS of 11.97%. Three test entries CoP 11438 (12.37 %), CoSe 11451 (12.24 %) and CoP 11437 (12.19 %) were better than the standard.

Sucrose (%):

CoSe 95422 was the better standard with a mean sucrose of 17.18%. Three test entries CoP 11438 (17.77 %), CoSe 11451 (17.66 %) and CoP 11437 (17.52 %) were better than the standard. CoP 11438 (17.77 %) performed well at Seorahi, Pusa and Buralikson. CoSe 11451 (17.66 %) and CoP 11437 (17.52 %) performed well at Buralikson.

Overall performance:

Based on the pooled mean of two plant and one ratoon crops in six centres, BO 130 was the best standard for CCS (t/ha) & CCS (%) and CoSe 95422 for cane yield (t/ha) & sucrose (%). All the test entries showed ten per cent improvement over the best standard BO 130 for CCS yield (t/ha). CoP 11438 showed 10% improvement for cane yield and numerically superior for sucrose % hence identified as qualifying entry.

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	II P	R	Mean	IP	II P	R	Mean	IP	II P	R	Mean	IP	II P*	R	Mean
1	CoP 11436	9.68	9.96	8.80	9.48	9.97	9.75	8.29	9.34	11.12	11.03	11.92	11.36	8.66	-	7.42	8.04
2	CoP 11437	9.86	10.08	9.09	9.68	8.60	6.29	6.27	7.05	12.78	11.41	12.16	12.12	8.30	-	8.18	8.24
3	CoP 11438	10.78	11.05	9.73	10.52	9.22	10.28	8.19	9.23	13.16	9.53	8.21	10.30	8.24	-	8.18	8.21
4	CoSe 11451	9.98	10.38	8.82	9.73	9.92	11.15	8.39	9.82	10.20	10.83	10.04	10.36	8.14	-	7.87	8.00
	Standards																
1	BO 130	8.39	8.84	8.13	8.45	7.16	7.90	7.00	7.35	10.05	11.17	11.81	11.01	7.69	-	7.81	7.75
2	CoSe 95422	8.03	8.50	7.01	7.85	7.59	8.23	6.70	7.51	9.41	10.40	8.81	9.54	7.97	-	8.17	8.07
	GM	9.45	9.80	8.60		8.74	8.93	7.47		11.12	10.73	10.49		8.17	-	7.94	
S. No.	Entries	Bethuadahari**				Buralikson				GM	Rank						
		IP	II P	R	Mean	IP	II P	R	Mean	(Wt. Aver.)							
1	CoP 11436	9.77	6.42	6.27	7.49	5.86	7.63	5.44	6.31	9.14	3						
2	CoP 11437	9.13	7.38	7.14	7.88	8.99	11.25	7.23	9.16	9.32	2						
3	CoP 11438	10.31	6.88	6.57	7.92	10.97	10.73	8.73	10.14	9.00	4						
4	CoSe 11451	11.84	7.90	7.58	9.11	7.45	10.27	8.20	8.64	9.35	1						
	Standards																
1	BO 130	9.17	8.41	8.05	8.54	5.03	10.35	7.33	7.57	8.12							
2	CoSe 95422	12.00	7.25	6.77	8.67	9.68	12.57	8.31	10.19	7.98							
	GM	10.37	7.37	7.06		8.00	10.47	7.54									

* Trial not conducted ** Data not included for GM (Weighted Average) as the state average was higher

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	II P	R	Mean	IP	II P	R	Mean	IP	II P	R	Mean	IP	II P*	R	Mean
1	CoP 11436	82.22	83.11	81.33	82.22	83.08	82.78	75.38	80.41	95.90	90.64	104.35	96.96	76.27	-	68.86	72.57
2	CoP 11437	80.99	82.81	79.22	81.01	71.22	51.56	58.56	60.45	104.15	100.93	103.35	102.81	74.56	-	70.02	72.29
3	CoP 11438	84.88	87.26	83.33	85.16	78.44	81.67	74.44	78.18	104.70	75.91	69.26	83.29	74.64	-	72.66	73.65
4	CoSe 11451	82.99	85.33	82.33	83.55	83.77	86.66	76.11	82.18	82.25	86.45	85.87	84.86	67.59	-	67.34	67.47
	Standards																
1	BO 130	69.44	73.33	67.67	70.15	61.78	67.78	60.56	63.37	81.10	92.06	98.82	90.66	69.56	-	67.76	68.66
2	CoSe 95422	65.89	69.93	62.11	65.98	64.89	70.11	63.33	66.11	80.75	86.97	83.10	83.61	70.81	-	70.96	70.89
	GM	77.74	80.30	76.00		73.86	73.43	68.06		91.48	88.83	90.79		72.24		69.60	
S. No.	Entries	Bethuadahari**				Buralikson				GM (Wt. Aver.)	Rank						
		IP	II P	R	Mean	IP	II P	R	Mean								
1	CoP 11436	92.09	74.21	64.03	76.78	47.07	61.60	42.66	50.44	76.80	3						
2	CoP 11437	82.23	71.43	60.81	71.49	66.33	83.60	51.35	67.09	77.05	2						
3	CoP 11438	87.33	72.36	61.63	73.77	80.49	79.20	61.15	73.61	79.15	1						
4	CoSe 11451	105.42	75.87	66.18	82.49	53.82	74.80	56.84	61.82	76.58	4						
	Standards																
1	BO 130	78.64	74.75	65.45	72.95	40.61	83.60	57.96	60.72	70.86							
2	CoSe 95422	98.34	72.40	62.68	77.81	70.94	92.40	59.74	74.36	72.28							
	GM	90.68	73.50	63.46		59.88	79.20	54.95									

* Trial not conducted ** Data not included for GM (Weighted Average) as the state average was higher

Table 5.3.3. CCS (%) at harvest - Pooled data of two plant and one ratoon crops

S. No.	Entries	Seorahi				Gorakhpur				Pusa				Motipur			
		IP	II P	R	Mean	IP	II P	R	Mean	IP	II P	R	Mean	IP	II P*	R	Mean
1	CoP 11436	11.77	11.98	10.82	11.52	12.01	11.78	11.08	11.62	11.60	12.16	11.42	11.73	11.35	-	10.77	11.06
2	CoP 11437	12.19	12.17	11.48	11.95	12.07	12.20	10.90	11.72	12.54	11.32	11.74	11.87	11.13	-	11.68	11.41
3	CoP 11438	12.71	12.65	11.68	12.35	11.75	12.58	10.99	11.77	12.56	12.56	11.86	12.33	11.04	-	11.26	11.15
4	CoSe 11451	12.03	12.15	10.72	11.63	11.74	12.02	11.00	11.59	12.02	12.53	11.69	12.08	11.80	-	11.68	11.74
	Standards																
1	BO 130	12.07	12.05	12.01	12.04	11.59	11.65	11.57	11.60	12.40	12.13	11.95	12.16	11.06	-	11.53	11.30
2	CoSe 95422	12.18	12.15	11.30	11.88	11.70	11.73	10.64	11.36	11.67	11.95	10.61	11.41	10.73	-	11.51	11.12
	GM	12.16	12.19	11.34		11.81	11.99	11.03		12.13	12.11	11.55		11.19	-	11.41	
S. No.	Entries	Bethuadahari**				Buralikson				GM (Wt. Aver.)	Rank						
		IP	II P	R	Mean**	IP	II P	R	Mean								
1	CoP 11436	10.62	8.65	9.79	9.69	12.45	12.40	12.60	12.48	11.73							
2	CoP 11437	11.11	10.34	11.74	11.06	13.56	13.46	14.15	13.72	12.19	3						
3	CoP 11438	11.82	9.50	10.65	10.66	13.64	13.55	14.29	13.83	12.37	1						
4	CoSe 11451	11.24	10.40	11.46	11.03	13.80	13.73	14.43	13.99	12.24	2						
	Standards																
1	BO 130	11.67	11.24	12.29	11.73	12.40	12.38	12.78	12.52	11.97	4						
2	CoSe 95422	12.21	9.55	10.81	10.86	13.65	13.60	13.90	13.72	11.95							
	GM	11.45	9.95	11.12		13.25	13.19	13.69									

* Trial not conducted ** Data not included for GM (Weighted Average) as the state average was higher

Table 5.3.4. Sucrose (%) at harvest - Pooled data of two plant and one ratoon crops

S. No.	Entries	Seorahi				Gorakhpur				Pusa				Motipur			
		IP	II P	R	Mean	IP	II P	R	Mean	IP	II P	R	Mean	IP	II P*	R	Mean
1	CoP 11436	17.00	17.34	15.80	16.71	17.29	17.09	16.23	16.87	16.78	17.48	16.57	16.94	16.43	-	16.67	16.55
2	CoP 11437	17.61	17.60	16.64	17.28	17.38	17.61	15.91	16.97	18.17	16.79	16.99	17.32	15.89	-	17.01	16.45
3	CoP 11438	18.36	18.34	16.92	17.87	17.05	17.58	16.13	16.92	18.52	17.91	17.19	17.87	15.95	-	16.96	16.46
4	CoSe 11451	17.43	17.56	15.64	16.88	17.01	17.39	16.06	16.82	17.32	18.11	16.64	17.36	16.94	-	17.05	17.00
	Standards																
1	BO 130	17.46	17.42	17.37	17.42	16.80	16.90	16.85	16.85	17.91	17.50	17.25	17.55	15.70	-	16.53	16.12
2	CoSe 95422	17.60	17.64	16.40	17.21	16.93	17.03	15.46	16.47	16.93	17.27	15.50	16.57	15.38	-	17.05	16.22
	GM	17.58	17.65	16.46		17.08	17.27	16.11		17.61	17.51	16.69		16.05		16.88	
S. No.	Entries	Bethuadahari**				Buralikson				GM (Wt. Aver.)	Rank						
		IP	II P	R	Mean	IP	II P	R	Mean								
1	CoP 11436	15.34	12.66	14.24	14.08	17.65	17.50	17.60	17.58	16.95							
2	CoP 11437	16.11	14.99	16.90	16.00	19.56	18.85	19.20	19.20	17.49	3						
3	CoP 11438	17.24	13.81	15.43	15.49	19.23	19.20	19.48	19.30	17.75	1						
4	CoSe 11451	16.32	15.02	16.52	15.95	20.00	20.00	20.10	20.03	17.65	2						
	Standards																
1	BO 130	17.03	16.22	17.67	16.97	17.66	17.00	17.60	17.42	17.10							
2	CoSe 95422	17.69	13.88	15.62	15.73	19.33	18.98	19.00	19.10	17.18	4						
	GM	16.62	14.43	16.06		18.91	18.59	18.83									

* Trial not conducted ** Data not included for GM (Weighted Average) as the state average was higher

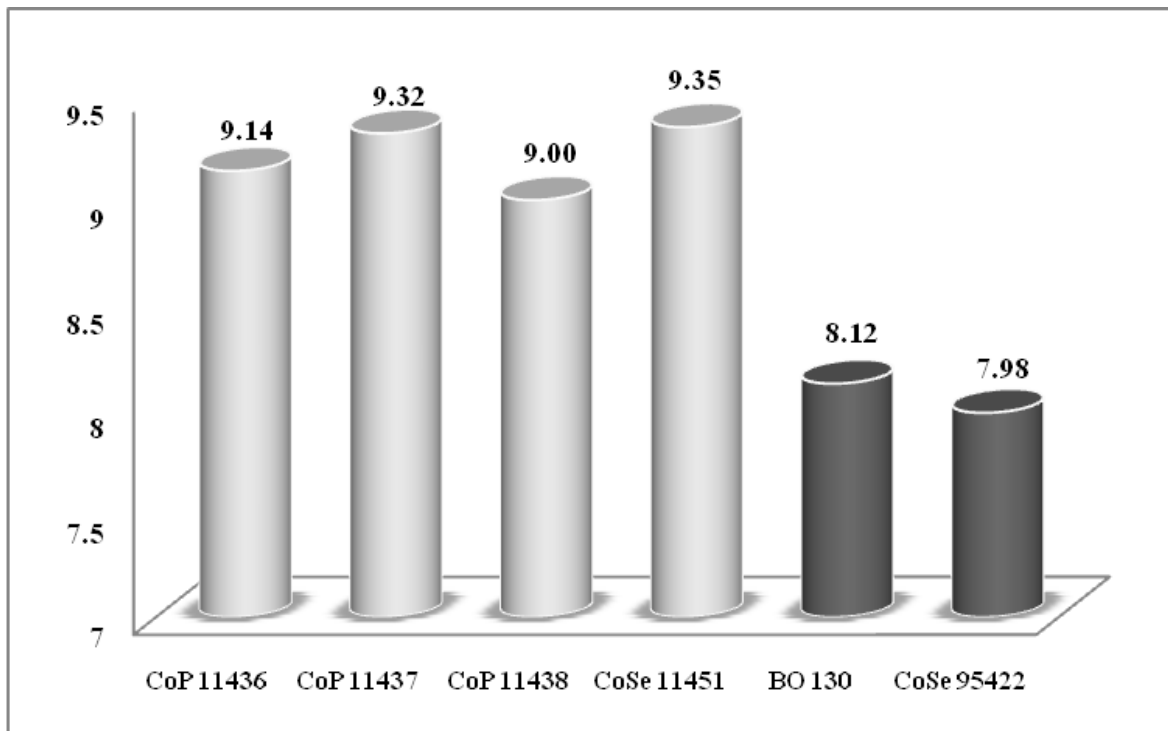


Fig. 5.3.1. Mean performance of (2P+1R) of AVT early clones for CCS (t/ha)

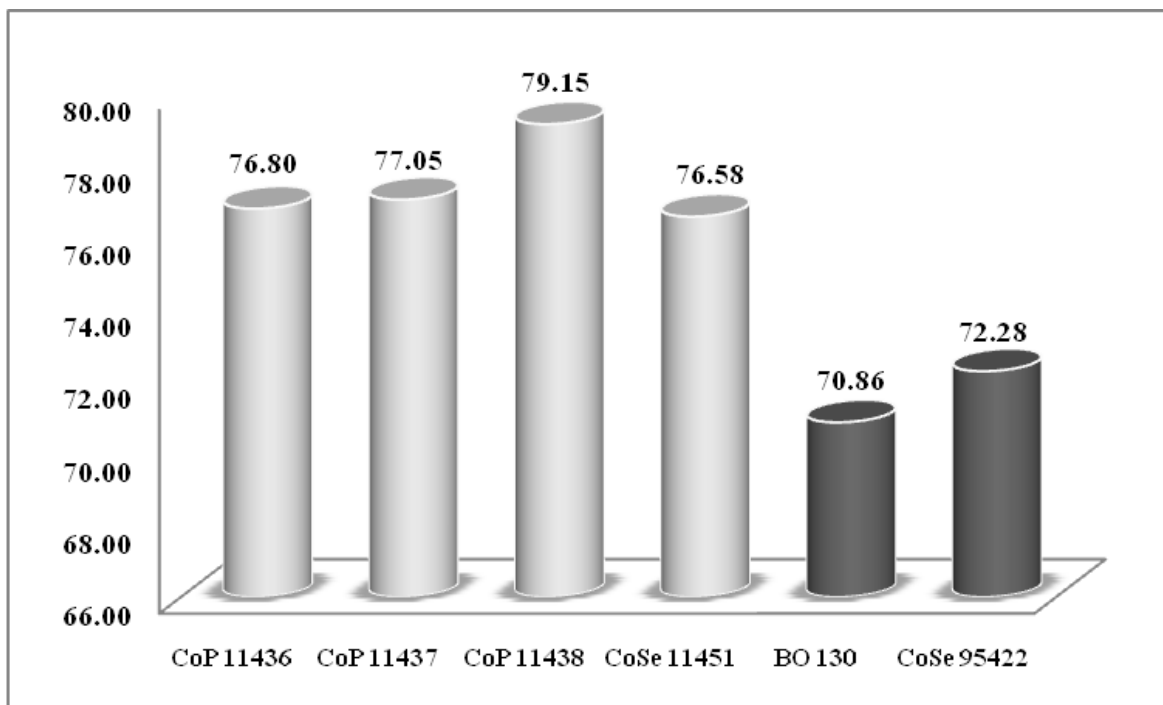


Fig. 5.3.2. Mean performance of (2P+1R) of AVT early clones for Cane Yield (t/ha)

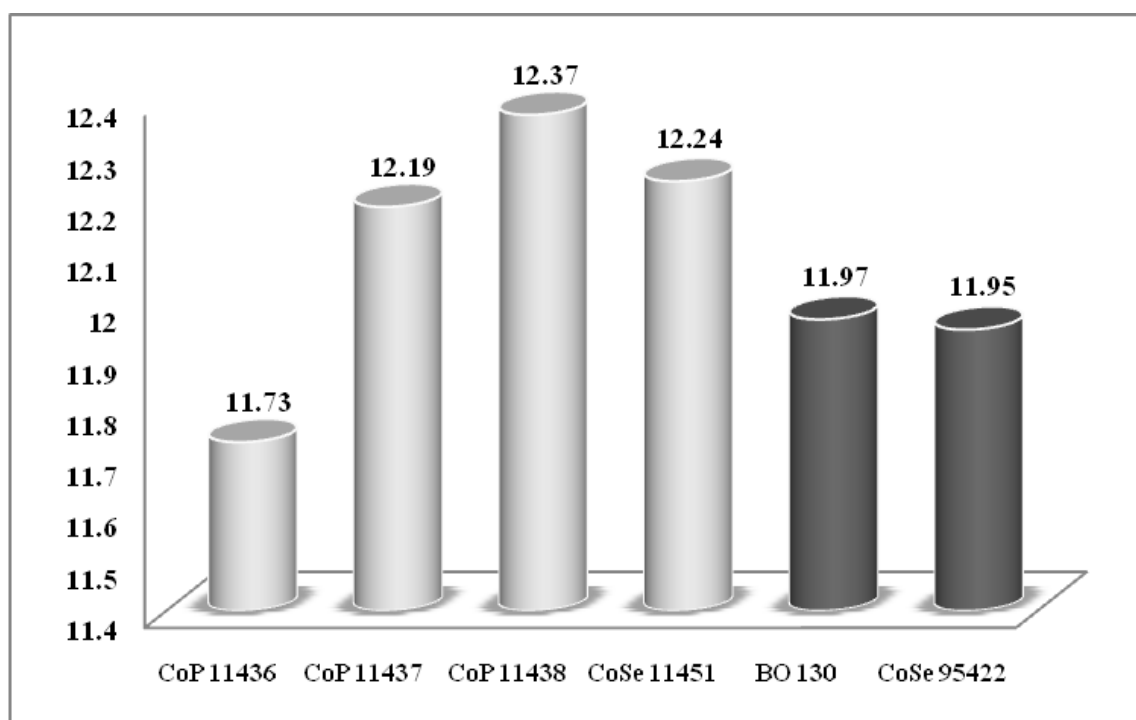


Fig. 5.3.3. Mean performance of (2P+1R) of AVT early clones for CCS (%)

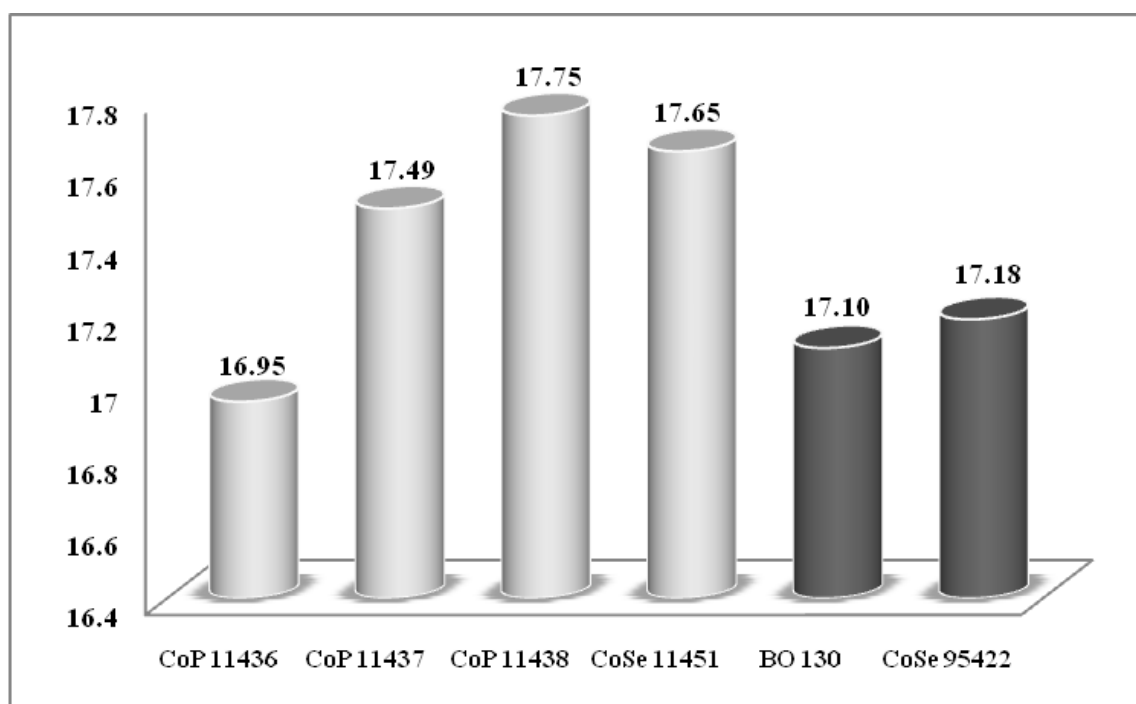


Fig. 5.3.4. Mean performance of (2P+1R) of AVT early clones for Sucrose (%)

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

Four entries, CoP 11436, CoP 11437, CoP 11438 and CoSe 11451 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 1 to 3.

Results based on index of simultaneous selection for high CCS (t/ha) and stable genotypes revealed that entries, CoSe 11451 and CoP 11438 and standard BO 130 were at first, second and third rank, respectively. Such a ranking differed with the ranking based only on mean data of CCS (t/ha) presented in Table 1. Considering top high yielding and stable genotype, entries CoSe 11451 and CoP 11438 were superior than the best standard BO 130 for CCS(t/ha).

Results based on index of simultaneous selection for cane yield (t/ha) and stable genotypes revealed that the standard, BO 130 and entries CoP 11438 and CoSe 11451 were at first, second and third rank, respectively. Such a ranking differed with the ranking based only on mean data of cane yield (Table 2). Considering top high yielding and stable genotype, CoSe 11451 and CoP 11438 were superior among the entries. These entries were inferior than the best standard BO 130.

Results based on index of simultaneous selection for sucrose (%) and stable genotypes revealed that the entry, CoP 11437 and CoP 11438 and standard CoSe 95422 were at first, second and third rank, respectively. Such a ranking differed with the ranking based only on mean data of sucrose content (Table 3). Considering top high sucrose and stable genotype, CoP 11437 and CoP 11438 were superior. These entries were also superior to the best standard CoSe 95422.

From the above analysis, it may be concluded that the only entry CoP 11438 was most stable and high cane yielding, CCS (t/ha) and sucrose (%) in early maturity group of North Central Zone.

Table 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
CoP 11436	1.11	8.67	9.86	6	4	6
CoP 11437	1.26	9.02	5.56	4	3	4
CoP 11438	1.33	9.39	5.04	2	1	3
CoSe 11451	1.36	9.28	4.37	1	2	2
Standards						
BO 130	1.31	8.45	3.84	3	6	1
CoSe 95422	1.12	8.64	9.10	5	5	5

Table 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	CCS (t/ha) value	Stability value	Index value based rank	Cane Yield (t/ha) based rank	Stability based rank
CoP 11436	1.19	76.56	451.48	5	3	6
CoP 11437	1.19	75.86	414.27	4	4	5
CoP 11438	1.32	77.94	271.05	2	1	2
CoSe 11451	1.24	77.06	348.47	3	2	3
Standards						
BO 130	1.40	71.09	166.86	1	6	1
CoSe 95422	1.16	73.13	407.70	6	5	4

Table 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	CCS (t/ha) value	Stability value	Index value based rank	Sucrose (%) based rank	Stability based rank
CoP 11436	1.16	16.46	3.21	5	6	5
CoP 11437	1.35	17.20	1.85	1	3	1
CoP 11438	1.33	17.32	1.99	2	2	2
CoSe 11451	1.23	17.34	2.96	4	1	4
Standards						
BO 130	1.14	17.06	4.51	6	4	6
CoSe 95422	1.29	16.88	2.13	3	5	3

5.4. ADVANCED VARIETAL TRIAL (EARLY) – I PLANT

Centers (6)	Bethuadahari, Buralikson, Gorakhpur, 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, 2016
Crop duration	10 months

Results of the previous year:

The test entries were evaluated in IVT (Early) along with two standards in six centers of North Central and North East zones during 2015 - 16. For CCS (t/ha), CoSe 95422 (8.85 t/ha) was the better standard and the entries CoP 12436 (9.71 t/ha), CoSe 12451(9.35 t/ha) and CoLk 12207 (9.28 t/ha) were found to be superior over the best standard CoSe 95422. CoSe 95422 (73.73 t/ha) was the better standard for cane yield (t/ha) and all the test entries performed well than this standard. CoP 12436 (80.46 t/ha) was the best yielder and it recorded significantly superior cane yield at two centers (Seorahi and Gorakhpur). CoP 12436 (12.06 %) performed better than both the standards (BO 130 & CoSe 95422) for CCS. The standard, CoSe 95422 (17.42 %) was the best for juice sucrose and no entries performed better than this standard.

Results of the current year:

The data on cane yield and quality of Advanced Varietal Trial – Early (I Plant) conducted with three test entries and two standards are presented in tables 5.4.1 to 5.4.20. BO 130 (8.93 t/ha) was the better standard for commercial cane sugar yield (t/ha). CoP 12436 (9.39 t/ha) was the top ranking entry and performed better than BO 130 and showed more than ten per cent 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 more than ten per cent improvement at Seorahi and Gorakhpur. In Gorakhpur centre, all the entries performed better with more than ten per cent 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 more than ten per cent 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 per cent improvement for cane yield (t/ha) and significantly superior over BO 130 at Pusa. BO 130 (11.64 %) was the better standard for CCS (%) 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.

Table 5.4.1. CCS (t/ha) at harvest

S. No.	Entries	Seo rahi	Gora khpur	Pusa	Moti pur	Bethua dahari	Bura likson	Mean	Ove rall rank
1	CoLk 12207	10.18	9.42*	12.91	8.98	6.26	8.18	9.32	2
2	CoP 12436	9.34	9.75*	14.42*	8.59	6.01	8.23	9.39	1
3	CoSe 12451	10.06	11.68*	10.12	8.01	6.79	8.37	9.17	3
Standards									
1	BO 130	9.05	8.39	12.60	8.09	8.36	7.10	8.93	
2	CoSe 95422	8.26	7.89	10.28	8.60	6.90	9.21	8.52	
	GM	9.22	9.43	11.90	8.45	6.98	8.23		
	SE	-	0.44	0.55	0.21	-	NS		
	CD	-	0.98	1.71	0.62	-	-		
	CV	-	6.86	9.07	5.88	-	-		
Qualifying entries at each locations									
	1	CoLk 12207	CoSe 12451	CoP 12436	-	-	-	-	
	2	CoSe 12451	CoP 12436	-	-	-	-	-	
	3	-	CoLk 12207	-	-	-	-	-	

Qualifying entries: CoP 12436(1), CoLk 12207(2) & CoSe 12451(2)

Performance across the locations:

BO 130 (8.93 t/ha) was the better standard for commercial cane sugar yield (t/ha). CoP 12436 (9.39 t/ha) was the top ranking entry and performed better than BO 130. It showed more than ten per cent improvement for CCS yield (t/ha) at Pusa and Gorakhpur. CoLk 12207 (9.32 t/ha) was the second best entry when compared to the better standard BO 130. CoLk 12207 and CoSe 12451 performed better with more than ten per cent improvement for CCS (t/ha) at Seorahi and Gorakhpur. At Gorakhpur, CoSe 12451, CoP 12436 and CoLk 12207 performed better with more than ten per cent improvement and significantly superior over the best standard BO 130. None of the entries was found to be qualifying entry recording ten per cent improvement over the best standard across the locations.

Table 5.4.2. Cane Yield (t/ha) at harvest

S. No.	Entries	Seo rahi	Gora khpur	Pusa	Moti pur	Bethua dahari	Bura likson	Mean	Ove rall rank
1	CoLk 12207	83.78*	78.78*	102.64	77.70	71.76	66.00	80.11	2
2	CoP 12436	80.78*	82.77*	121.27*	74.34	67.08	67.40	82.27	1
3	CoSe 12451	85.33*	94.55*	81.08	71.18	74.92	69.83	79.48	3
Standards									
1	BO 130	73.22	70.77	102.71	74.31	74.86	58.72	75.77	
2	CoSe 95422	68.55	67.22	86.76	73.46	72.34	68.24	72.76	
	GM	78.33	78.82	98.89	74.20	72.19	66.04		
	SE	-	3.10	3.25	0.66	-	NS		
	CD	3.61	6.76	10.13	2.00	-	-		
	CV	2.99	5.56	6.59	1.80	-	-		
Qualifying entries at each locations									
	1	CoSe 12451	CoSe 12451	CoP 12436	-	-		-	
	2	CoLK 12207	CoP 12436	-	-	-		-	
	3	CoP 12436	CoLK 12207	-	-	-		-	

Qualifying entries: CoP 12436(2), CoLk 12207(2) & CoSe 12451 (2)

Performance across the locations:

BO 130 (75.77) was the better standard for cane yield (t/ha). CoP 12436 (82.27 t/ha) ranked first and CoLk 12207 (80.11 t/ha) was the second best entry. All the three early test entries performed better with more than ten per cent improvement and significantly superior for cane yield (t/ha) than the better standard BO 130 at Seorahi and Gorakhpur. CoP12436 showed more than ten per cent improvement in cane yield (t/ha) and significantly superior over BO 130 at Pusa. None of the entries was found to be qualifying entry recording ten per cent improvement over the best standard across the locations.

Table 5.4.3. CCS (%) at harvest

S. No.	Entries	Seo rahi	Gora khpur	Pusa	Moti pur	Bethua dahari	Bura likson	Mean	Ove rall rank
1	CoLk 12207	12.15	11.95	12.56	11.56	8.72	12.40	11.56	3
2	CoP 12436	11.56	11.78	11.91	11.56	8.96	12.22	11.33	
3	CoSe 12451	11.79	12.35	12.54	11.25	9.07	12.00	11.50	
Standards									
1	BO 130	12.36	11.85	12.59	10.90	11.18	12.10	11.83	1
2	CoSe 95422	12.05	11.73	11.87	11.71	9.53	13.50	11.73	2
	GM	11.98	11.93	12.29	11.40	9.49	12.44		
	SE	-	0.35	0.16	0.26	-	0.08		
	CD	0.25	0.78	0.51	0.78	-	0.26		
	CV	1.36	5.12	2.65	5.39	-	4.00		
Qualifying entries at each locations									
	1	-	-	-	-	-	-	-	
	2	-	-	-	-	-	-	-	
	3	-	-	-	-	-	-	-	

Qualifying entry: Nil

Performance across the locations:

BO 130 (11.64) was the better standard for CCS (%) and none of the test entries performed better than this standard.

Table 5.4.4. Sucrose (%) at harvest

S. No.	Entries	Seo rahi	Gora khpur	Pusa	Moti pur	Bethua dahari	Bura likson	Mean	Ove rall rank
1	CoLk 12207	17.65	17.31	18.09	16.91	12.82	17.12	16.65	3
2	CoP 12436	16.80	17.08	17.14	16.85	13.13	17.11	16.35	
3	CoSe 12451	17.06	17.81	18.10	15.89	13.29	16.99	16.52	
Standards									
1	BO 130	17.90	17.15	18.21	15.63	16.18	17.15	17.04	1
2	CoSe 95422	17.52	17.01	17.11	17.16	13.92	18.11	16.81	2
	GM	17.39	17.27	17.73	16.49	13.87	17.30		
	SE	-	-	0.26	0.43	-	0.08		
	CD	0.34	-	0.82	1.39	-	0.21		
	CV	1.27	-	2.98	6.4	-	3.50		
Qualifying entries at each locations									
	1	-	-	-	-	-	-	-	
	2	-	-	-	-	-	-	-	
	3	-	-	-	-	-	-	-	

Qualifying entries: Nil

Performance across the locations:

BO 130 (17.04) was the better standard for sucrose (%) and none of the test entries performed better than this standard.

Table 5.4.5. Brix (%) at harvest

S. No.	Entries	Seo rahi	Gora khpur	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	CoLk 12207	20.15	19.66	20.00	19.58	15.00	18.10	18.75
2	CoP 12436	19.20	19.46	19.15	19.38	15.24	18.12	18.43
3	CoSe 12451	19.35	20.02	20.40	17.06	15.43	19.20	18.58
Standards								
1	BO 130	20.32	19.20	20.63	17.38	18.32	19.20	19.18
2	CoSe 95422	20.05	19.34	19.30	19.96	16.05	20.10	19.13
	SE	-	0.24	0.31	0.71	-	0.26	
	CD	0.44	0.54	0.95	2.21	-	0.75	
	CV	1.47	1.84	3.06	9.2	-	2.50	

Table 5.4.6. Purity (%) at harvest

S. No.	Entries	Seo rahi	Gora khpur	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	CoLk 12207	87.58	88.03	90.05	-	85.44	90.53	88.33
2	CoP 12436	87.52	87.80	89.50	-	86.13	87.30	87.65
3	CoSe 12451	88.20	88.93	88.70	-	86.12	89.22	88.23
Standards								
1	BO 130	88.10	88.20	88.30	-	88.29	90.23	88.62
2	CoSe 95422	87.40	87.92	88.58	-	86.68	91.40	88.40
	SE	-	-	0.58	-	-	0.58	
	CD	1.09	-	1.70	-	-	2.20	
	CV	0.81	-	1.30	-	-	3.60	

Table 5.4.7. Pol (%) cane at harvest

S. No.	Entries	Seo rahi	Gora khpur	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	CoLk 12207	13.02	-	14.92	-	-	-	13.97
2	CoP 12436	12.38	-	14.22	-	-	-	13.30
3	CoSe 12451	12.65	-	14.81	-	-	-	13.73
Standards								
1	BO 130	13.23	-	14.95	-	-	-	14.09
2	CoSe 95422	12.93	-	14.02	-	-	-	13.48
	SE	-	-	0.29	-	-	-	
	CD	-	-	1.05	-	-	-	
	CV	-	-	3.95	-	-	-	

Table 5.4.8. Extraction (%) at harvest

S. No.	Entries	Seo rahi	Gora khpur	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	CoLk 12207	60.48	-	58.50	64.07	-	-	61.02
2	CoP 12436	59.82	-	59.25	63.14	-	-	60.74
3	CoSe 12451	60.12	-	61.25	63.18	-	-	61.52
Standards								
1	BO 130	61.36	-	59.75	70.22	-	-	63.78
2	CoSe 95422	59.48	-	58.75	67.44	-	-	61.89
	SE	-	-	0.65	-	-	-	
	CD	-	-	2.53	-	-	-	
	CV	-	-	2.17	-	-	-	

Table 5.4.9. Fibre (%) at harvest

S. No.	Entries	Seo rahi	Gora khpur	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	CoLk 12207	13.56	-	12.15	13.75	-	-	13.15
2	CoP 12436	13.84	-	12.08	13.63	-	-	13.18
3	CoSe 12451	13.72	-	13.15	13.21	-	-	13.36
Standards								
1	BO 130	13.28	-	12.93	13.60	-	-	13.27
2	CoSe 95422	13.36	-	13.02	13.63	-	-	13.34
	SE	-	-	0.19	0.24	-	-	
	CD	-	-	0.59	-	-	-	
	CV	-	-	3.00	3.55	-	-	

Table 5.4.10. Number of Millable Canes ('000/ha) at harvest

S. No.	Entries	Seo rahi	Gora khpur	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	CoLk 12207	121.00	128.00	120.75	112.59	115.39	89.25	114.50
2	CoP 12436	139.00	141.00	131.82	131.07	110.24	85.30	123.07
3	CoSe 12451	138.00	141.00	115.83	148.37	118.26	91.22	125.45
Standards								
1	BO 130	139.00	113.00	119.43	144.02	122.41	97.86	122.62
2	CoSe 95422	109.00	122.00	114.16	153.87	116.78	85.30	116.85
	SE	-	4.75	3.65	3.29	-	1.80	
	CD	6.80	10.37	11.37	10.15	-	6.70	
	CV	3.41	5.19	6.06	4.77	-	11.50	

Table 5.4.11. Stalk Length (cm) at harvest

S. No.	Entries	Seo rahi	Gora khpur	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	CoLk 12207	212.00	220.00	295.00	273.75	291.00	230.00	215.68
2	CoP 12436	216.00	205.00	276.00	241.25	263.00	223.00	200.58
3	CoSe 12451	214.00	236.00	271.00	287.50	242.00	213.00	208.77
Standards								
1	BO 130	204.00	209.00	291.00	276.25	226.00	248.00	201.46
2	CoSe 95422	198.00	198.00	269.00	240.00	244.00	253.00	191.92
	SE	-	12.92	6.11	5.43	-	NS	
	CD	0.13	28.16	19.03	16.74	-	-	
	CV	4.20	8.55	4.36	4.12	-	-	

Table 5.4.12. Stalk Diameter (cm) at harvest

S. No.	Entries	Seo rahi	Gora khpur	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	CoLk 12207	2.00	2.15	2.62	2.48	2.41	2.10	2.29
2	CoP 12436	2.00	2.21	2.51	2.18	2.39	2.20	2.25
3	CoSe 12451	2.10	2.28	2.54	1.98	2.38	2.30	2.26
Standards								
1	BO 130	1.90	2.01	2.82	2.18	2.38	1.40	2.12
2	CoSe 95422	2.00	2.24	2.48	2.23	2.36	2.10	2.24
	SE	-	-	0.05	-	-	NS	
	CD	0.13	-	0.16	-	-	-	
	CV	4.45	-	3.92	-	-	-	

Table 5.4.13. Single Cane Weight (kg) at harvest

S. No.	Entries	Seo rahi	Gora khpur	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	CoLk 12207	0.79	0.56	0.85	1.14	0.92	1.12	0.90
2	CoP 12436	0.65	0.63	0.92	0.90	0.83	1.02	0.83
3	CoSe 12451	0.69	0.66	0.70	0.79	0.82	0.92	0.76
Standards								
1	BO 130	0.59	0.59	0.86	0.93	0.69	0.95	0.77
2	CoSe 95422	0.66	0.27	0.76	0.77	0.71	1.00	0.70
	SE	-	0.02	0.03	-	-	NS	
	CD	0.02	0.04	0.10	-	-	-	
	CV	2.10	4.71	7.76	-	-	-	

Table 5.4.14. CCS (%) at 240 days

S. No.	Entries	Seo rahi	Gora khpur	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	CoLk 12207	9.33	11.22	10.17	11.51	7.96	10.50	10.12
2	CoP 12436	10.41	11.23	10.71	11.61	7.41	11.10	10.41
3	CoSe 12451	9.13	11.47	10.09	10.15	7.58	11.40	9.97
Standards								
1	BO 130	9.80	11.13	10.71	11.16	9.99	11.50	10.72
2	CoSe 95422	8.92	11.03	11.05	11.59	7.98	12.22	10.47
	SE	-	-	0.18	0.38	-	0.15	
	CD	0.14	-	0.57	0.53	-	0.50	
	CV	0.99	-	3.48	2.21	-	1.89	

Table 5.4.15. Sucrose (%) at 240 days

S. No.	Entries	Seo rahi	Gora khpur	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	CoLk 12207	13.80	16.36	14.77	16.35	11.75	15.33	14.73
2	CoP 12436	15.26	16.31	15.61	16.70	10.99	15.85	15.12
3	CoSe 12451	13.48	16.77	14.77	14.51	11.23	16.40	14.53
Standards								
1	BO 130	14.36	16.22	15.56	15.97	14.57	16.50	15.53
2	CoSe 95422	13.22	16.10	16.11	16.74	11.81	17.12	15.18
	SE	-	-	0.30	0.14	-	0.20	
	CD	0.28	-	0.93	0.45	-	0.58	
	CV	1.32	-	3.88	1.84	-	2.16	

Table 5.4.16. Brix (%) at 240 days

S. No.	Entries	Seo rahi	Gora khpur	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	CoLk 12207	16.36	18.87	16.88	17.82	13.85	17.22	16.83
2	CoP 12436	17.73	18.63	17.95	18.67	13.06	17.65	17.28
3	CoSe 12451	15.91	19.42	17.15	16.00	13.33	16.83	16.44
Standards								
1	BO 130	16.72	18.64	17.80	17.67	16.74	18.30	17.65
2	CoSe 95422	15.74	18.60	17.53	18.87	14.00	18.40	17.19
	SE	-	0.30	0.34	0.19	-	0.16	
	CD	0.51	0.67	1.06	0.59	-	0.46	
	CV	2.09	2.31	3.84	2.17	-	2.00	

Table 5.4.17. Purity (%) at 240 days

S. No.	Entries	Seo rahi	Gora khpur	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	CoLk 12207	84.36	86.74	87.35	91.78	84.84	88.40	87.25
2	CoP 12436	86.06	87.57	86.93	89.48	84.12	89.15	87.22
3	CoSe 12451	84.75	86.41	86.18	90.66	84.24	90.22	87.08
Standards								
1	BO 130	85.92	86.97	87.45	90.40	86.99	90.20	87.99
2	CoSe 95422	84.02	86.56	87.03	88.71	84.40	91.60	87.05
	SE	-	-	0.37	0.82	-	0.45	
	CD	1.03	-	1.30	-	-	1.50	
	CV	0.78	-	0.86	1.80	-	2.60	

Table 5.4.18. Number of Shoots ('000/ha) at 240 days

S. No.	Entries	Seo rahi	Gora khpur	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	CoLk 12207	-	-	153.66	93.42	155.24	88.50	122.71
2	CoP 12436	-	-	165.68	114.22	138.38	83.20	125.37
3	CoSe 12451	-	-	178.33	126.97	167.40	90.50	140.80
Standards								
1	BO 130	-	-	164.08	124.06	168.82	96.80	138.44
2	CoSe 95422	-	-	184.83	133.91	152.53	83.40	138.67
	SE	-	-	4.64	5.07	-	2.30	
	CD	-	-	14.45	15.64	-	6.58	
	CV	-	-	5.48	8.56	-	14.31	

Table 5.4.19. Number of Tillers ('000/ha) at 120 days

S. No.	Entries	Seo rahi	Gora khpur	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	CoLk 12207	167.00	213.00	97.71	90.63	120.06	84.92	128.89
2	CoP 12436	188.00	235.00	104.25	135.50	117.46	88.20	144.74
3	CoSe 12451	188.00	236.00	108.97	162.34	135.50	78.17	151.50
Standards								
1	BO 130	189.00	190.00	104.73	152.06	140.06	91.22	144.51
2	CoSe 95422	155.00	204.00	103.13	163.81	124.84	77.00	137.96
	SE	-	7.74	2.20	4.30	-	2.25	
	CD	8.06	16.87	6.84	13.27	-	6.80	
	CV	2.93	5.06	4.23	6.11	-	13.30	

Table 5.4.20. Germination (%) at 45 days

S. No.	Entries	Seo rahi	Gora khpur	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	CoLk 12207	41.67	38.10	38.20	23.43	36.53	53.61	38.59
2	CoP 12436	49.79	40.88	41.82	38.06	32.40	57.04	43.33
3	CoSe 12451	51.11	44.13	36.12	37.27	40.50	49.35	43.08
Standards								
1	BO 130	42.36	33.31	39.17	39.28	39.80	57.59	41.92
2	CoSe 95422	41.25	36.57	40.15	39.67	38.50	48.61	40.79
	SE	-	1.92	0.85	1.62	-	1.44	
	CD	7.44	4.20	2.66	5.00	-	4.45	
	CV	10.67	7.07	4.36	9.14	-	14.33	

Table 5.4.21. Assessment of entries by monitoring team constituted by AICRP(S)

Entries	Gorakhpur	Seorahi	Pusa	Motipur	Bethuadahari	Buralikson
1. CoLk 12207						
2. CoP 12436						
3. CoSe 12451						
Standards						
1. BO 130						
2. CoSe 95422						

Table 5.4.22 Assessment of entries by monitoring team

Entries	Gorakhpur	Seorahi	Pusa	Motipur	Bethuadhari	Buralikson
CoLk 12207	On par	Better	Better	On par	Better	Better
CoP 12436	Better	On par	Better	Better	On par	On par
CoSe 12451	Better	Better	On par	Better	Better	On par
Standards						
BO 130	Best	Good	Best	Best	Best	Good
CoSe 95422	Poor	Best	Good	Good	Good	Best

5.5. INITIAL VARIETAL TRIAL (EARLY)

Centers (6)	Bethuadahari, Buralikson, Gorakhpur, Motipur, Pusa and Seorahi
Entries (4)	1. CoP 13436 (BO 97 x CoJ 46) 2. CoP 13437 (BO 97 x BO 32) 3. CoSe 13451 (Co 1148 GC) 4. CoSe 13452 (CoSe 92423 x Co 86249)
Standards (2)	BO 130 and CoSe 95422
Design	RBD
Replications	Four
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, 2016
Crop duration	10 months

Results of the previous year:

The four clones (CoP 13436, CoP 13437, CoSe 13451 and CoSe 13452) and two standards (BO 130 and CoSe 95422) were under multiplication.

Results of the current year:

The data on cane yield and quality of the Initial Varietal Trial (Early) conducted with four test entries and two standards are presented in tables 5.5.1 to 5.5.20. CoSe 95422 (8.67 t/ha) was the better standard for commercial cane sugar yield (t/ha) and all the early test entries performed better. CoP 13437 (10.05 t/ha) and CoSe 13451 (9.64 t/ha) performed better with more than ten per cent improvement for CCS (t/ha) at Seorahi & Pusa. CoP 13436 (9.11 t/ha) recorded ten per cent improvement at Gorakhpur and Pusa. CoSe 13451, CoSe 13452 and CoP 13436 were significantly superior over the better standard BO 130 at Gorakhpur and CoP 13437 & CoP 13436 were significantly superior over the better standard BO 130 at Pusa. CoSe 95422 (73.49 t/ha) was the better standard for cane yield (t/ha) and all the early test clones performed better than this standard. CoP 13437 was the top performer & significantly superior over the respective better standard in four locations (Seorahi, Gorakhpur, Pusa and Motipur). It also recorded more than ten per cent improvement in cane yield (t/ha) than the better standard (BO 130) at Seorahi and Pusa. CoSe 13451 was the second best entry with more than ten per cent improvement than the better standard at Seorahi and Gorakhpur. CoSe 95422 was the better standard with 11.77 % & 17.12 % for CCS and sucrose respectively. 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 more than five per cent improvement for sucrose % at Bethuadahari. CoSe 13452 were significantly superior over CoSe 95422 for juice sucrose % at Motipur.

CoP 13437 recorded 15.92 % improvement for CCS yield (t/ha), 12.76 % for cane yield (t/ha), 2.54 % for CCS % & 3.15 % for juice sucrose % over the best standard CoSe 95422 across the locations and identified as qualifying entry.

Table 5.5.1. CCS (t/ha) at harvest

S. No.	Entries	Seo rahi	Gora khpur	Pusa	Moti pur	Bethua dahari	Bura likson	Mean	Ove rall rank
1	CoP 13436	9.53	10.16*	13.49*	8.82	7.12	5.54	9.11	3
2	CoP 13437	10.03	9.33	15.27*	8.77	8.23	8.69	10.05	1
3	CoSe 13451	10.55	10.41*	11.40	8.14	-	7.70	9.64	2
4	CoSe 13452	11.04	9.79*	10.85	8.35	6.82	7.26	9.02	
Standards									
1	BO 130	8.88	7.78	11.68	7.73	7.06	5.53	8.11	
2	CoSe 95422	8.30	7.65	10.73	8.13	7.63	9.59	8.67	
	GM	9.72	9.19	12.24		7.37	7.39		
	SE		0.73	0.38	-	-	0.34		
	CD		1.57	1.17	-	-	1.15		
	CV		7.68	6.26	-	-	10.30		
Qualifying entries at each locations									
	1	CoSe 13452	CoSe 13451	CoP 13437	-	-	-	CoP 13437	
	2	CoSe 13451	CoP 13436	CoP 13436	-	-	-	CoSe 13451	
	3	CoP 13437	CoSe 13452		-	-	-	-	

Qualifying entries: CoP 13437(2), CoSe 13451(2) & CoSe 13452(2)

Performance across the locations:

CoSe 95422 (8.67 t/ha) was the better standard for commercial cane sugar yield (t/ha) and all the entries performed better than this standard. CoP 13437 (10.05 t/ha) was the best performer followed by CoSe 13451 (9.64 t/ha) and CoP 13436 (9.11 t/ha). CoP 13437 & CoSe 13451 performed better with more than ten per cent improvement for CCS (t/ha) at Seorahi & Pusa and CoP 13436 recorded ten per cent improvement at Gorakhpur and Pusa. CoSe 13451, CoSe 13452 and CoP 13436 were significantly superior over the better standard BO 130 at Gorakhpur and CoP 13437 & CoP 13436 were significantly superior over the better standard BO 130 at Pusa. Entries CoP 13437 & CoSe 13451 recorded 15.92 % & 11.19 % improvement over the better standard CoSe 95422 across the locations.

Table 5.5.2. Cane Yield (t/ha) at harvest

S. No.	Entries	Seo rahi	Gora khpur	Pusa	Moti pur	Bethua dahari	Bura likson	Mean	Overall rank
1	CoP 13436	81.83*	85.83*	110.39*	75.49*	67.76	43.66	77.49	3
2	CoP 13437	84.34*	76.50*	124.50*	75.03*	70.24	66.60	82.87	1
3	CoSe 13451	86.83*	82.83*	90.79	69.71	-	59.20	77.87	2
4	CoSe 13452	89.17*	81.66*	87.90	70.10	69.68	53.40	75.32	
Standards									
1	BO 130	74.67	67.00	94.75	68.07	72.98	44.64	70.35	
2	CoSe 95422	73.50	64.83	91.65	68.79	71.87	70.30	73.49	
	GM	81.72	76.44	100.00	71.20	70.51	56.30		
	SE		3.81	3.18	0.96	-	1.07		
	CD	6.52	8.14	9.68	2.90	-	3.33		
	CV	5.29	7.07	6.37	2.71	-	11.22		
Qualifying entries at each locations									
	1	CoSe 13452	CoP 13436	CoP 13437	-	-	-	CoP 13437	
	2	CoSe 13451	CoSe 13451	CoP 13436	-	-	-	-	
	3	CoP 13437	CoSe 13452	-	-	-	-	-	

Qualifying entries: CoP 13437(2), CoSe 13451(2), CoP 13436(2) & CoSe 13452(2)

Performance across the locations:

CoSe 95422 (73.49 t/ha) was the better standard for cane yield (t/ha) and all the entries performed better than this standard. CoP 13437 was the top performer and significantly superior over the respective better standard in four locations (Seorahi, Gorakhpur, Pusa and Motipur) and with more than ten per cent improvement in cane yield (t/ha) than the standard BO 130 at Seorahi and Pusa. CoSe 13451 was the second best entry with more than ten per cent improvement than the better standard at Seorahi and Gorakhpur. CoP 13436 was the third best entry and significantly superior over the best check at Seorahi and Gorakhpur as well as showed more than ten per cent improvement at Gorakhpur and Pusa. CoP 13437 recorded 12.76 % improvement over the better standard CoSe 95422 across the locations.

Table 5.5.3. CCS (%) at harvest

S. No.	Entries	Seo rahi	Gora khpur	Pusa	Moti pur	Bethua dahari	Bura likson	Mean	Ove rall rank
1	CoP 13436	11.65	11.84	12.21	11.68	10.51	12.70	11.59	
2	CoP 13437	11.89	12.21*	12.24	11.68	11.71	13.05	12.07	2
3	CoSe 13451	12.15	12.26*	12.56	11.67	-	13.01	12.28	1
4	CoSe 13452	12.38	11.98	12.34	11.91	9.79	13.60	11.90	3
Standards									
1	BO 130	11.89	11.61	12.33	11.36	9.68	12.40	11.50	
2	CoSe 95422	11.60	11.80	11.70	11.81	10.63	13.65	11.77	
	GM	11.93	11.95	12.23	11.69	10.46	13.07		
	SE		0.11	0.20	0.17	-	0.07		
	CD	0.91	0.25	0.89	-	-	0.27		
	CV	5.01	1.45	3.24	3.04	-	3.83		
Qualifying entries at each locations									
	1	-	-	-	-	-	-	-	
	2	-	-	-	-	-	-	-	
	3	-	-	-	-	-	-	-	

Qualifying entry: Nil

Performance across the locations:

CoSe 95422 (11.77 %) was the better standard for CCS (%) and three test entries *viz.*, CoSe 13451 (12.28 %), CoP 13437 (12.07 %) and CoSe 13452 (11.90 %) ranked first, second and third and were numerically superior over the better standard. CoSe 13451 and CoP 13437 were significantly superior for CCS % at harvest over the better standard (CoSe 95422) at Gorakhpur. The entries CoSe 13451 and CoP 13437 recorded 4.33 % and 2.54 % improvement over the better standard CoSe 95422 across the locations.

Table 5.5.4. Sucrose (%) at harvest

S. No.	Entries	Seo rahi	Gora khpur	Pusa	Moti pur	Bethua dahari	Bura likson	Mean	Ove rall rank
1	CoP 13436	16.94	17.15	17.59	16.69	15.20	17.70	16.88	
2	CoP 13437	17.19	17.56	17.68	17.17	16.86	19.50*	17.66	2
3	CoSe 13451	17.66	17.67	18.12	17.23	-	19.20	17.98	1
4	CoSe 13452	18.12	17.33	17.76	17.62*	14.23	20.10	17.53	3
Standards									
1	BO 130	17.18	16.85	17.76	16.44	13.98	17.60	16.64	
2	CoSe 95422	17.02	17.09	16.93	17.08	15.41	19.20	17.12	
	GM	17.35	17.28	17.64	17.04	15.14	18.88		
	SE			0.26	0.17	-	0.06		
	CD	1.35		1.21	0.51	-	0.21		
	CV	5.18		2.94	2.00	-	3.30		
Qualifying entries at each locations									
	1	-	-	-	-	CoP 13437	-	CoSe 13451	
	2	-	-	-	-	-	-	-	
	3	-	-	-	-	-	-	-	

Qualifying entries: CoP 13437(1)

Performance across the locations:

CoSe 95422 (17.12 %) was the better standard for juice sucrose (%) and three test entries viz., CoSe 13451 (17.98 %), CoP 13437 (17.66 %) & CoSe 13452 (11.90 %) were the first, second & third best entries for sucrose % at harvest and numerically superior over the better standard. CoP 13437 was significantly superior over the best standard (CoSe 95422) at Buralikson and recorded more than five per cent improvement at Bethuadahari. CoSe 13452 was significantly superior over CoSe 95422 at Motipur. CoSe 13451 recorded 5.02 % improvement over the best standard CoSe 95422 across the locations and identified as qualifying entry.

Table 5.5.5. Brix (%) at harvest

S. No.	Entries	Seo rahi	Gora khpur	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	CoP 13436	19.41	19.49	19.85	18.40	17.20	19.30	18.94
2	CoP 13437	19.46	19.64	19.95	20.08	18.88	21.30	19.89
3	CoSe 13451	20.20	19.90	20.40	20.33	-	20.11	20.19
4	CoSe 13452	21.02	19.65	19.80	20.88	16.27	22.20	19.97
	Standards							
1	BO 130	19.41	19.21	19.95	18.65	15.76	19.00	18.66
2	CoSe 95422	19.86	19.42	19.18	19.33	17.53	20.18	19.25
	SE			0.29	0.19	-	0.22	
	CD	1.77		1.35	0.59	-	0.80	
	CV	5.93		2.87	2.02	-	2.60	

Table 5.5.6. Purity (%) at harvest

S. No.	Entries	Seo rahi	Gora khpur	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	CoP 13436	87.33	88.00	88.35	-	88.38	88.70	88.15
2	CoP 13437	88.35	89.40	88.63	-	89.29	86.60	88.45
3	CoSe 13451	87.45	88.84	88.83	-	-	88.20	88.33
4	CoSe 13452	86.29	88.20	89.65	-	87.46	87.30	87.78
	Standards							
1	BO 130	87.20	87.71	88.93	-	88.77	89.70	88.46
2	CoSe 95422	85.73	88.00	88.48	-	87.89	87.20	87.46
	SE			0.53	-	-	0.75	
	CD	8.92		0.78	-	-	2.36	
	CV	6.90		1.18	-	-	3.86	

Table 5.5.7. Pol (%) cane at harvest

S. No.	Entries	Seo rahi	Gora khpur	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	CoP 13436	12.49	-	14.37	12.74	-	-	13.20
2	CoP 13437	12.67	-	14.59	13.06	-	-	13.44
3	CoSe 13451	13.02	-	14.77	13.17	-	-	13.65
4	CoSe 13452	13.37	-	14.47	13.42	-	-	13.75
	Standards							
1	BO 130	12.64	-	14.45	12.35	-	-	13.15
2	CoSe 95422	12.54	-	13.39	13.01	-	-	12.98
	SE		-	0.22	-	-	-	
	CD		-	0.67	-	-	-	
	CV		-	3.05	-	-	-	

Table 5.5.8. Extraction (%) at harvest

S. No.	Entries	Seo rahi	Gora khpur	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	CoP 13436	59.47	-	59.50	59.40	-	-	59.46
2	CoP 13437	59.82	-	58.80	62.50	-	-	60.37
3	CoSe 13451	60.64	-	59.20	61.37	-	-	60.40
4	CoSe 13452	62.42	-	60.50	61.75	-	-	61.56
	Standards							
1	BO 130	58.98	-	61.20	59.50	-	-	59.89
2	CoSe 95422	60.18	-	56.50	62.40	-	-	59.69
	SE		-	1.12	1.54	-	-	
	CD		-	2.50	-	-	-	
	CV		-	3.78	5.04	-	-	

Table 5.5.9. Fibre (%) at harvest

S. No.	Entries	Seo rahi	Gora khpur	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	CoP 13436	13.47	-	13.30	13.64	-	-	13.47
2	CoP 13437	13.84	-	12.50	13.94	-	-	13.43
3	CoSe 13451	13.24	-	13.25	13.58	-	-	13.36
4	CoSe 13452	13.32	-	13.50	13.85	-	-	13.56
	Standards							
1	BO 130	13.65	-	13.62	14.90	-	-	14.06
2	CoSe 95422	13.52	-	15.91	13.81	-	-	14.41
	SE		-	0.30	0.38	-	-	
	CD		-	0.91	-	-	-	
	CV		-	4.38	5.55	-	-	

Table 5.5.10. Number of Millable Canes ('000/ha) at harvest

S. No.	Entries	Seo rahi	Gora khpur	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	CoP 13436	130.00	140.00	141.49	182.08	107.40	72.53	128.92
2	CoP 13437	132.00	126.00	146.55	148.44	94.70	43.33	115.17
3	CoSe 13451	124.00	137.00	92.64	101.04	-	47.20	100.38
4	CoSe 13452	134.00	132.00	111.15	100.01	102.69	63.07	107.15
	Standards							
1	BO 130	132.00	110.00	121.05	129.40	121.76	66.27	113.41
2	CoSe 95422	102.00	102.00	125.63	159.67	117.29	71.07	112.94
	SE		6.40	3.82	3.78	-	1.88	
	CD	9.85	13.65	11.61	11.41	-	5.68	
	CV	5.19	7.26	6.20	5.53	-	11.34	

Table 5.5.11. Stalk Length (cm) at harvest

S. No.	Entries	Seo rahi	Gora khpur	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	CoP 13436	213.00	255.00	272.00	302.50	264.00	233.00	218.14
2	CoP 13437	215.00	226.00	280.00	227.25	273.00	208.00	203.89
3	CoSe 13451	218.00	218.00	242.00	261.25	-	206.00	188.26
4	CoSe 13452	226.00	233.00	256.00	260.00	241.50	200.00	203.08
	Standards							
1	BO 130	198.00	206.00	263.00	288.75	235.00	206.00	198.80
2	CoSe 95422	205.00	195.00	270.00	246.25	247.00	230.00	194.26
	SE		8.98	6.81	5.39	-	NS	
	CD	0.11	19.15	20.72	16.27	-	-	
	CV	3.32	5.72	5.16	4.08	-	-	

Table 5.5.12. Stalk Diameter (cm) at harvest

S. No.	Entries	Seo rahi	Gora khpur	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	CoP 13436	2.10	2.38	2.62	1.92	2.31	2.27	2.27
2	CoP 13437	2.20	2.25	2.75	1.97	2.36	2.10	2.27
3	CoSe 13451	2.20	2.21	2.52	2.55	-	2.20	2.34
4	CoSe 13452	2.30	2.31	2.70	2.42	2.42	2.03	2.36
	Standards							
1	BO 130	2.00	2.10	2.81	2.22	2.34	1.93	2.23
2	CoSe 95422	2.00	2.20	2.64	2.45	2.40	2.33	2.34
	SE			0.08	0.05	-	NS	
	CD	0.11		0.12	0.17	-	-	
	CV	3.69		6.10	5.05	-	-	

Table 5.5.13. Single Cane Weight (kg) at harvest

S. No.	Entries	Seo rahi	Gora khpur	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	CoP 13436	0.74	2.77	0.78	1.10	0.72	1.05	1.19
2	CoP 13437	0.75	2.89	0.89	0.83	0.80	0.91	1.18
3	CoSe 13451	0.79	2.64	0.98	0.90	-	1.01	1.26
4	CoSe 13452	0.82	2.89	0.78	0.92	0.82	0.69	1.15
	Standards							
1	BO 130	0.59	2.40	0.78	0.69	0.78	0.86	1.02
2	CoSe 95422	0.65	2.47	0.79	0.86	0.88	1.00	1.11
	SE		0.05	0.04	-	-	0.03	
	CD	0.03	0.12	0.13	-	-	0.12	
	CV	3.25	11.73	10.53	-	-	3.22	

Table 5.5.14. CCS (%) at 240 days

S. No.	Entries	Seo rahi	Gora khpur	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	CoP 13436	11.33	10.90	10.35	10.64	9.11	10.11	10.41
2	CoP 13437	9.89	10.72	10.88	11.30	9.92	10.58	10.55
3	CoSe 13451	10.57	10.97	10.62	11.43	-	10.44	10.81
4	CoSe 13452	11.28	10.67	10.21	11.33	9.07	9.82	10.40
	Standards							
1	BO 130	10.34	10.68	11.29	11.11	7.82	10.65	10.32
2	CoSe 95422	10.75	9.79	10.36	11.24	8.55	9.97	10.11
	SE		0.35	0.14	0.17	-	0.15	
	CD	0.51	0.76	0.44	-	-	0.55	
	CV	3.21	4.82	2.72	3.04	-	1.88	

Table 5.5.15. Sucrose (%) at 240 days

S. No.	Entries	Seo rahi	Gora khpur	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	CoP 13436	15.77	15.82	15.00	15.68	13.44	14.80	15.09
2	CoP 13437	14.57	15.70	15.90	16.36	14.67	15.22	15.40
3	CoSe 13451	15.47	16.01	15.54	16.75	-	15.20	15.79
4	CoSe 13452	16.58	15.61	14.80	16.49	13.39	14.50	15.23
	Standards							
1	BO 130	15.44	15.36	16.42	16.18	11.57	15.29	15.04
2	CoSe 95422	15.98	14.38	14.80	16.35	12.69	14.93	14.86
	SE		0.45	0.20	0.20	-	0.14	
	CD	0.62	0.96	0.62	0.60	-	0.48	
	CV	2.66	3.44	2.64	2.46	-	2.11	

Table 5.5.16. Brix (%) at 240 days

S. No.	Entries	Seo rahi	Gora khpur	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	CoP 13436	16.36	18.10	17.05	17.65	15.85	18.10	17.19
2	CoP 13437	17.14	18.24	18.38	18.82	17.34	18.00	17.99
3	CoSe 13451	17.95	18.49	17.88	18.87	-	18.40	18.32
4	CoSe 13452	19.40	18.09	17.53	18.96	15.78	18.00	17.96
	Standards							
1	BO 130	18.36	18.22	18.78	18.18	13.70	18.00	17.54
2	CoSe 95422	19.12	16.79	16.93	18.72	15.12	19.00	17.61
	SE		0.40	2.11	0.24	-	0.16	
	CD	0.67	0.86	0.64	0.73	-	0.54	
	CV	2.48	3.19	2.38	2.61	-	2.01	

Table 5.5.17. Purity (%) at 240 days

S. No.	Entries	Seo rahi	Gora khpur	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	CoP 13436	84.17	87.40	88.05	89.72	84.82	81.76	85.99
2	CoP 13437	84.98	86.03	86.50	88.16	84.58	83.20	85.58
3	CoSe 13451	86.23	86.58	86.98	88.62	-	82.60	86.20
4	CoSe 13452	85.44	86.25	85.95	88.04	84.82	80.55	85.18
	Standards							
1	BO 130	84.24	84.33	87.43	88.67	84.48	83.40	85.43
2	CoSe 95422	83.59	85.65	87.45	87.33	83.88	78.57	84.41
	SE			0.41	0.62	-	0.45	
	CD	1.42		1.24	-	-	1.35	
	CV	1.11		0.94	1.40	-	2.66	

Table 5.5.18. Number of Shoots ('000/ha) at 240 days

S. No.	Entries	Seo rahi	Gora khpur	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	CoP 13436	-	-	156.85	192.06	149.22	70.35	142.12
2	CoP 13437	-	-	172.01	190.55	138.12	44.53	136.30
3	CoSe 13451	-	-	126.81	107.44	-	48.34	94.20
4	CoSe 13452	-	-	125.31	108.69	136.00	58.33	107.08
	Standards							
1	BO 130	-	-	137.98	148.87	162.18	61.83	127.72
2	CoSe 95422	-	-	161.09	184.86	153.76	69.34	142.26
	SE	-	-	3.33	4.17	-	1.80	
	CD	-	-	10.12	12.58	-	5.66	
	CV	-	-	4.54	5.37	-	12.30	

Table 5.5.19. Number of Tillers ('000/ha) at 120 days

S. No.	Entries	Seo rahi	Gora khpur	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	CoP 13436	205.00	234.00	82.14	180.42	119.76	65.24	147.76
2	CoP 13437	207.00	209.00	84.61	169.00	98.58	59.69	137.98
3	CoSe 13451	199.00	230.00	94.86	107.02	-	64.38	139.05
4	CoSe 13452	209.00	218.00	91.88	100.39	108.69	46.86	129.14
	Standards							
1	BO 130	206.00	180.00	80.99	128.57	141.25	57.96	132.46
2	CoSe 95422	179.00	170.00	94.72	146.94	134.28	55.87	130.14
	SE		6.15	2.57	3.34	-	1.77	
	CD	10.62	13.12	8.01	10.08	-	5.56	
	CV	3.51	6.84	4.95	4.82	-	13.22	

Table 5.5.20. Germination (%) at 45 days

S. No.	Entries	Seo rahi	Gora khpur	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	CoP 13436	42.50	45.35	43.72	42.33	34.11	48.90	42.82
2	CoP 13437	38.33	41.04	44.50	38.30	23.47	44.81	38.41
3	CoSe 13451	45.62	47.91	30.33	22.04	-	48.33	38.85
4	CoSe 13452	43.43	42.18	34.33	33.41	27.39	35.18	35.99
	Standards							
1	BO 130	45.00	34.99	38.66	50.06	39.21	43.33	41.88
2	CoSe 95422	35.83	32.28	39.94	44.63	40.39	41.94	39.17
	SE		2.92	1.99	1.61	-	1.44	
	CD	5.58	6.24	5.98	4.87	-	4.53	
	CV	8.86	10.14	10.29	8.41	-	13.65	

Table 5.1.21. Assessment of entries by monitoring team constituted by AICRP(S)

Entries	Gorakhpur	Seorahi	Pusa	Motipur	Bethuadhari	Buralikson
CoP 13436	Poor	On par	Better	Better	Poor	On par
CoP 13437	Poor	On par	Better	On par	Very poor	On par
CoSe 13451	Poor	Better	On par	On par	Very poor(No plants)	On par
CoSe 13452	Poor	Better	On par	Better	On par	On par
Standards						
BO 130	Poor	Good	Best	Best	Best	Best
CoSe 95422	Poor	Best	Good	Good	Poor	Good

5.6. ADVANCED VARIETAL TRIAL (MIDLATE) - II PLANT CROP

Centers (6)	Bethuadahari, Buralikson, Gorakhpur, Motipur, Pusa and Seorahi
Entries (4)	BO 155, CoSe 11453, CoSe 11454 and CoSe 11455
Standards (3)	BO 91, CoP 9301 and CoSe 92423
Design	RBD
Replications	Three
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, 2016
Crop duration	12 months

Results of the previous year:

The AVT (Midlate) I Plant trial was conducted with four test entries and three standards in all the six centres of the zone. CoP 9301 was the best standard for CCS yield (8.55 t/ha) and cane yield (70.36 t/ha). All the four test entries performed better than the standards for commercial cane sugar yield. Among the test entries, CoSe 11453 (10.55 t/ha) was the best in the zone and it recorded a significantly higher CCS over the best check in three locations *viz.*, Seorahi, Gorakhpur and Pusa. The entry CoSe 11453 (84.42 t/ha) was the best and significantly superior cane yield in three locations (Seorahi, Gorakhpur and Pusa). CoP 9301 (12.24 %) was the better standard for CCS %. Three test clones (CoSe 11453, CoSe 11454 & CoSe 11455) performed better than the standards across the locations. CoSe 11453 (17.98 %) was the only best entry that recorded the highest overall mean juice sucrose % and was found to be significantly superior over the best standard BO 91 at Buralikson centre only.

Results of the current year:

The data on cane yield and quality of the Advanced Varietal Trial – Midlate II plant crop conducted with four test entries and three standards were presented in tables 5.6.1 to 5.6.20. CoP 9301 was the best standard for commercial cane sugar yield ((9.34 t/ha), cane yield (74.16 t/ha), CCS % (12.44 %) and sucrose % (17.73). CoSe 11453 (10.19 t/ha) was the best entry for CCS (t/ha) followed by CoSe 11454 (9.51 t/ha) with more than 10 per cent improvement over the respective better standards at Seorahi (CoP 9301) and Gorakhpur (BO 91). In Gorakhpur centre, BO 155, CoSe 11453 and CoSe 11455 recorded significantly superior CCS (t/ha) over the best standard BO 91. CoSe 11453 (81.48 t/ha) was the top yielder and recorded 10 per cent improvement at Seorahi (CoSe 92423) and Gorakhpur (BO 91). BO 155 (79.82 t/ha), ranked second and recorded 10 per cent improvement in yield over the best standards at Gorakhpur (BO 91) and Pusa (CoP 9301), and significantly superior to the best standard of Motipur (CoSe 92423). CoSe 11455 (78.23 t/ha) ranked third and showed 10 per cent improvement over the better standard at Seorahi (CoSe 92423) and Gorakhpur (BO 91). CoP 9301 (12.44 %) was the better standard for CCS % and none of the entries were found better than the standard. Among the tested entries, CoSe 11454 (13.07 %) showed more than five per cent improvement over the best standard for CCS % at Buralikson. CoP 9301 (17.73 %) was the best for juice sucrose % and none of the test entries were better than this standard. Both CoSe 11454 (18.25 %) and CoSe 11453 (18.20 %) was found to be significantly superior over the better standard BO 91 (17.60 %) at Buralikson. None of the entries were identified as qualifying entry over the best standard across locations.

Table 5.6.1. CCS (t/ha) at harvest

S. No.	Entries	Seo rahi	Gora khpur	Pusa	Moti pur	Bethua dahari	Bura likson	Mean	Over all rank
1	BO 155	8.49	10.59*	12.20	-	6.39	7.93	9.12	
2	CoSe 11453	12.03	10.97*	11.46	-	6.33	10.14	10.19	1
3	CoSe 11454	10.31	9.14	11.25	-	7.44	8.22	9.27	3
4	CoSe 11455	9.75	14.28*	11.09	-	6.48	5.97	9.51	2
	Standards				-				
1	BO 91	8.06	8.71	9.29	-	7.81	4.02	7.58	
2	CoP 9301	8.49	8.07	11.90	-	7.89	10.37	9.34	
3	CoSe 92423	7.96	8.16	11.05	-	7.28	8.22	8.53	
	GM	9.30	9.99	11.18	-	7.09	7.84		
	SE	-	0.48	0.49		-	0.33		
	CD	7.30	1.02	1.54	-	-	1.01		
	CV	5.39	6.91	7.66	-	-	10.25		
Top ranking entries at each locations									
	1	CoSe 11453	CoSe 11455	-	-	-	-	-	
	2	CoSe 11454	CoSe 11453	-	-	-	-	-	
	3	CoSe 11455	BO 155	-	-	-	-	-	

Qualifying entries: CoSe 11453 (2), CoSe 11455 (2), CoSe 11454 (1) & Bo 155 (1)

Performance across the locations:

CoP 9301 (9.34 t/ha) was the best standard for commercial cane sugar yield (t/ha). CoSe 11453 (10.19 t/ha) was the best entry for CCS (t/ha) followed by CoSe 11454 (9.51 t/ha) with more than 10 per cent improvement than the respective better standards at Seorahi (CoP 9301) and Gorakhpur (BO 91). In Gorakhpur centre, BO 155, CoSe 11453 and CoSe 11455 recorded significantly superior CCS (t/ha) over the best standard BO 91. None of the entries recorded more than 10 per cent improvement over the best standard across locations.

Table 5.6.2. Cane Yield (t/ha) at harvest

S. No.	Entries	Seo rahi	Gora khpur	Pusa	Moti pur	Bethua dahari	Bura likson	Mean	Overall rank
1	BO 155	74.69*	88.43	106.31	76.44*	70.13	62.90	79.82	2
2	CoSe 11453	92.59*	90.74	90.27	71.41	64.29	79.55	81.48	1
3	CoSe 11454	79.62*	76.02	89.56	72.22	67.22	62.90	74.59	
4	CoSe 11455	80.86*	112.04*	89.16	72.78	66.41	48.10	78.23	3
	Standards								
1	BO 91	67.90	74.07	81.38	65.99	71.02	33.30	65.61	
2	CoP 9301	65.43	63.43	94.49	69.37	67.89	84.35	74.16	
3	CoSe 92423	70.98	70.18	89.62	71.66	69.46	67.34	73.21	
	GM	76.01	82.13	91.54	71.41	68.06	62.63		
	SE	-	9.24	5.98	1.11	-	2.21		
	CD	0.14	19.42	18.42	3.44	-	6.60		
	CV	6.60	15.91	11.59	2.70	-	12.30		
	Top ranking entries at each locations								
	1	CoSe 11453	CoSe 11455	BO 155	-	-	-	-	
	2	CoSe 11455	CoSe 11453	-	-	-	-	-	
	3	CoSe 11454	BO155	-	-	-	-	-	

Qualifying entries: CoSe 11453 (2), CoSe 11455 (2), Bo 155 (2) and CoSe 11454 (1)

Performance across the locations:

CoP 9301 (74.16 t/ha) was the better standard for cane yield. CoSe 11453 (81.48 t/ha) was the top yielder and it recorded 10 per cent improvement at Seorahi (CoSe 92423) and Gorakhpur (BO 91). BO 155 (79.82 t/ha), ranked second and recorded 10 per cent improvement in yield over better standards at Gorakhpur (BO 91), Pusa (CoP 9301), and significantly superior to the better standard of Motipur (CoSe 92423). CoSe 11455 (78.23 t/ha) ranked third and showed 10 per cent improvement over the better standard at Seorahi (CoSe 92423) and Gorakhpur (BO 91). None of the entries recorded more than 10 per cent improvement over the best standard across locations.

Table 5.6.3. CCS (%) at harvest

S. No.	Entries	Seo rahi	Gora khpur	Pusa	Moti pur	Bethua dahari	Buralikson	Mean	Overall rank
1	BO 155	11.37	12.00	11.51	-	9.11	12.62	11.32	
2	CoSe 11453	12.99	12.10	12.46	-	9.86	12.75	12.03	3
3	CoSe 11454	12.95	12.02	12.56	-	11.07	13.07	12.33	2
4	CoSe 11455	12.06	12.75	12.44	-	9.76	12.43	11.89	
	Standards				-				
1	BO 91	11.87	11.75	11.45	-	11.01	12.09	11.63	
2	CoP 9301	12.97	12.73	12.59	-	11.62	12.30	12.44	1
3	CoSe 92423	11.21	11.62	12.36	-	10.48	12.22	11.58	
	GM	12.20	12.14	12.20	-	10.42	12.50		
	SE	-	0.20	0.20	-	-	NS		
	CD	0.12	0.44	0.63	-	-	-		
	CV	0.55	2.47	2.87	-	-	-		
Top ranking entries at each locations									
	1	-	-	-	-	-	CoSe 11454	-	
	2	-	-	-	-	-	-	-	
	3	-	-	-	-	-	-	-	

* Motipur centre has not given CCS % at harvest

Qualifying entries: CoSe 11454 (1)

Performance across the locations:

CoP 9301 (12.44 %) was the best standard for CCS % and none of the entries were found better than this standard. Among the tested entries, CoSe 11454 (13.07 %) showed more than five per cent improvement in CCS % at Buralikson.

Table 5.6.4. Sucrose (%) at harvest

S. No.	Entries	Seo rahi	Gora khpur	Pusa	Moti pur	Bethua dahari	Bura likson	Mean	Ove rall rank
1	BO155	16.52	17.42	16.68	15.44	13.25	17.80	16.19	
2	CoSe 11453	18.80	17.52	17.99	16.56	14.02	18.20*	17.18	3
3	CoSe 11454	18.75	17.44	18.31	17.12	16.07	18.25*	17.66	2
4	CoSe 11455	17.49	18.28	17.90	16.70	14.14	17.70	17.04	
	Standards								
1	BO 91	17.17	17.10	16.59	16.64	15.95	17.60	16.84	
2	CoP 9301	18.74	18.17	18.41	16.72	16.83	17.50	17.73	1
3	CoSe 92423	16.25	16.86	18.02	17.34	15.26	17.33	16.84	
	GM	17.67	17.54	17.70	16.65	15.07	17.77		
	SE	-	0.29	0.27	0.15	-	0.11		
	CD	0.17	0.63	0.85	0.48	-	0.34		
	CV	0.56	2.41	2.66	1.62	-	3.16		
	Top ranking entries at each locations								
	1	-	-	-	-	-	-	-	
	2	-	-	-	-	-	-	-	
	3	-	-	-	-	-	-	-	

Qualifying entries: Nil

Performance across the locations:

Among the standards, CoP 9301 (17.73 %) was the best for juice sucrose % and none of the test entries were better than the standard. Both CoSe 11454 (18.25 %) and CoSe 11453 (18.20 %) were found to be significantly superior over the better standard BO 91 (17.60 %) at Buralikson.

Table 5.6.5. Brix (%) at harvest

S. No.	Entries	Seo rahi	Gora khpur	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	BO 155	18.88	19.90	18.97	16.42	15.17	20.25	18.27
2	CoSe 11453	21.28	19.87	20.27	18.28	16.21	21.20	19.52
3	CoSe 11454	21.28	19.90	21.07	19.95	18.34	20.30	20.14
4	CoSe 11455	19.92	20.30	20.07	18.74	16.07	20.50	19.27
	Standards							
1	BO 91	19.42	19.63	18.87	18.68	18.11	21.30	19.34
2	CoP 9301	21.18	20.55	21.00	18.38	19.09	20.25	20.08
3	CoSe 92423	18.48	19.20	20.40	20.41	17.51	20.26	19.38
	GM	20.06	19.91	20.09	18.69	17.21	20.58	19.43
	SE	-	0.20	0.37	0.31	-	0.17	
	CD	0.23	0.44	1.16	0.96	-	0.55	
	CV	0.66	1.50	3.22	2.91		4.60	

Table 5.6.6. Purity (%) at harvest

S. No.	Entries	Seo rahi	Gora khpur	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	BO 155	87.48	87.57	87.93	94.30	87.41	87.12	88.64
2	CoSe 11453	88.33	88.14	88.77	91.35	88.10	86.05	88.46
3	CoSe 11454	88.14	87.64	86.93	87.18	87.65	87.60	87.52
4	CoSe 11455	87.82	88.78	89.23	88.07	88.00	88.10	88.33
	Standards							
1	BO 91	88.41	87.14	87.90	88.63	88.04	87.44	87.93
2	CoP 9301	88.48	89.18	87.77	90.98	88.16	85.60	88.36
3	CoSe 92423	87.92	87.76	88.30	84.95	87.16	85.70	86.97
	GM	88.08	88.03	88.12	89.35	87.79	86.80	88.03
	SE	-	0.37	0.81	1.21	-	0.70	
	CD	0.55	0.78	0.62	3.74	-	2.40	
	CV	0.35	0.60	1.59	2.35	-	5.50	

Table 5.6.7. Pol (%) cane at harvest

S. No.	Entries	Seo rahi	Gora khpur	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	BO 155	12.75	-	13.79	11.83	-	-	13.27
2	CoSe 11453	14.52	-	14.89	12.66	-	-	14.71
3	CoSe 11454	14.36	-	15.12	13.00	-	-	14.74
4	CoSe 11455	13.44	-	14.78	12.84	-	-	14.11
	Standards							
1	BO 91	13.12	-	13.79	12.64	-	-	13.46
2	CoP 9301	14.29	-	15.36	12.74	-	-	14.83
3	CoSe 92423	12.62	-	14.47	13.25	-	-	13.55
	GM	13.59	-	14.60	12.71	-	-	13.63
	SE	-	-	0.25	-	-	-	
	CD	-	-	0.78	-	-	-	
	CV	-	-	2.98	-	-	-	

Table 5.6.8. Extraction (%) at harvest

S. No.	Entries	Seo rahi	Gora khpur	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	BO 155	61.71	-	85.50	62.08	-	-	69.76
2	CoSe 11453	63.71	-	57.80	61.16	-	-	60.89
3	CoSe 11454	62.33	-	59.52	63.37	-	-	61.74
4	CoSe 11455	62.98	-	59.80	64.43	-	-	62.40
	Standards							
1	BO 91	60.24	-	60.21	61.48	-	-	60.64
2	CoP 9301	58.75	-	61.25	63.44	-	-	61.15
	CoSe 92423	60.12	-	56.73	62.54	-	-	59.80
	GM	61.41	-	62.97	62.64	-	-	62.34
	SE	-	-	2.19	1.17	-	-	
	CD	-	-	6.73	-	-	-	
	CV	-	-	6.40	3.24	-	-	

Table 5.6.9. Fibre (%) at harvest

S. No.	Entries	Seo rahi	Gora khpur	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	BO 155	13.45	-	12.35	13.36	-	-	13.05
2	CoSe 11453	13.12	-	12.23	13.57	-	-	12.97
3	CoSe 11454	13.38	-	12.52	14.06	-	-	13.32
4	CoSe 11455	13.51	-	12.43	13.09	-	-	13.01
	Standards							
1	BO 91	13.36	-	11.92	14.05	-	-	13.11
2	CoP 9301	13.56	-	11.56	13.78	-	-	12.97
3	CoSe 92423	13.65	-	14.73	13.59	-	-	13.99
	GM	13.43	-	12.53	13.64	-	-	13.20
	SE	-	-	0.30	0.29	-	-	
	CD	-	-	0.93	-	-	-	
	CV	-	-	4.11	3.78	-	-	

Table 5.6.10. Number of Millable Canes ('000/ha) at harvest

S. No.	Entries	Seo rahi	Gora khpur	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	Bo 155	114.00	126.00	125.00	124.73	116.32	69.20	112.54
2	CoSe 11453	123.00	139.00	115.10	113.97	112.93	84.00	114.67
3	CoSe 11454	107.00	123.00	113.16	114.13	117.07	70.43	107.47
4	CoSe 11455	103.00	142.00	109.82	113.76	114.25	80.30	110.52
	Standards							
1	BO 91	110.00	122.00	112.86	149.78	119.26	70.80	114.12
2	CoP 9301	101.00	103.00	115.30	87.03	121.49	92.88	103.45
3	CoSe 92423	99.00	98.00	110.35	135.05	119.20	89.67	108.54
	GM	108.14	121.86	114.51	119.78	117.22	79.61	110.19
	SE	-	6.49	3.73	2.69	-	2.03	
	CD	11.61	13.65	11.49	8.30	-	6.22	
	CV	6.05	7.51	5.64	3.89	-	11.55	

Table 5.6.11. Stalk Length (cm) at harvest

S. No.	Entries	Seo rahi	Gora khpur	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	BO 155	201.00	255.00	261.33	276.00	221.00	150.00	202.64
2	CoSe 11453	211.00	240.00	268.00	285.33	228.00	245.00	205.80
3	CoSe 11454	200.00	206.00	373.33	275.00	231.00	220.00	214.59
4	CoSe 11455	208.00	275.00	305.33	298.33	222.00	190.00	218.43
	Standards							
1	BO 91	175.00	254.00	303.33	269.00	217.00	138.00	203.29
2	CoP 9301	174.00	240.00	294.67	298.33	224.00	240.00	205.57
3	CoSe 92423	199.00	235.00	288.33	251.66	232.00	230.00	201.38
	GM	195.43	243.57	299.19	279.09	225.00	201.86	240.69
	SE	-	9.08	7.98	3.15	-	0.18	
	CD	7.06	19.08	24.86	9.72	-	6.00	
	CV	2.03	5.28	4.70	1.95	-	8.33	

Table 5.6.12. Stalk Diameter (cm) at harvest

S. No.	Entries	Seo rahi	Gora khpur	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	BO 155	2.00	2.20	2.38	2.43	2.42	2.20	2.27
2	CoSe 11453	2.10	2.35	2.34	2.33	2.39	2.20	2.29
3	CoSe 11454	2.10	2.30	2.56	2.40	2.40	2.40	2.36
4	CoSe 11455	2.20	2.45	2.65	2.10	2.37	2.30	2.35
	Standards							
1	BO 91	1.90	2.15	2.13	1.90	2.37	1.23	1.95
2	CoP 9301	1.90	2.20	2.33	2.76	2.36	2.10	2.28
3	CoSe 92423	2.10	2.50	2.41	2.46	2.39	2.15	2.34
	GM	2.04	2.31	2.40	2.34	2.39	2.08	2.26
	SE	-	0.08	0.06	0.06	-	NS	
	CD	0.19	0.18	0.17	0.20	-	-	
	CV	5.26	5.34	3.96	5.03	-	-	

Table 5.6.13. Single Cane Weight (kg) at harvest

S. No.	Entries	Seo rahi	Gora khpur	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	BO 155	0.65	0.65	0.85	1.14	0.77	1.00	0.85
2	CoSe 11453	0.75	0.74	0.80	1.12	0.74	1.00	0.86
3	CoSe 11454	0.74	0.69	0.79	1.08	0.86	0.66	0.80
4	CoSe 11455	0.78	0.76	0.81	1.21	0.70	0.65	0.82
	Standards							
1	BO 91	0.65	0.62	0.72	0.69	0.70	0.62	0.67
2	CoP 9301	0.64	0.64	0.82	1.17	0.73	1.22	0.87
3	CoSe 92423	0.69	0.77	0.81	1.02	0.87	1.15	0.89
	GM	0.70	0.70	0.80	1.06	0.77	0.90	0.82
	SE	-	-	0.04	0.40	-	0.19	
	CD	3.53	-	0.12	0.13	-	0.65	
	CV	2.82	-	8.59	7.37	-	10.30	

Table 5.6.14. CCS (%) at 300 days

S. No.	Entries	Seo rahi	Gora khpur	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	BO155	11.03	10.63	11.36	9.28	7.27	11.82	10.23
2	CoSe 11453	12.67	10.94	12.30	11.18	8.09	12.92	11.35
3	CoSe 11454	12.29	10.62	12.31	11.75	9.11	12.19	11.38
4	CoSe 11455	11.90	11.48	11.83	10.71	7.95	12.22	11.02
	Standards							
1	Bo 91	11.42	10.65	10.71	11.03	9.29	12.81	10.99
2	CoP 9301	12.41	11.52	11.32	11.35	9.56	12.09	11.38
3	CoSe 92423	11.10	10.16	10.74	11.68	8.21	11.60	10.58
	GM	11.83	10.86	11.51	11.00	8.50	12.24	10.99
	SE	-	0.56	0.34	0.29	-	0.29	
	CD	0.46	1.18	1.06	0.90	-	0.88	
	CV	2.32	7.31	5.11	4.64	-	3.10	

Table 5.6.15. Sucrose (%) at 300 days

S. No.	Entries	Seo rahi	Gora khpur	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	BO 155	15.99	15.68	16.50	13.59	11.01	16.20	14.83
2	CoSe 11453	18.33	16.10	17.81	16.14	12.01	17.45	16.31
3	CoSe 11454	17.81	15.61	17.96	16.92	13.53	16.60	16.41
4	CoSe 11455	17.19	16.80	17.15	15.23	11.81	16.70	15.81
	Standards							
1	BO 91	16.48	15.52	15.59	16.14	13.89	17.40	15.84
2	CoP 9301	17.78	16.86	16.60	16.26	14.60	16.60	16.45
3	CoSe 92423	16.09	14.97	15.79	17.26	12.39	16.31	15.47
	GM	17.10	15.93	16.77	15.93	12.75	16.75	15.87
	SE	-	-	0.46	0.23	-	0.16	
	CD	0.66	-	1.43	0.72	-	0.49	
	CV	2.18	-	4.75	2.56	-	4.50	

Table 5.6.16. Brix (%) at 300 days

S. No.	Entries	Seo rahi	Gora khpur	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	BO 155	18.17	18.45	18.83	15.50	13.06	17.30	16.89
2	CoSe 11453	20.77	18.92	20.20	17.68	14.34	18.00	18.32
3	CoSe 11454	20.26	18.29	20.00	19.31	16.17	17.45	18.58
4	CoSe 11455	19.38	19.50	19.53	17.04	14.10	17.69	17.87
	Standards							
1	BO 91	18.55	18.10	17.87	17.64	16.79	18.20	17.86
2	CoP 9301	20.02	19.57	18.93	18.08	17.12	17.80	18.59
3	CoSe 92423	18.32	17.59	18.07	20.18	15.26	18.40	17.97
	GM	19.35	18.63	19.06	17.92	15.26	17.83	18.01
	SE	-	0.53	0.46	0.27	-	0.18	
	CD	0.66	1.12	1.43	0.85	-	0.65	
	CV	1.93	4.05	4.17	2.66	-	5.53	

Table 5.6.17. Purity (%) at 300 days

S. No.	Entries	Seo rahi	Gora khpur	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	BO 155	87.97	84.96	87.57	92.41	83.02	78.67	85.77
2	CoSe 11453	87.91	85.14	88.13	90.60	83.77	80.15	85.95
3	CoSe 11454	87.94	85.37	88.80	88.58	83.71	80.10	85.75
4	CoSe 11455	88.49	86.21	87.80	90.23	83.82	77.50	85.68
	Standards							
1	BO 91	88.82	85.77	86.63	90.08	82.75	83.60	86.28
2	CoP 9301	88.81	86.14	87.67	90.28	83.16	84.50	86.76
3	CoSe 92423	87.51	85.11	87.40	85.25	81.19	85.00	85.24
	GM	88.21	85.53	87.71	89.63	83.06	81.36	85.92
	SE	-	-	0.56	1.23	-	NS	
	CD	0.70	-	0.87	3.81	-	-	
	CV	0.44	-	1.11	2.39	-	-	

Table 5.6.18. Number of Shoots ('000/ha) at 240 days

S. No.	Entries	Seo rahi	Gora khpur	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	BO 155	-	-	147.14	106.94	166.21	65.32	121.40
2	CoSe 11453	-	-	140.25	105.18	137.45	80.34	115.81
3	CoSe 11454	-	-	148.03	104.12	151.41	68.44	118.00
4	CoSe 11455	-	-	150.11	104.92	130.56	78.52	116.03
	Standards							
1	BO 91	-	-	138.89	142.93	167.84	77.00	131.67
2	CoP 9301	-	-	139.23	93.53	153.24	87.80	118.45
3	CoSe 92423	-	-	143.60	120.20	171.35	88.60	130.94
	GM	-	-	143.89	111.12	154.01	78.00	121.76
	SE	-	-	7.31	2.84	-	2.22	
	CD	-	-	22.58	8.75	-	7.30	
	CV	-	-	8.79	4.42	-	12.31	

Table 5.6.19. Number of Tillers ('000/ha) at 120 days

S. No.	Entries	Seo rahi	Gora khpur	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	BO 155	163.00	202.00	136.42	133.27	157.20	54.25	141.02
2	CoSe 11453	165.00	245.00	131.87	112.32	129.64	79.29	143.85
3	CoSe 11454	157.00	205.00	137.51	114.36	139.44	58.96	135.38
4	CoSe 11455	149.00	236.00	140.61	116.04	122.14	52.90	136.12
	Standards							
1	BO 91	154.00	210.00	131.04	158.61	163.71	59.45	146.14
2	CoP 9301	145.00	172.00	132.35	93.87	141.02	79.05	127.22
3	CoSe 92423	144.00	162.00	134.49	135.94	160.79	76.09	135.55
	GM	153.86	204.57	134.90	123.49	144.85	65.71	137.90
	SE	-	10.56	7.12	3.05	-	2.01	
	CD	11.79	22.19	21.88	9.41	-	5.32	
	CV	4.29	7.28	9.14	4.28	-	10.54	

Table 5.6.20. Germination (%) at 45 days

S. No.	Entries	Seo rahi	Gora khpur	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	BO 155	50.74	37.89	42.76	48.38	40.07	40.73	43.43
2	CoSe 11453	52.22	46.75	36.46	38.18	31.18	59.53	44.05
3	CoSe 11454	45.83	38.52	33.16	36.15	34.79	44.26	38.79
4	CoSe 11455	45.18	44.49	41.31	35.53	27.23	39.72	38.91
	Standards							
1	BO 91	53.70	38.38	41.11	37.95	41.25	44.63	42.84
2	CoP 9301	46.57	31.92	39.53	32.69	36.64	59.35	41.12
3	CoSe 92423	42.31	30.33	37.55	38.63	41.78	57.13	41.29
	GM	48.08	38.33	38.84	38.22	36.13	49.34	41.49
	SE	-	2.06	1.42	1.12	-	2.30	
	CD	2.26	4.34	6.49	3.48	-	6.32	
	CV	7.89	6.54	6.16	5.27	-	11.00	

Table 5.6.21. Assessment of entries by monitoring team constituted by AICRP(S)

S. No.	Entries	Gorakhpur	Seorahi	Pusa	Motipur	Bethuadahari	Buralikson
1	BO 155						
2	CoSe 11453						
3	CoSe 11454						
4	CoSe 11455						
	Standards						
1	BO 91						
2	CoP 9301						
3	CoSe 92423						

5.7. ADVANCED VARIETAL TRIAL (MIDLATE) - RATOON

Centers (6)	Bethuadahari, Buralikson, Gorakhpur, Motipur, Pusa and Seorahi
Entries (4)	BO 155, CoSe 11453, CoSe 11454 and CoSe 11455
Standards (3)	BO 91, CoP 9301 and CoSe 92423
Design	RBD
Replications	Three
Plot size	Gross : 6m x 8r x 0.90m Net : 5m x 6r x 0.90m
Seed rate	12 buds per meter
Crop duration	11 months

Results of the previous year:

The trial was conducted for AVT (Midlate) I Plant with four test entries and three standards in all the six centres of the zone. CoP 9301 was the best standard for CCS yield (8.55 t/ha) and cane yield (70.36 t/ha). For commercial cane sugar yield, all the four test entries performed better than the standards. CoSe 11453 (10.55 t/ha) was the best in the zone and it recorded a significantly higher CCS over the best standard in three locations *viz.*, Seorahi, Gorakhpur and Pusa. The entry CoSe 11453 (84.42 t/ha) was the best and significantly superior cane yield in three locations (Seorahi, Gorakhpur and Pusa). CoP 9301 (12.24 %) was the better standard for CCS %. Three test clones (CoSe 11453, CoSe 11454 & CoSe 11455) performed better than the standards for overall mean CCS %. CoSe 11453 (17.98 %) was the only best entry that recorded the highest overall mean juice sucrose % and was found to be significantly superior over the best standard BO 91 at Buralikson centre only.

Results of the current year:

The data on cane yield and juice quality parameters of the Advanced Varietal Tial – Midlate (Ratoon) conducted with four test entries and three standards were presented in tables **5.7.1 to 5.7.20**. CoP 9301 was the best standard for commercial cane sugar yield (8.36 t/ha), cane yield (69.62 t/ha), CCS % (12.00) and juice sucrose % (17.42). CoSe 11454 (8.91) ranked first with more than 10 per cent improvement in CCS (t/ha) as well as significantly superior over the best standard at Seorahi (CoSe 92423). CoSe 11455 (7.91 t/ha) recorded more than 10 per cent improvement in CCS (t/ha) than the respective better standard at Seorahi (CoSe 92423) and Gorakhpur (CoP 9301). For cane yield, CoSe 11454 (73.52 t/ha), was the top ranking entry and CoSe 11453 (70.26 t/ha) ranked second. Both entries were recorded 10 per cent improvement in cane yield over the best standard (CoSe 92423) at Seorahi. CoP 9301 (12.00 %) was the best standard for CCS % and none of the entries were performed better than the standard. CoSe 11453 showed more than five per cent improvement and significantly superior in CCS % when compared to the respective better standards at Seorahi (CoP 9301) and Buralikson (CoSe 92423). CoP 9301 (17.42 %) performed better among the standards for juice sucrose and none of the entries performed better than the standard. CoSe 11453 (18.89 %), recorded 5 per cent improvement and was significantly superior over better parent (CoP 9301) in Seorahi. Among the test entries, CoSe 11454 performed better for commercial cane sugar yield, cane yield, CCS % and juice sucrose %. None of the entries were identified as qualifying entry.

Table 5.7.1. CCS (t/ha) at harvest

S. No.	Entries	Seorahi	Gorakhpur	Pusa	Motipur	Bethuahari	Buralikson	Mean	Overall rank
1	BO 155	7.25	8.58	10.57	8.49	6.24	4.72	7.64	
2	CoSe 11453	10.33*	8.89	10.50	7.51	5.86	8.68	8.29	3
3	CoSe 11454	9.54*	8.56	9.97	8.59	6.91	10.50	8.91	1
4	CoSe 11455	7.91*	10.05*	10.14	7.74	6.26	7.33	7.87	
	Standards								
1	BO 91	6.87	8.29	7.67	7.73	7.10	5.28	7.16	
2	CoP 9301	6.95	8.47	10.56	7.69	6.88	9.60	8.36	2
3	CoSe 92423	7.18	8.00	9.86	7.86	6.79	8.74	8.07	
	GM	7.06	8.47	9.90	7.94	6.58	7.84		
	SE	-	0.49	0.33	-	-	0.35		
	CD	0.11	1.03	1.03	-	-	0.97		
	CV	8.91	8.05	5.78	-	-	10.48		
	Qualifying entries at each locations								
	1	CoSe 11453	CoSe 11455	-	-	-	-	-	
	2	CoSe 11454	-	-	-	-	-	-	
	3	CoSe 11455	-	-	-	-	-	-	

Qualifying entries: CoSe 11455 (2), CoSe 11453 (1), CoSe 11454 (1)

Performance across the locations:

CoP 9301 (8.36) was the best standard for commercial cane sugar yield (t/ha) and CoSe 11454 (8.91) ranked first with more than 10 per cent improvement in CCS (t/ha) as well as significantly superior over better standard at Seorahi (CoSe 92423). CoSe 11453 (8.29 t/ha) ranked third and recorded 10 per cent improvement for CCS yield, and also significantly superior over better standard at Seorahi (CoSe 92423). CoSe 11455 (7.91 t/ha) was recorded more than 10 per cent improvement in CCS (t/ha) than the respective better standard at Seorahi (CoSe 92423) and Gorakhpur (CoP 9301). None of the entries recorded more than 10 per cent improvement over the best standard across locations.

Table 5.7.2. Cane Yield (t/ha) at harvest

S. No.	Entries	Seo rahi	Gora khpur	Pusa	Moti pur	Bethua dahari	Bura likson	Mean	Overall rank
1	BO 155	65.64	79.63	92.45*	73.03*	59.71	38.00	60.75	
2	CoSe 11453	79.25*	80.56	85.18	64.64	53.84	67.10	70.26	2
3	CoSe 11454	77.49*	78.24	78.36	73.62*	57.16	80.30	73.52	1
4	CoSe 11455	68.70	88.88*	79.80	69.70	56.20	58.47	66.57	
	Standards								
1	BO 91	59.99	76.57	72.86	66.31	60.54	43.04	63.22	
2	CoP 9301	56.67	75.83	82.75	66.54	57.24	78.69	69.62	3
3	CoSe 92423	63.24	76.39	78.94	68.15	59.09	71.05	69.48	
	GM	62.85	77.87	79.65	67.07	57.68	62.38	67.63	
	SE	-	4.45	1.62	1.40	-	1.70		
	CD	8.43	9.35	5.05	4.34	-	5.44		
	CV	8.44	6.79	3.45	3.54	-	12.66		
Qualifying entries at each locations									
	1	CoSe 11453	CoSe 11455	Bo 155	-	-	-	-	
	2	CoSe 11454	-	-	-	-	-	-	
	3	-	-	-	-	-	-	-	

Qualifying entries: CoSe 11453 (1), CoSe 11455 (1), Bo 155 (1) and CoSe 11454 (1)

Performance across the locations:

CoP 9301 (69.62 t/ha) was the better standard for cane yield (t/ha). CoSe 11454 (73.52 t/ha), was the top ranking entry and CoSe 11453 (70.26 t/ha) ranked second. Both entries were recorded 10 per cent improvement for cane yield over the best standard (CoSe 92423) at Seorahi. CoSe 11455 (88.88 t/ha) showed more than 10 per cent improvement and significantly superior to best standard BO 91 (76.57 t/ha) at Gorakhpur. None of the entries recorded more than 10 per cent improvement over the best standard across locations.

Table 5.7.3. CCS (%) at harvest

S. No.	Entries	Seo rahi	Gora khpur	Pusa	Moti pur	Bethua dahari	Bura likson	Mean	Ove rall rank
1	BO 155	11.04	10.82	11.43	11.62	10.45	12.43	11.30	
2	CoSe 11453	13.03*	11.04	12.33	11.62	10.89	12.95*	11.47	
3	CoSe 11454	12.31	10.94	12.69	11.67	12.08	13.08*	11.94	2
4	CoSe 11455	11.52	11.31	12.60	11.11	11.13	12.54	11.70	3
	Standards								
1	BO 91	11.45	10.83	10.53	11.66	11.71	12.29	11.41	
2	CoP 9301	12.27	11.17	12.76	11.55	12.02	12.21	12.00	1
3	CoSe 92423	11.26	10.46	12.49	11.53	11.50	12.31	11.59	
	GM	11.64	10.94	12.12	11.54	11.40	12.36		
	SE	-	-	0.27	0.11	-	0.16		
	CD	0.50	-	0.85	0.34	-	0.47		
	CV	2.84	-	3.89	1.66	-	3.50		
Qualifying entries at each locations									
	1	CoSe 11453	-	-	-	-	CoSe 11454	-	
	2	-	-	-	-	-	CoSe 11453	-	
	3	-	-	-	-	-		-	

Qualifying entries: CoSe 11453 (2) and CoSe 11454 (1)

Performance across the locations:

CoP 9301 (12.00 %) was the better standard for CCS % and none of the entries performed better than the standard. CoSe 11453 showed more than five per cent improvement and significantly superior in CCS % when compared to the respective better standards at Seorahi (CoP 9301) and Buralikson (CoSe 92423).

Table 5.7.4. Sucrose (%) at harvest

S. No.	Entries	Seo rahi	Gora khpur	Pusa	Moti pur	Bethua dahari	Bura likson	Mean	Overall rank
1	BO 155	16.00	15.95	16.60	16.90	14.97	17.55	16.33	
2	CoSe 11453	18.89*	16.14	17.78	16.78	15.74	18.28*	16.61	
3	CoSe 11454	17.82	15.99	18.47	17.20	17.32	18.2*	17.36	2
4	CoSe 11455	16.70	16.52	18.21	16.33	15.97	17.70	16.91	3
	Standards								
1	BO 91	16.53	15.82	15.39	16.84	16.91	17.74	16.54	
2	CoP 9301	17.73	16.41	18.95	16.90	17.20	17.32	17.42	1
3	CoSe 92423	16.17	15.47	17.99	16.78	16.53	17.40	16.72	
	GM	16.83	16.04	17.63	16.82	16.38	17.54		
	SE	-	-	0.37	0.16	-	0.12		
	CD	0.67	-	1.15	-	-	0.36		
	CV	2.63	-	3.63	1.66	-	3.45		
	Qualifying entries at each locations								
	1	CoSe 11453	-	-	-	-	-	-	
	2	-	-	-	-	-	-	-	
	3	-	-	-	-	-	-	-	

Qualifying entries: CoSe 11453 (1)

Performance across the locations:

CoP 9301 (17.42 %) performed better among the standards for juice sucrose and none of the entries were performed better than the standard. CoSe 11453 (18.89 %), recorded 5 per cent improvement and was significantly superior over better parent (CoP 9301) in Seorahi.

Table 5.7.5. Brix (%) at harvest

S. No.	Entries	Seo rahi	Gora khpur	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	BO 155	18.18	18.77	18.93	19.44	16.61	19.98	18.65
2	CoSe 11453	21.48	18.67	20.00	18.94	17.80	20.80	19.62
3	CoSe 11454	20.22	18.50	21.20	20.20	19.25	20.10	19.91
4	CoSe 11455	18.92	19.07	20.60	18.95	17.76	20.15	19.24
	Standards							
1	BO 91	18.62	18.30	17.80	19.00	19.07	21.10	18.98
2	CoP 9301	19.99	19.17	22.60	19.93	19.06	19.90	20.11
3	CoSe 92423	18.39	18.32	20.20	19.23	18.47	19.85	19.08
	GM	19.40	18.69	20.19	19.38	18.29	20.27	19.37
	SE	-	-	0.41	0.33	-	0.15	
	CD	0.72	-	1.27	-	-	0.45	
	CV	2.51	-	3.50	2.96	-	5.50	

Table 5.7.6. Purity (%) at harvest

S. No.	Entries	Seo rahi	Gora khpur	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	BO 155	88.02	84.93	87.60	87.43	90.20	88.20	87.73
2	CoSe 11453	87.94	86.52	89.13	88.28	88.43	86.83	87.86
3	CoSe 11454	88.15	86.43	86.87	85.14	90.00	88.40	87.50
4	CoSe 11455	88.27	86.62	88.43	88.15	89.94	87.15	88.09
	Standards							
1	BO 91	88.77	85.50	86.40	88.61	88.75	86.73	87.46
2	CoP 9301	88.66	86.64	83.83	85.08	90.29	85.70	86.70
3	CoSe 92423	87.91	84.38	88.77	87.30	89.49	86.18	87.34
	GM	88.25	85.86	87.29	87.14	89.59	87.03	87.53
	SE	-	-	0.72	0.90	-	0.75	
	CD	0.53	-	2.23	2.80	-	3.30	
	CV	0.41	-	1.42	1.80	-	6.30	

Table 5.7.7. Pol (%) cane at harvest

S. No.	Entries	Seo rahi	Gora khpur	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	BO 155	12.46	-	13.72	12.81	-	-	13.09
2	CoSe 11453	14.82	-	14.69	12.76	-	-	14.76
3	CoSe 11454	13.59	-	15.30	13.06	-	-	14.45
4	CoSe 11455	12.75	-	15.10	12.54	-	-	13.93
	Standards							
1	BO 91	12.68	-	12.78	12.94	-	-	12.73
2	CoP 9301	13.67	-	15.82	12.97	-	-	14.75
3	CoSe 92423	12.59	-	14.69	12.71	-	-	13.64
	GM	13.22	-	14.59	12.83	-	-	13.55
	SE	-	-	0.30	-	-	-	
	CD	-	-	0.95	-	-	-	
	CV	-	-	3.61				

Table 5.7.8. Extraction (%) at harvest

S. No.	Entries	Seo rahi	Gora khpur	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	BO 155	56.30	-	57.80	59.66	-	-	57.92
2	CoSe 11453	59.64	-	56.15	53.00	-	-	56.26
3	CoSe 11454	56.39	-	58.30	51.66	-	-	55.45
4	CoSe 11455	57.59	-	58.10	57.66	-	-	57.78
	Standards							
1	BO 91	58.68	-	59.80	47.66	-	-	55.38
2	CoP 9301	58.97	-	60.15	54.66	-	-	57.93
3	CoSe 92423	59.12	-	56.15	58.33	-	-	57.87
	GM	58.10	-	58.06	54.66	-	-	56.94
	SE	-	-	1.86	1.80	-	-	
	CD	-	-	3.83	5.54	-	-	
	CV	-	-	5.54	5.70			

Table 5.7.9. Fibre (%) at harvest

S. No.	Entries	Seo rahi	Gora khpur	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	BO 155	13.45	-	12.36	14.21	-	-	13.34
2	CoSe 11453	13.39	-	12.43	13.95	-	-	13.26
3	CoSe 11454	13.89	-	12.20	14.06	-	-	13.38
4	CoSe 11455	13.57	-	12.10	13.19	-	-	12.95
	Standards							
1	BO 91	13.46	-	11.96	13.17	-	-	12.86
2	CoP 9301	13.58	-	11.20	13.28	-	-	12.69
3	CoSe 92423	13.67	-	13.35	14.26	-	-	13.76
	GM	13.57	-	12.23	13.73	-	-	13.18
	SE	-	-	0.06	0.23	-	-	0.15
	CD	-	-	0.18	0.72	-	-	
	CV	-	-	0.82	2.96	-	-	

Table 5.7.10. Number of Millable Canes ('000/ha) at harvest

S. No.	Entries	Seo rahi	Gora khpur	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	BO 155	109.00	134.00	115.82	117.14	133.66	86.09	115.95
2	CoSe 11453	112.00	135.00	112.36	89.38	131.26	108.05	114.68
3	CoSe 11454	107.00	129.00	117.24	102.01	128.22	110.64	115.69
4	CoSe 11455	105.00	143.00	109.56	96.90	131.85	100.65	114.49
	Standards							
1	BO 91	102.00	139.00	112.35	91.33	136.10	93.87	112.44
2	CoP 9301	99.00	126.00	110.68	80.10	136.31	104.35	109.41
3	CoSe 92423	99.00	120.00	111.26	89.64	135.30	101.14	109.39
	GM	104.71	132.29	112.75	95.21	133.24	100.68	113.15
	SE	-	11.02	2.65	3.87	-	2.10	
	CD	11.85	23.16	6.23	11.93	-	6.70	
	CV	7.61	11.75	4.08	7.04	-	12.22	

Table 5.7.11. Stalk Length (cm) at harvest

S. No.	Entries	Seo rahi	Gora khpur	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	BO 155	193.00	213.00	257.33	189.33	216.00	150.0	203.11
2	CoSe 11453	205.00	210.00	261.67	195.00	221.00	265.0	226.28
3	CoSe 11454	190.00	189.00	319.33	170.00	224.00	215.0	217.89
4	CoSe 11455	202.00	239.00	290.67	226.66	217.00	225.0	233.39
	Standards							
1	BO 91	156.00	233.00	291.33	214.33	214.00	125.0	205.61
2	CoP 9301	150.00	194.00	291.33	188.33	220.00	260.0	217.28
3	CoSe 92423	166.00	201.00	283.33	196.66	227.00	265.0	223.17
	GM	180.29	211.29	285.00	197.19	219.86	215.00	218.10
	SE	-	4.85	6.43	11.58	-	NS	
	CD	7.40	10.19	20.04	-	-	-	
	CV	2.76	6.83	3.91	10.17	-	-	

Table 5.7.12. Stalk Diameter (cm) at harvest

S. No.	Entries	Seo rahi	Gora khpur	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	BO 155	1.90	2.10	2.32	2.43	2.28	2.00	2.17
2	CoSe 11453	2.00	2.34	2.28	2.06	2.25	2.40	2.22
3	CoSe 11454	2.00	2.48	2.45	2.11	2.26	2.20	2.25
4	CoSe 11455	2.10	2.45	2.60	2.26	2.21	2.20	2.30
	Standards							
1	BO 91	1.90	2.05	2.07	2.10	2.22	1.50	1.97
2	CoP 9301	1.80	2.29	2.35	2.13	2.21	2.40	2.20
3	CoSe 92423	2.10	2.36	2.35	2.15	2.26	2.30	2.25
	GM	1.97	2.30	2.35	2.18	2.24	2.14	2.20
	SE	-	0.11	0.05	0.12	-	NS	
	CD	NS	0.25	0.14	-	-	-	
	CV	5.77	7.50	3.41	9.73	-	-	

Table 5.7.13. Single Cane Weight (kg) at harvest

S. No.	Entries	Seo rahi	Gora khpur	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	BO 155	0.60	0.65	0.80	0.71	0.67	0.91	0.72
2	CoSe 11453	0.70	0.65	0.76	0.55	0.59	1.05	0.72
3	CoSe 11454	0.72	0.59	0.67	0.62	0.70	1.01	0.72
4	CoSe 11455	0.65	0.74	0.73	0.89	0.58	1.00	0.77
	Standards							
1	BO 91	0.58	0.56	0.65	0.57	0.53	0.65	0.59
2	CoP 9301	0.56	0.60	0.75	0.57	0.61	1.20	0.72
3	CoSe 92423	0.63	0.75	0.71	0.79	0.72	0.99	0.77
	GM	0.64	0.65	0.72	0.67	0.63	0.97	0.72
	SE	-	0.03	0.03	0.02	-	0.15	
	CD	0.01	0.07	0.09	0.09	-	0.45	
	CV	2.06	6.88	6.68	7.51	-	7.55	

Table 5.7.14. Number of Shoots ('000/ha) at 240 days

S. No.	Entries	Seo rahi	Gora khpur	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	BO 155	-	-	143.34	117.02	141.45	80.14	112.87
2	CoSe 11453	-	-	139.98	87.61	140.19	100.50	109.43
3	CoSe 11454	-	-	148.84	99.60	136.12	98.67	111.46
4	CoSe 11455	-	-	150.40	98.29	141.28	97.32	112.30
	Standards							
1	BO 91	-	-	139.98	95.48	147.25	90.78	111.17
2	CoP 9301	-	-	138.44	77.58	147.18	99.52	108.09
3	CoSe 92423	-	-	134.56	93.24	141.59	98.33	111.05
	GM	-	-	142.22	95.55	142.15	95.04	110.91
	SE	-	-	2.94	3.38	-	2.10	
	CD	-	-	9.17	10.43	-	5.65	
	CV	-	-	3.59	6.13	-	11.45	

Table 5.7.15. Number of Tillers ('000/ha) at 120 days

S. No.	Entries	Seo rahi	Gora khpur	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	BO 155	181.00	231.00	130.35	139.68	153.39	77.83	123.63
2	CoSe 11453	187.00	224.00	124.49	96.96	150.20	95.52	114.23
3	CoSe 11454	176.00	214.00	130.75	137.47	147.36	90.33	125.05
4	CoSe 11455	169.00	237.00	137.68	114.47	122.07	88.52	108.35
	Standards							
1	BO 91	161.00	232.00	130.00	127.65	163.72	78.20	123.19
2	CoP 9301	149.00	212.00	131.54	114.49	143.20	81.89	113.19
3	CoSe 92423	156.00	200.00	131.39	115.39	161.01	82.67	119.69
	GM	168.43	221.43	130.89	120.87	148.71	84.99	118.19
	SE	-	10.83	3.18	3.48	-	2.04	
	CD	19.82	22.77	6.23	10.72	-	6.10	
	CV	7.83	6.90	4.20	4.98	-	11.66	

Table 5.7.16. Assessment of entries by monitoring team constituted by AICRP(S)

	Entries	Gorakhpur	Seorahi	Pusa	Motipur	Bethuadahari	Buralikson
1.	BO 155						
2.	CoSe 11453						
3.	CoSe 11454						
4.	CoSe 11455						
	Standards						
1.	BO 91						
2.	CoP 9301						
3.	CoSe 92423						

5.8. ADVANCED VARIETAL TRIAL (MIDLATE) Mean of two plant and one ratoon crops (2015-17)

In the North Central and North East zones, four midlate clones were evaluated along with three standards during the crop seasons 2015 – 17. AVT I plant crop was conducted by five centres except Bethuadahari. 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. Bethuadahari centre data was not included for calculating the general mean (GM) weighted average because of the state average of cane yield at harvest (t/ha) was higher than the data provided by the centre. 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 best standard with a mean CCS yield of 8.92 t/ha. The performance of all the four test entries was better than the standard CoP 9301. Among the entries, CoSe 11453 (10.23 t/ha) and CoSe 11454 (9.61 t/ha) ranked first and second respectively in the zone and they performed well in two locations (Seorahi & Pusa). The third best entry was CoSe 11455 (9.52 t/ha) in the zone and it performed well in Gorakpur and Pusa. CoSe 11453 recorded 14.68 % improvement over the best standard variety CoP 9301.

Cane Yield (t/ha):

CoSe 92423 was the best among the standards for cane yield with 67.73 t/ha and all the test entries performed better than the best standard. CoSe 11453 (74.39 t/ha) was the top yielder that ranked first in the zone and it performed well in three locations (Seorahi, Gorakpur and Pusa). BO 155 (74.18 t/ha) was the second best entry in the zone and it performed well in two locations (Gorakpur and Pusa). CoSe 11455 was the third best entry (72.12 t/ha) and it performed well in three locations viz., Seorahi, Gorakhpur and Pusa.

Commercial Cane Sugar (%):

CoP 9301 was the best standard with a mean CCS of 12.27 %. CoSe 11454 (12.44 %) was ranked first and performed well in Seorahi, Pusa and Buralikson. CoSe 11453 (12.41 %) was ranked second and performed well in Seorahi, Pusa and Buralikson centres.

Sucrose (%):

CoP 9301 was the best standard with a mean sucrose of 17.77 %. CoSe 11453 (17.79 %) ranked first and it performed in three centres (Seorahi, Pusa and Buralikson). CoSe 11454 ranked second with 17.77 % of sucrose. CoSe 11455 ranked third among the test entries (17.40 %).

Overall performance:

Based on the pooled mean of two plant and one ratoon crop in five centres, CoP 9301 was the best standard for CCS (t/ha), CCS (%) & Sucrose (%) and CoSe 92423 was the best standard for cane yield. CoSe 11453 showed 9.83 per cent improvement in cane yield, 14.68 % improvement for CCS yield, and numerically superior for CCS % and Sucrose. Therefore the entry CoSe 11453 was identified as qualified entry.

Table 5.8.1. CCS at harvest (t/ha) - Pooled data of two plant and one ratoon crops

S. No.	Clone	Seorahi				Gorakpur				Pusa				Motipur			
		IP	II P	R	Mean	IP	II P	R	Mean	IP	II P	R	Mean	IP	II P	R	Mean
1	BO 155	8.73	8.49	7.25	8.16	10.00	10.59	8.58	9.72	14.19	12.20	10.57	12.32	8.57	-	8.49	8.53
2	CoSe 11453	11.81	12.03	10.33	11.39	10.21	10.97	8.89	10.02	13.62	11.46	10.50	11.86	8.88	-	7.51	8.20
3	CoSe 11454	10.75	10.31	9.54	10.20	9.57	9.14	8.56	9.09	12.59	11.25	9.97	11.27	8.79	-	8.59	8.69
4	CoSe 11455	10.60	9.75	7.91	9.42	10.62	14.28	10.05	11.65	11.66	11.09	10.14	10.96	7.84	-	7.74	7.79
	Standards																
1	BO 91	8.06	8.06	6.87	7.66	7.94	8.71	8.29	8.31	9.78	9.29	7.67	8.91	9.53	-	7.73	8.63
2	CoP 9301	8.68	8.49	6.95	8.04	8.29	8.07	8.47	8.28	9.96	11.90	10.56	10.81	7.84	-	7.69	7.76
3	CoSe 92423	8.52	7.96	7.18	7.89	8.34	8.16	8.00	8.17	9.16	11.05	9.86	10.02	7.88	-	7.86	7.87
	GM	9.59	9.30	8.00	8.97	9.28	9.99	8.69	9.32	11.57	11.18	9.90	10.88	8.48	-	7.94	8.21
S. No.	Clone	Bethuadahari**				Buralikson				GM (Wt. Aver.)	Rank						
		IP*	II P	R	Mean	IP	II P	R	Mean								
1	BO 155	-	6.39	6.24	6.32	7.37	7.93	4.72	6.67	9.12							
2	CoSe 11453	-	6.33	5.86	6.10	8.22	10.14	8.68	9.01	10.23	1						
3	CoSe 11454	-	7.44	6.91	7.18	6.73	8.22	10.50	8.48	9.61	2						
4	CoSe 11455	-	6.48	6.26	6.37	8.31	5.97	7.33	7.20	9.52	3						
	Standards																
1	BO 91	-	7.81	7.10	7.46	6.84	4.02	5.28	5.38	7.72							
2	CoP 9301	-	7.89	6.88	7.39	8.00	10.37	9.60	9.32	8.92							
3	CoSe 92423	-	7.28	6.79	7.04	7.43	8.22	8.74	8.13	8.45							
	GM		7.09	6.58	6.83	7.56	7.84	7.84	7.74								

* Trial not conducted ** Data not included for GM (Weighted Average) as the state average was higher

Table 5.8.2. Cane yield at harvest (t/ha) - Pooled data of two plant and one ratoon crops

S. No.	Clone	Seorahi				Gorakpur				Pusa				Motipur			
		IP	IP	R	Mean	IP	IP	R	Mean	IP	IP	R	Mean	IP	IP	R	Mean
1	BO 155	77.78	74.69	65.64	72.70	83.43	88.43	79.63	83.83	115.73	106.31	92.45	104.83	68.75	76.44	73.03	72.74
2	CoSe 11453	91.67	92.59	79.25	87.84	85.27	90.74	80.56	85.52	108.14	90.27	85.18	94.53	70.88	71.41	64.64	68.98
3	CoSe 11454	81.94	79.62	77.49	79.68	78.80	76.02	78.24	77.69	103.90	89.56	78.36	90.61	68.44	72.22	73.62	71.43
4	CoSe 11455	82.87	80.86	68.70	77.48	86.30	112.04	88.88	95.74	98.30	89.16	79.80	89.09	62.67	72.78	69.70	68.38
	Standards																
1	BO 91	65.28	67.90	59.99	64.39	70.46	74.07	76.57	73.70	78.28	81.38	72.86	77.51	65.96	65.99	66.31	66.09
2	CoP 9301	64.35	65.43	56.67	62.15	68.52	63.43	75.83	69.26	82.37	94.49	82.75	86.54	68.61	69.37	66.54	68.17
3	CoSe 92423	70.83	70.98	63.24	68.35	71.48	70.18	76.39	72.68	76.03	89.62	78.94	81.53	69.48	71.66	68.15	69.76
	GM	76.39	76.01	67.28	73.23	77.75	82.13	79.44	79.77	94.68	91.54	81.48	89.23	67.83	71.41	68.86	69.36
S. No.	Clone	Bethuadahari**				Buralikson				GM (Wt. Aver.)	Rank						
		IP*	IP	R	Mean	IP	IP	R	Mean								
1	BO 155	-	70.13	59.71	64.92	59.62	62.90	38.00	53.51	74.18	2						
2	CoSe 11453	-	64.29	53.84	59.07	66.14	79.55	67.10	70.93	74.39	1						
3	CoSe 11454	-	67.22	57.16	62.19	53.05	62.90	80.30	65.42	70.15							
4	CoSe 11455	-	66.41	56.20	61.31	67.74	48.10	58.47	58.10	72.12	3						
	Standards																
1	BO 91	-	71.02	60.54	65.78	57.13	33.30	43.04	44.49	64.16							
2	CoP 9301	-	67.89	57.24	62.57	67.94	84.35	78.69	76.99	67.67							
3	CoSe 92423	-	69.46	59.09	64.28	62.88	67.34	71.05	67.09	67.73							
	GM	-	68.06	57.68	62.87	62.07	62.63	62.38	62.36								

* Trial not conducted ** Data not included for GM (Weighted Average) as the state average was higher

Table 5.8.3. CCS (%) at harvest - Pooled data of two plant and one ratoon crops

S. No.	Clone	Seorahi				Gorakpur				Pusa				Motipur			
		IP	II P	R	Mean	IP	II P	R	Mean	IP	II P	R	Mean	IP	II P	R	Mean
1	BO 155	11.23	11.37	11.04	11.21	11.99	12.00	10.82	11.60	12.26	11.51	11.43	11.73	12.29	-	11.62	11.96
2	CoSe 11453	12.88	12.99	13.03	12.97	11.97	12.10	11.04	11.70	12.60	12.46	12.33	12.46	12.58	-	11.62	12.10
3	CoSe 11454	13.12	12.95	12.31	12.79	12.15	12.02	10.94	11.70	12.11	12.56	12.69	12.45	12.85	-	11.67	12.26
4	CoSe 11455	12.68	12.06	11.52	12.09	12.31	12.75	11.31	12.12	11.91	12.44	12.60	12.32	12.67	-	11.11	11.89
	Standards																
1	BO 91	12.35	11.87	11.45	11.89	11.28	11.75	10.83	11.29	12.49	11.45	10.53	11.49	12.84	-	11.66	12.25
2	CoP 9301	13.48	12.97	12.27	12.91	12.10	12.73	11.17	12.00	12.45	12.59	12.76	12.60	11.41	-	11.55	11.48
3	CoSe 92423	12.04	11.21	11.26	11.50	11.68	11.62	10.46	11.25	12.01	12.36	12.49	12.29	11.52	-	11.53	11.53
	GM	12.54	12.20	11.84	12.19	11.93	12.14	10.94	11.67	12.26	12.20	12.12	12.19	12.31	-	11.54	11.92
S. No.	Clone	Bethuadahari**				Buralikson				GM (Wt. Aver.)	Rank						
		IP*	II P	R	Mean**	IP	II P	R	Mean								
1	BO 155	-	9.11	10.45	9.78	12.37	12.62	12.43	12.47	11.78							
2	CoSe 11453	-	9.86	10.89	10.38	12.43	12.75	12.95	12.71	12.41	2						
3	CoSe 11454	-	11.07	12.08	11.58	12.70	13.07	13.08	12.95	12.44	1						
4	CoSe 11455	-	9.76	11.13	10.45	12.27	12.43	12.54	12.41	12.19							
	Standards																
1	BO 91	-	11.01	11.71	11.36	11.99	12.09	12.29	12.12	11.78							
2	CoP 9301	-	11.62	12.02	11.82	11.78	12.30	12.21	12.10	12.27	3						
3	CoSe 92423	-	10.48	11.50	10.99	11.82	12.22	12.31	12.12	11.75							
	GM	-	10.42	11.40	10.91	12.19	12.50	12.54	12.41								

* Trial not conducted ** Data not included for GM (Weighted Average) as the state average was higher

Table 5.8.4. Sucrose (%) at harvest - Pooled data of two plant and one ratoon crops

S. No.	Clone	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	BO 155	16.76	16.52	16.00	16.43	17.30	17.42	15.95	16.89	17.70	16.68	16.60	16.99	15.38	15.44	16.90	15.91
2	CoSe 11453	18.63	18.80	18.89	18.77	17.32	17.52	16.14	16.99	18.40	17.99	17.78	18.06	17.31	16.56	16.78	16.88
3	CoSe 11454	18.98	18.75	17.82	18.52	17.57	17.44	15.99	17.00	17.60	18.31	18.47	18.13	16.62	17.12	17.20	16.98
4	CoSe 11455	18.38	17.49	16.70	17.52	17.69	18.28	16.52	17.50	17.50	17.90	18.21	17.87	16.18	16.70	16.33	16.40
	Standards																
1	BO 91	17.97	17.17	16.53	17.22	16.37	17.10	15.82	16.43	18.20	16.59	15.39	16.73	16.18	16.64	16.84	16.55
2	CoP 9301	19.52	18.74	17.73	18.66	17.31	18.17	16.41	17.30	18.20	18.41	18.95	18.52	17.31	16.72	16.90	16.98
3	CoSe 92423	17.49	16.25	16.17	16.64	16.80	16.86	15.47	16.38	17.40	18.02	17.99	17.80	16.92	17.34	16.78	17.01
	GM	18.25	17.67	17.12	17.68	17.19	17.54	16.04	16.93	17.86	17.70	17.63	17.73	16.56	16.65	16.82	16.67
S. No.	Clone	Bethuadahari**				Buralikson				GM (Wt. Aver.)	Rank						
		I P*	II P	R	Mean	I P	II P	R	Mean								
1	BO 155	-	13.25	14.97	14.11	17.82	17.80	17.55	17.72	16.79							
2	CoSe 11453	-	14.02	15.74	14.88	18.22	18.20	18.28	18.23	17.79	1						
3	CoSe 11454	-	16.07	17.32	16.70	18.26	18.25	18.20	18.24	17.77	2						
4	CoSe 11455	-	14.14	15.97	15.06	17.78	17.70	17.70	17.73	17.40	3						
	Standards																
1	BO 91	-	15.95	16.91	16.43	17.74	17.60	17.74	17.69	16.93							
2	CoP 9301	-	16.83	17.20	17.02	17.30	17.50	17.32	17.37	17.77	2						
3	CoSe 92423	-	15.26	16.53	15.90	17.34	17.33	17.40	17.36	17.04							
	GM	-	15.07	16.38	15.73	17.78	17.77	17.74	17.76								

* Trial not conducted ** Data not included for GM (Weighted Average) as the state average was higher

Fig: 5.8.1. CCS at harvest (t/ha) - Pooled data of two plant and one ratoon crops

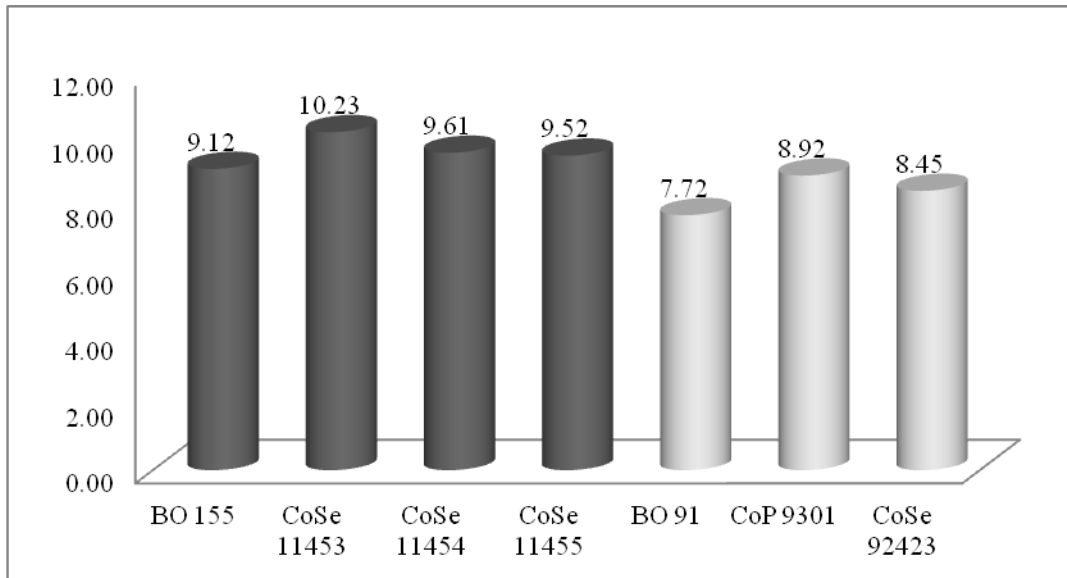


Fig: 5.8.2. Cane yield at harvest (t/ha) - Pooled data of two plant and one ratoon crops

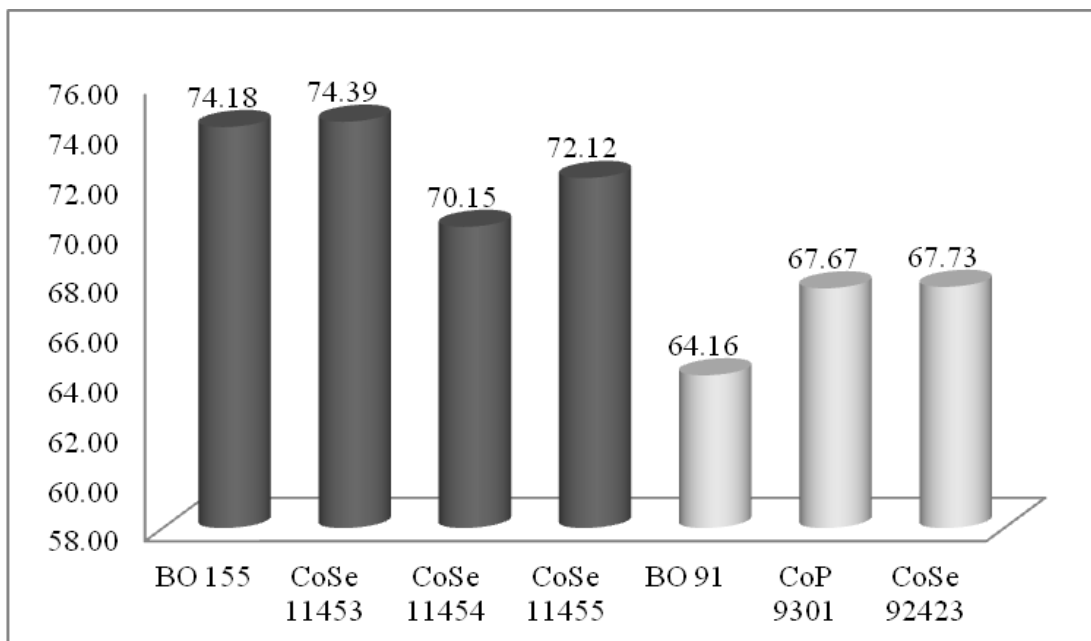


Fig 5.8.3. CCS (%) at harvest - Pooled data of two plant and one ratoon crops

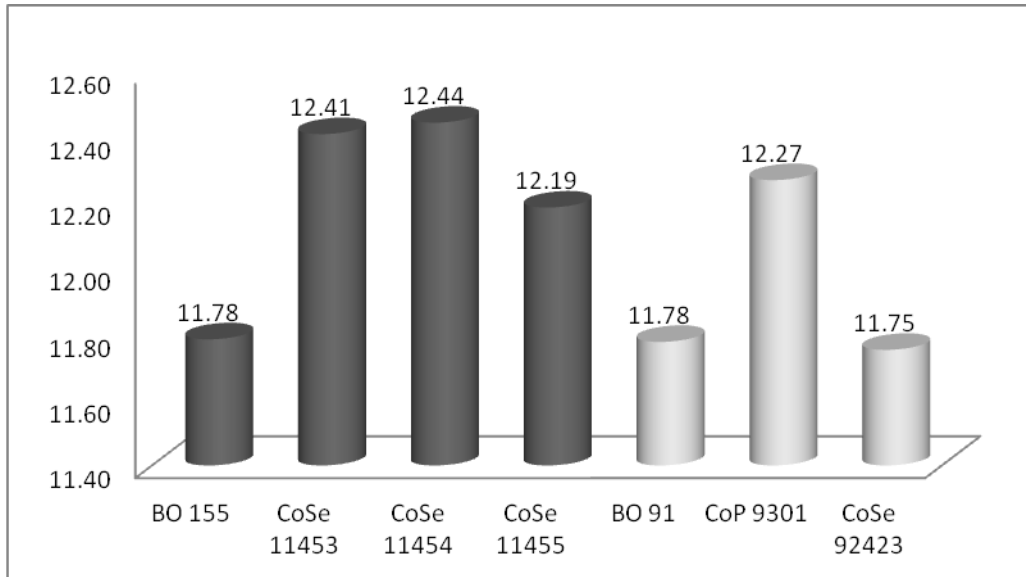
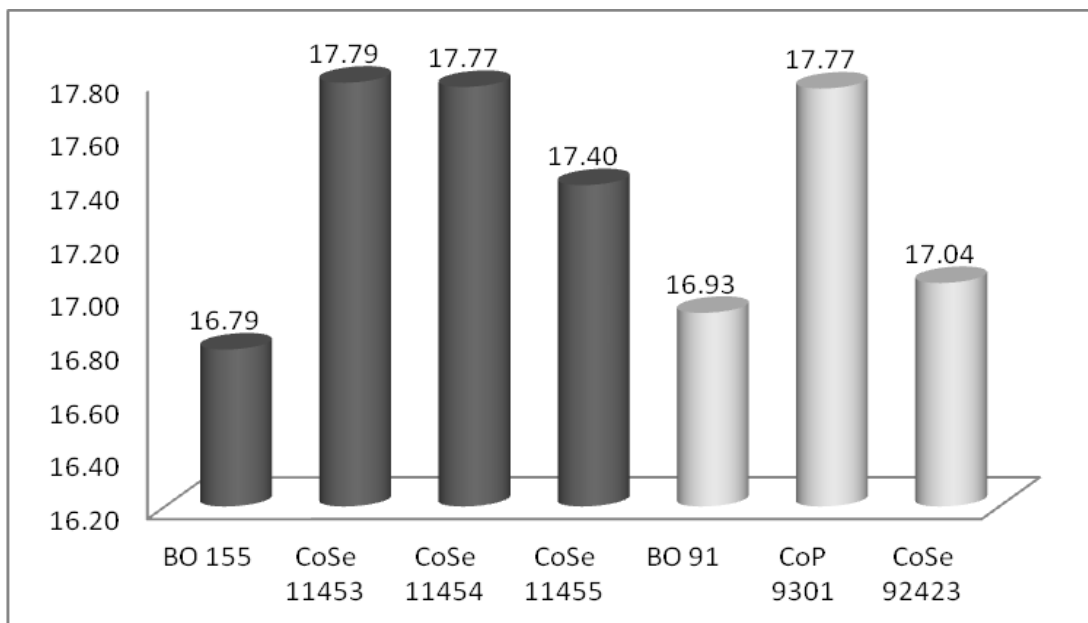


Fig 5.8.4. Sucrose (%) at harvest - Pooled data of two plant and one ratoon crops



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

Four entries, BO 155, CoSe 11453, CoSe 11454 and CoSe 11455 and three standards, BO 91, CoP 9301 and CoSe 92423 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 1 to 3.

Results based on index of simultaneous selection for high CCS (t/ha) and stable genotypes revealed that the entries, CoSe 11454, CoSe 11453 and BO 155 were at first, second and third rank, respectively. Such a ranking differed with the ranking based only on mean data of CCS (t/ha) presented in Table 1. Considering top high yielding and stable genotype, entries CoSe 11454, CoSe 11453 and BO 155 were superior than the best standard CoSe 92423 for CCS(t/ha).

Results based on index of simultaneous selection for cane yield (t/ha) and stable genotypes revealed that the entries, CoSe 11454, CoSe 11453 and CoSe 11455 were at first, second and third rank, respectively. Such a ranking differed with the ranking based only on mean data of cane yield (Table 2). Considering top high yielding and stable genotype, entries CoSe 11454, CoSe 11453 and CoSe 11455 were superior than the best standard CoSe 92423 for cane yield (t/ha).

Results based on index of simultaneous selection for sucrose (%) and stable genotypes revealed that the entries, CoSe 11454 and CoSe 11455 and standard CoSe 92423 were at first, second and third rank, respectively. Such a ranking differed with the ranking based only on mean data of sucrose content (Table 3). Considering top high sucrose and stable genotype, CoSe 11454 and CoSe 11455 were superior entry. These entries were also superior than the best standard CoSe 92423.

From the above analysis, it may be concluded that the only entry CoSe 11454 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 CoSe 92423.

Table 1 - 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
BO 155	1.26	8.54	5.62	3	5	2
CoSe 11453	1.27	9.42	8.34	2	1	6
CoSe 11454	1.51	9.14	3.37	1	2	1
CoSe 11455	1.22	8.90	8.07	4	3	5
Standards						
BO 91	1.06	7.65	8.60	7	7	7
CoP 9301	1.20	8.61	7.48	6	4	4
CoSe 92423	1.22	8.22	5.76	5	6	3

Table 2 - 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	CCS (t/ha) value	Stability value	Index value based rank	Cane Yield (t/ha) based rank	Stability based rank
BO 155	1.20	75.42	409.31	4	2	6
CoSe 11453	1.29	77.81	297.54	2	1	2
CoSe 11454	1.71	74.50	95.88	1	4	1
CoSe 11455	1.20	75.02	391.99	3	3	5
Standards						
BO 91	1.09	65.33	349.09	7	7	4
CoP 9301	1.09	70.95	588.39	6	5	7
CoSe 92423	1.18	70.62	308.49	5	6	3

Table 3 - 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	CCS (t/ha) value	Stability value	Index value based rank	Sucrose (%) based rank	Stability based rank
BO 155	1.16	16.34	3.70	7	7	7
CoSe 11453	1.24	17.30	3.38	5	3	6
CoSe 11454	1.33	17.60	2.48	1	2	1
CoSe 11455	1.27	17.01	2.76	2	4	3
Standards						
BO 91	1.22	16.84	3.16	6	6	4
CoP 9301	1.26	17.64	3.30	4	1	5
CoSe 92423	1.26	16.85	2.71	3	5	2

5.9. ADVANCED VARIETAL TRIAL (MIDLATE) – I PLANT

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, 2016
Crop duration	12 months

Results of the previous year:

Initial Varietal Trial (Midlate) was conducted with six test entries and three standards. Among the entries, CoSe 12438 (10.14 t/ha) recorded the highest overall mean CCS and found to be significantly superior over the best standard CoP 9301 at Pusa centre only. CoSe 12453 (9.58 t/ha) was the second best entry that recorded significantly higher CCS over the best standard at Gorakhpur centre only. Among the entries, CoP 12438 (84.25 t/ha) recorded significantly higher cane yield over the best standard at Seorahi and Pusa centres. The standard CoP 9301 recorded the highest overall mean for CCS % (12.24) and juice sucrose % (17.84). None of the entries performed better than the standard CoP 9301 for CCS % and sucrose %.

Results of the current year:

The data on cane yield and quality of the Advanced Varietal Tial – Midlate (I Plant) conducted with four test entries and two standards were presented in tables 5.9.1 to 5.9.20. CoP 9301 (8.92 t/ha) was the better standard for commercial cane sugar yield and for cane yield (73.82 t/ha). CoSe 12453 (9.22 t/ha) ranked first and recorded more than 10 per cent improvement in CCS (t/ha) and also showed significant superiority over better standard (BO 91) at Seorahi centre. CoLk 12209 was the second best entry and recorded 10 per cent improvement in CCS (t/ha) at Seorahi (BO 91), Gorakhpur (BO 91) and (Pusa CoP 9301) centres. CoLk 09204 (74.84 t/ha) ranked top yielder and recorded 10 per cent improvement for cane yield and also significantly superior over the best standard at Gorakhpur (BO 91) and Pusa (CoP 9301). CoSe 12453 (73.97 t/ha) was ranked second and it has recorded 10 per cent improvement in cane yield, and also significantly superior over the best standard (BO 91) at Seorahi and Gorakhpur centres. BO 91 was the best standard for CCS % (12.11) and juice sucrose % (17.42) at harvest. CoLk 12209 (12.17 %) ranked first and five per cent improvement in CCS % when compared to best standard (CoP 9301) at Seorahi centre. CoSe 12453 (12.10 %) ranked third among the tested entries. None of the test entries showed superiority over standard BO 91 (17.42 %) for juice sucrose %. CoLk 12209 (17.41 %) was the best entry and showed more than 5 per cent improvement over better parent (BO 91) for juice sucrose % at Seorahi centre. None of the entries were identified as qualifying entry over the best standard across locations.

Table 5.9.1. CCS (t/ha) at harvest

S. No.	Entries	Seorahi	Gorakhpur	Pusa	Motipur	Bethuahari	Buralikson	Mean	Overall rank
1	CoLk 09204	8.15*	9.84	10.78	8.63	7.40	8.11	8.95	3
2	CoLk 12209	9.76*	10.40	14.02*	9.20	8.21	8.12	8.98	2
3	CoP 12438	8.78*	9.68	11.17*	8.84	8.13	9.14	8.95	3
4	CoSe 12453	10.22*	10.06	9.14	8.91	8.78	9.22	9.22	1
	Standards								
1	BO 91	7.64	9.28	8.61	8.73	8.65	8.17	8.51	
2	CoP 9301	7.33	9.00	9.52	9.25	7.62	10.80	8.92	
	GM	7.49	9.71	9.51	8.93	8.13	8.93	8.78	
	SE	-	1.71	0.46	-	-	0.38		
	CD	0.05	3.65	1.39	-	-	1.25		
	CV	4.55	8.99	8.69	-	-	10.66		
	Top ranking entries at each locations								
	1	CoSe 12453	CoLk 12209	CoLk 12209	-	-	-	-	
	2	CoLk 12209	-	CoP 12438	-	-	-	-	
	3	CoP 12438	-	CoLk 09204	-	-	-	-	

Qualifying entries: CoLk 12209 (3), CoP 12438 (2), CoSe 12453 (1), CoLk 09204(1)

Performance across the locations:

CoP 9301 (8.92 t/ha) was the better standard for commercial cane sugar yield and all the test entries performed better than the standard. CoSe 12453 (9.22 t/ha) ranked first with more than 10 per cent improvement in CCS (t/ha) and also showed significant superiority over better standard (BO 91) at Seorahi centre. CoLk 12209 was the second best entry and recorded 10 per cent improvement in CCS (t/ha) at Seorahi (BO 91), Gorakhpur (BO 91) and (Pusa CoP 9301) centres. Entry CoP 12438 and CoLk 09204 both were ranked third position. CoP 12438 showed 10 per cent improvement for CCS (t/ha) over better standard at Seorahi (BO 91) and Pusa (CoP 9301), and CoLk 09204 at Pusa (CoP 9301) centre. None of the entries recorded more than 10 per cent improvement over the best standard across locations.

Table 5.9.2. Cane Yield (t/ha) at harvest

S. No.	Entries	Seo rahi	Gora khpur	Pusa	Moti pur	Bethua dahari	Bura likson	Mean	Overall rank
1	CoLk 09204	77.78*	82.40*	84.97	75.82	74.43	64.13	74.84	1
2	CoLk 12209	79.63*	83.33*	111.18*	80.93	71.59	62.90	71.81	
3	CoP 12438	79.17*	80.65*	89.54*	79.07	72.61	69.07	73.58	
4	CoSe 12453	87.5*	82.87*	72.25	77.00	75.11	71.53	73.97	2
	Standards								
1	BO 91	66.67	71.30	68.28	76.35	73.86	60.43	69.48	
2	CoP 9301	63.89	68.18	75.81	78.87	72.44	83.73	73.82	3
	GM	65.28	69.74	75.33	78.01	73.34	68.63	72.92	
	SE	-	3.98	3.05	0.98	-	2.56		
	CD	4.93	8.43	9.29	2.95	-	6.80		
	CV	4.33	7.16	7.30	2.51	-	11.50		
Top ranking entries at each locations									
	1	CoSe 12453	CoLk 12209	CoLk 12209	-	-	-		
	2	CoLk1 2209	CoSe 12453	CoP 12438	-	-	-		
	3	CoP 12438	CoLk 09204	CoLk 09204	-	-	-		

Qualifying entries: CoLk 12209 (3), CoP 12438 (2), CoSe 12453 (2) and CoLk 09204 (2)

Performance across the locations:

CoP 9301 (73.82 t/ha) was the better standard for cane yield. CoLk 09204 (74.84 t/ha) ranked top yielder with 10 per cent improvement in cane yield and also found as significantly superior than the better standard at Gorakhpur (BO 91) and Pusa (CoP 9301). CoSe 12453 (73.97 t/ha) was ranked second with 10 per cent improvement in cane yield and also significantly superior over the best standard (BO 91) at Seorahi and Gorakhpur centres. CoLk 12209 (71.81 t/ha) has recorded with more than 10 per cent improvement in cane yield (t/ha) and significantly superior over the standard at Seorahi (BO 91), Gorakhpur (BO 91) and Pusa (CoP 9301) centres. None of the entries recorded more than 10 per cent improvement over the best standard across locations.

Table 5.9.3. CCS (%) at harvest

S. No.	Entries	Seo rahi	Gora khpur	Pusa	Moti pur	Bethua dahari	Bura likson	Mean	Ove rall rank
1	CoLk 09204	10.48	11.95	12.68	11.38	9.95	12.66	11.52	
2	CoLk 12209	12.26*	12.49	12.61	11.37	11.46	12.92	12.17	1
3	CoP 12438	11.09	12.00	12.45	11.18	11.19	13.24	11.86	
4	CoSe 12453	11.68	12.13	12.65	11.57	11.68	12.89	12.10	3
	Standards								
1	BO 91	11.46	11.85	12.66	11.43	11.72	13.52	12.11	2
2	CoP 9301	11.47	12.61	12.55	11.73	10.52	12.90	11.96	
	GM	11.24	12.17	12.60	11.44	11.09	13.02	11.95	
	SE	-	0.20	0.14	0.16	-	0.16		
	CD	0.44	0.42	0.57	-	-	0.52		
	CV	2.61	2.32	2.20	2.95	-	2.11		
	Top ranking entries at each locations								
	1	CoLk 12209	-	-	-	-	-	-	
	2	-	-	-	-	-	-	-	
	3	-	-	-	-	-	-	-	

Qualifying entry: CoLk 12209 (1)

Performance across the locations:

BO 91 (12.11) was the best standard for CCS (%) at harvest. CoLk 12209 (12.17 %) ranked first and five per cent improvement in CCS % when compared to the best standard (CoP 9301) at Seorahi centre. CoSe 12453 (12.10 %) ranked third among the tested entries. None of the entries recorded more than 5 per cent improvement over the best standard across locations.

Table 5.9.4. Sucrose (%) at harvest

S. No.	Entries	Seo rahi	Gora khpur	Pusa	Moti pur	Bethua dahari	Bura likson	Mean	Ove rall rank
1	CoLk 09204	15.34	17.35	18.43	16.40	14.48	17.50	16.58	
2	CoLk 12209	17.86*	18.09	18.62	16.38	16.41	17.53	17.41	2
3	CoP 12438	16.18	17.43	18.02	15.88	16.17	18.30	17.00	
4	CoSe 12453	17.02	17.56	18.56	16.47	16.84	17.88	17.39	3
	Standards								
1	BO 91	16.72	17.22	18.56	16.36	16.90	18.76	17.42	1
2	CoP 9301	16.68	18.15	18.75	17.11	15.24	17.80	17.29	
	GM	16.39	17.63	18.49	16.43	16.01	17.96	17.18	
	SE	-	0.05	0.18	0.19	-	0.40		
	CD	0.63	0.12	0.63	0.59	-	1.44		
	CV	2.54	2.12	1.92	2.39	-	2.65		
	Top ranking entries at each locations								
	1	CoLk 12209	-	-	-	-	-	-	
	2	-	-	-	-	-	-	-	
	3	-	-	-	-	-	-	-	

Qualifying entry: CoLk 12209 (1)

Performance across the locations:

BO 91 (17.42 %) performed better for juice sucrose % and none of the test entries were found superior to the best standard for juice sucrose %. CoLk 12209 (17.41 %) was the best entry and showed more than 5 per cent improvement over better standard (BO 91) for juice sucrose % at Seorahi centre.

Table 5.9.5. Brix (%) at harvest

S. No.	Entries	Seo rahi	Gora khpur	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	CoLk 09204	17.85	19.78	21.05	17.66	16.63	19.00	18.66
2	CoLk 12209	20.51	20.39	22.00	18.42	18.19	19.50	19.84
3	CoP 12438	18.65	19.91	20.45	17.43	18.26	19.90	19.10
4	CoSe 12453	19.53	19.90	21.63	17.62	18.92	19.60	19.53
	Standards							
1	BO 91	19.23	19.66	21.75	18.12	19.01	20.60	19.73
2	CoP 9301	19.08	20.37	22.65	19.72	17.32	19.20	19.72
	GM	19.14	20.00	21.59	18.16	18.06	19.63	19.43
	SE	-	0.28	0.27	0.22	-	0.44	
	CD	0.73	0.60	0.82	0.68	-	1.50	
	CV	2.55	2.00	2.50	2.15	-	3.22	

Table 5.9.6. Purity (%) at harvest

S. No.	Entries	Seo rahi	Gora khpur	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	CoLk 09204	86.06	87.72	85.58	92.88	87.08	87.40	87.79
2	CoLk 12209	87.08	88.54	84.73	89.90	90.29	88.10	88.11
3	CoP 12438	86.78	87.54	87.83	91.96	88.54	86.44	88.18
4	CoSe 12453	87.15	88.22	85.90	92.00	88.98	89.60	88.64
	Standards							
1	BO 91	86.92	87.53	85.23	90.31	88.88	88.70	87.93
2	CoP 9301	87.42	88.67	82.80	86.82	88.01	87.20	86.82
	GM	86.90	88.04	85.35	90.65	88.63	87.91	87.91
	SE	-	-	0.63	1.20	-	0.85	
	CD	NS	-	1.91	3.63	-	2.65	
	CV	0.69	-	1.46	2.66	-	4.36	

Table 5.9.7. Pol (%) cane at harvest

S. No.	Entries	Seo rahi	Gora khpur	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	CoLk 09204	11.85	-	15.27	-	-	-	13.56
2	CoLk 12209	13.51	-	15.38	-	-	-	14.45
3	CoP 12438	12.63	-	14.99	-	-	-	13.81
4	CoSe 12453	13.25	-	15.35	-	-	-	14.30
	Standards							
1	BO 91	12.82	-	15.49	-	-	-	14.16
2	CoP 9301	12.87	-	15.68	-	-	-	14.28
	GM	12.82		15.36				14.09
	SE	-	-	0.15	-	-	-	
	CD	-	-	0.55	-	-	-	
	CV	-	-	1.96	-	-	-	

Table 5.9.8. Extraction (%) at harvest

S. No.	Entries	Seo rahi	Gora khpur	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	CoLk 09204	60.35	-	59.25	62.75	-	-	60.78
2	CoLk 12209	63.12	-	58.70	60.50	-	-	60.77
3	CoP 12438	61.47	-	61.20	57.50	-	-	60.06
4	CoSe 12453	62.84	-	60.52	60.25	-	-	61.20
	Standards							
1	BO 91	61.96	-	61.25	57.75	-	-	60.32
2	CoP 9301	62.12	-	62.20	59.50	-	-	61.27
	GM	61.98	-	60.52	59.71	-	-	60.74
	SE	-	-	1.32	-	-	-	
	CD	-	-	2.20	-	-	-	
	CV	-	-	4.38	-	-	-	

Table 5.9.9. Fibre (%) at harvest

S. No.	Entries	Seo rahi	Gora khpur	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	CoLk 09204	13.64	-	12.10	-	-	-	12.87
2	CoLk 12209	13.82	-	12.40	-	-	-	13.11
3	CoP 12438	13.76	-	11.85	-	-	-	12.81
4	CoSe 12453	13.28	-	12.30	-	-	-	12.79
	Standards				-			
1	BO 91	13.36	-	11.50	-	-	-	12.43
2	CoP 9301	13.42	-	11.40	-	-	-	12.41
	GM	13.55	-	11.93	-	-	-	12.74
	SE	-	-	0.28	-	-	-	
	CD	-	-	0.62	-	-	-	
	CV	-	-	4.77	-	-	-	

Table 5.9.10. Number of Millable Canes ('000/ha) at harvest

S. No.	Entries	Seo rahi	Gora khpur	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	CoLk 09204	119.00	135.00	99.97	110.58	125.51	78.95	111.50
2	CoLk 12209	120.00	139.00	123.53	125.86	123.25	70.68	117.05
3	CoP 12438	119.00	124.00	94.25	132.82	123.49	85.59	113.19
4	CoSe 12453	132.00	125.00	96.33	120.80	121.84	78.58	112.43
	Standards							
1	BO 91	116.00	132.00	85.35	146.37	125.39	62.54	111.28
2	CoP 9301	111.00	118.00	84.23	119.60	121.93	95.46	108.37
	GM	119.50	128.83	97.28	126.01	123.57	78.63	112.30
	SE	-	-	2.51	2.93	-	2.19	
	CD	6.97	-	7.63	8.84	-	6.60	
	CV	3.87	-	5.16	4.65	-	13.29	

Table 5.9.11. Stalk Length (cm) at harvest

S. No.	Entries	Seo rahi	Gora khpur	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	CoLk 09204	212.00	226.00	267.00	342.50	234.00	183.0	213.89
2	CoLk 12209	207.00	308.00	281.00	353.75	241.00	237.0	232.19
3	CoP 12438	202.00	285.00	296.00	321.25	232.00	192.0	223.03
4	CoSe 12453	214.00	246.00	262.00	320.00	230.00	240.0	212.40
	Standards							
1	BO 91	171.00	261.00	275.00	281.25	235.00	230.0	204.26
2	CoP 9301	170.00	220.00	264.00	263.75	236.00	267.0	192.74
	GM	196.00	257.67	274.17	313.75	234.67	224.83	250.18
	SE	-	16.86	7.83	-	-	NS	
	CD	9.58	35.94	18.20	-	-	-	
	CV	3.24	9.25	5.71	-	-	-	

Table 5.9.12. Stalk Diameter (cm) at harvest

S. No.	Entries	Seo rahi	Gora khpur	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	CoLK 09204	2.10	2.15	3.01	2.25	2.36	2.11	2.33
2	CoLK 12209	2.10	2.65	2.82	2.27	2.39	2.05	2.38
3	CoP 12438	2.00	2.15	2.96	2.12	2.33	2.35	2.32
4	CoSe 12453	2.10	2.43	2.56	2.41	2.34	2.15	2.33
	Standards							
1	Bo 91	2.00	2.10	2.31	2.02	2.37	1.80	2.10
2	CoP 9301	2.00	2.35	2.62	2.22	2.36	2.43	2.33
	GM	2.05	2.31	2.71	2.22	2.36	2.15	2.30
	SE	-	0.11	0.12	0.07	-	NS	
	CD	NS	0.25	0.35	0.22	-	-	
	CV	6.26	7.40	8.49	6.78	-	-	

Table 5.9.13. Single Cane Weight (kg) at harvest

S. No.	Entries	Seo rahi	Gora khpur	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	CoLk 09204	0.65	0.64	0.85	1.16	0.81	0.97	0.85
2	CoLk 12209	0.58	0.73	0.90	1.50	0.92	0.88	0.92
3	CoP 12438	0.66	0.60	0.95	0.93	0.73	0.99	0.81
4	CoSe 12453	0.70	0.66	0.78	1.14	0.74	1.17	0.87
	Standards							
1	BO 91	0.57	0.58	0.80	0.88	0.81	0.92	0.76
2	CoP 9301	0.55	0.59	0.90	1.12	0.82	1.26	0.88
	GM	0.62	0.64	0.86	1.12	0.81	1.03	0.85
	SE	-	0.01	0.03	0.05	-	NS	
	CD	1.73	0.02	0.10	0.15	-	-	
	CV	1.84	4.45	7.50	9.55	-	-	

Table 5.9.14. CCS (%) at 300 days

S. No.	Entries	Seo rahi	Gora khpur	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	CoLk 09204	10.40	10.83	11.44	9.70	7.37	10.65	10.07
2	CoLk 12209	10.54	11.30	12.71	10.59	8.81	10.50	10.74
3	CoP 12438	10.53	10.44	12.32	10.70	8.85	11.35	10.70
4	CoSe 12453	10.89	10.65	12.54	11.10	9.27	10.44	10.82
	Standards							
1	BO 91	10.67	10.84	12.68	10.93	9.45	11.04	10.94
2	CoP 9301	11.35	11.18	12.65	11.61	9.31	9.97	11.01
	GM	10.73	10.87	12.39	10.77	8.84	10.66	10.71
	SE	-	0.15	0.10	0.33	-	0.20	
	CD	0.44	0.33	0.31	1.02	-	0.65	
	CV	2.74	2.05	1.62	6.30	-	2.55	

Table 5.9.15. Sucrose (%) at 300 days

S. No.	Entries	Seo rahi	Gora khpur	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	CoLk 09204	15.14	15.84	16.70	13.94	11.35	15.40	14.73
2	CoLk 12209	15.25	15.43	18.62	14.96	13.90	15.30	15.58
3	CoP 12438	15.32	16.33	17.73	15.45	13.31	16.33	15.75
4	CoSe 12453	15.85	15.66	18.13	16.07	13.82	15.20	15.79
	Standards							
1	BO 91	15.51	15.89	18.38	16.45	14.06	15.80	16.02
2	CoP 9301	16.45	16.16	18.83	16.80	13.65	14.50	16.07
	GM	15.59	15.89	18.07	15.61	13.35	15.42	15.65
	SE	-	-	0.14	0.20	-	0.15	
	CD	0.58	-	0.44	0.61	-	0.55	
	CV	2.48	-	1.60	2.61	-	3.32	

Table 5.9.16. Brix (%) at 300 days

S. No.	Entries	Seo rahi	Gora khpur	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	CoLk 09204	17.36	18.35	19.05	15.95	14.47	18.30	17.25
2	CoLk 12209	17.38	17.81	21.60	16.52	16.17	18.50	18.00
3	CoP 12438	17.52	18.93	19.85	16.79	16.27	19.30	18.11
4	CoSe 12453	18.18	17.97	20.53	17.20	16.62	18.40	18.15
	Standards							
1	BO 91	17.74	18.50	20.90	18.52	16.83	18.50	18.50
2	CoP 9301	18.68	18.28	22.58	19.23	15.89	17.50	18.69
	GM	17.81	18.31	20.75	17.37	16.04	18.42	18.12
	SE	-	0.33	0.23	0.32	-	0.14	
	CD	0.54	0.72	0.78	0.99	-	0.45	
	CV	2.01	2.62	2.46	3.80	-	3.50	

Table 5.9.17. Purity (%) at 300 days

S. No.	Entries	Seo rahi	Gora khpur	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	CoLk 09204	87.24	86.33	87.65	89.49	78.42	78.80	84.66
2	CoLk 12209	87.72	86.64	85.98	91.31	81.93	77.50	85.18
3	CoP 12438	87.40	86.29	89.30	91.84	81.80	80.30	86.16
4	CoSe 12453	87.19	86.71	88.35	91.21	83.15	75.20	85.30
	Standards							
1	BO 91	87.45	85.96	87.90	89.69	83.51	83.20	86.29
2	CoP 9301	88.03	88.46	83.38	88.46	85.85	77.50	85.28
	GM	87.51	86.73	87.09	90.33	82.44	78.75	85.48
	SE	-	-	0.56	1.31	-	0.83	
	CD	NS	-	1.71	-	-	2.42	
	CV	0.92	-	1.29	2.91	-	4.50	

Table 5.9.18. Number of Shoots ('000/ha) at 240 days

S. No.	Entries	Seo rahi	Gora khpur	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	CoLk 09204	-	-	103.00	102.33	118.17	69.43	98.23
2	CoLk 12209	-	-	126.65	118.35	149.24	89.23	120.87
3	CoP 12438	-	-	96.94	128.18	141.50	88.36	113.75
4	CoSe 12453	-	-	99.16	110.39	109.16	80.20	99.73
	Standards							
1	BO 91	-	-	88.01	146.25	123.29	63.02	105.14
2	CoP 9301	-	-	89.86	133.40	131.52	95.00	112.45
	GM	-	-	100.60	123.15	128.81	80.87	108.36
	SE	-	-	3.88	2.58	-	1.47	
	CD	-	-	11.80	7.77	-	4.55	
	CV	-	-	7.71	4.19	-	12.30	

Table 5.9.19. Number of Tillers ('000/ha) at 120 days

S. No.	Entries	Seo rahi	Gora khpur	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	CoLk 09204	152.00	225.00	62.14	102.56	110.45	44.44	116.10
2	CoLk 12209	151.00	232.00	100.95	133.84	134.71	68.89	136.90
3	CoP 12438	153.00	205.00	79.93	138.54	131.34	78.33	131.02
4	CoSe 12453	163.00	206.00	68.55	121.44	97.86	58.85	119.28
	Standards							
1	BO 91	147.00	219.00	65.14	175.35	139.57	40.33	131.07
2	CoP 9301	140.00	197.00	65.89	130.85	122.87	83.89	123.42
	GM	151.00	214.00	73.77	133.76	122.80	62.46	126.30
	SE	-	11.27	1.96	3.11	-	2.10	
	CD	10.58	24.04	5.96	9.39	-	6.30	
	CV	4.64	7.44	5.31	4.65	-	11.55	

Table 5.9.20. Germination (%) at 45 days

S. No.	Entries	Seo rahi	Gora khpur	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	CoLk 09204	46.11	41.29	46.55	37.54	27.44	37.03	39.33
2	CoLk 12209	41.11	43.03	44.15	38.33	38.73	57.41	43.79
3	CoP 12438	41.59	37.48	48.82	38.63	36.41	65.28	44.70
4	CoSe 12453	46.94	38.52	35.90	32.67	19.40	49.08	37.09
	Standards							
1	BO 91	39.58	40.25	45.82	38.27	38.94	33.61	39.41
2	CoP 9301	36.67	36.09	42.10	36.43	34.17	69.91	42.56
	GM	42.00	39.44	43.89	36.98	32.52	52.05	41.15
	SE	-	2.03	1.74	0.99	-	2.30	
	CD	1.52	4.34	5.28	2.99	-	4.40	
	CV	9.65	7.30	7.91	5.37	-	13.40	

Table 5.9.21. Assessment of entries by monitoring team constituted by AICRP(S)

S. No.	Entries	Gorakhpur	Seorahi	Pusa	Motipur	Bethuadahari	Buralikson
1	CoLk 09204						
2	CoLk 12209						
3	CoP 12438						
4	CoSe 12453						
	Standards						
1	BO 91						
2	CoP 9301						

5.10. INITIAL VARIETAL TRIAL (MIDLATE)

Centers (6)	Bethuadahari, Buralikson, Gorakhpur, Motipur, Pusa and Seorahi
Entries (4)	CoP 13438, CoP 13439, CoSe 13453 and CoSe 13454
Standards (2)	BO 91 and CoP 9301
Design	RBD
Replications	Four
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, 2016
Crop duration	12 months

Results of the previous year:

The test clones viz., CoP 13438, CoP 13439, CoSe 13453 and CoSe 13454 and two standards BO 91 and CoP 9301 were under multiplication.

Results of the current year:

The data on cane yield and quality of the Initial Varietal Tial – Midlate conducted with four test entries and two standards were presented in tables **5.10.1 to 5.10.20**. CoP 9301 was the best standard for commercial cane sugar yield (8.81 t/ha), cane yield (72.22 t/ha), CCS % (12.17) and juice sucrose % (17.72). CoP 13438 (9.37 t/ha) ranked first and recorded more than 10 per cent improvement in CCS (t/ha) over the best standard CoP 9301 at Seorahi and Pusa. CoP 13439 recorded second rank with 8.81 t/ha. CoSe 13453 (8.64 t/ha) ranked third and found that 10 per cent improvement over the best standard (CoP 9301) for CCS (t/ha) at Seorahi centre. In Seorahi centre, all the four test entries were performed significantly superior for commercial cane sugar yield. CoP 13439 (75.10 t/ha) ranked top for cane yield and better than the standard CoP 9301. CoSe 13454 (74.71 t/ha), ranked second and it showed 10 per cent improvement in cane yield than the best standard (BO 91) at Seorahi and Motipur. CoSe 13453 (72.97 t/ha) ranked third among all the test entries and it has recorded 10 per cent improvement in cane yield over the best standard (BO 91) in Seorahi and Motipur centres. None of the entries recorded more than 10 per cent improvement over the best standard across locations. CoP 9301 (12.17 %) was the better standard for CCS (%) and none of the test entries performed better than this standard. CoSe 13453 (17.95 %) ranked first for mean sucrose % at harvest. For CCS % and sucrose % none of the entries recorded more than 5 per cent improvement over the best standard across locations. None of the entries was identified as qualifying entry for both yield and quality over the best standard across locations.

Table 5.10.1. CCS (t/ha) at harvest

S. No.	Entries	Seo rahi	Gora khpur	Pusa	Moti pur	Bethua dahari	Bura likson	Mean	Ove rall rank
1	CoP 13438	9.42*	-	14.03	8.12	7.13	8.22	9.37	1
2	CoP 13439	9.26*	-	11.14	7.51	8.09	8.52	8.81	2
3	CoSe 13453	11.4*	-	10.1	7.75	-	8.06	8.64	3
4	CoSe 13454	9.6*	-	11.5	7.63	6.74	7.32	8.30	
	Standards								
1	BO 91	7.85	-	10.16	7.40	7.24	7.22	7.97	
2	CoP 9301	8.20	-	11.17	7.54	7.84	9.29	8.81	2
	GM	8.03		11.35	7.66	7.41	8.11	8.51	
	SE	-	-	0.50	-	-	0.45		
	CD	0.06	-	1.51	-	-	1.22		
	CV	4.39	-	8.73	-	-	9.66		
Top ranking entries at each locations									
	1	CoP 13453	-	CoP 13438	-	-	-	-	
	2	CoSe 13454	-	-	-	-	-	-	
	3	CoP 13438	-	-	-	-	-	-	

Qualifying entries: CoP 13438 (2), CoP 13453 (1), CoSe 13454 (1)

Performance across the locations:

CoP 9301 (8.81 t/ha) was the better standard for commercial cane sugar yield. CoP 13438 (9.37 t/ha) ranked first and recorded more than 10 per cent improvement in CCS (t/ha) over better standard CoP 9301 at Seorahi and Pusa. CoP 13439 recorded second rank with 8.81 t/ha. CoSe 13453 (8.64 t/ha) ranked third and found that 10 per cent improvement over the best standard (CoP 9301) for CCS (t/ha) at Seorahi centre. In Seorahi centre, all the four test entries performed significantly superior for commercial cane sugar yield.

Table 5.10.2. Cane Yield (t/ha) at harvest

S. No.	Entries	Seorahi	Gorakhpur	Pusa	Motipur	Bethuahari	Buralikson	Mean	Overall rank
1	CoP 13438	84.72*	-	112.25*	71.64	66.72	67.86	68.74	
2	CoP 13439	82.36*	-	89.5	70.30	70.13	70.45	75.10	1
3	CoSe 13453	88.47*	-	82	73.39	-	63.53	72.97	3
4	CoSe 13454	84.31*	-	91.2	72.96	70.96	63.73	74.71	2
	Standards								
1	BO 91	66.39	-	90.5	66.30	72.47	53.40	69.81	
2	CoP 9301	63.89	-	88.3	65.83	71.06	72.00	72.22	
	GM	65.14		88.30	70.07	70.27	65.16		
	SE	-	-	4.06	-	-	2.77		
	CD	4.16	-	12.34	-	-	8.30		
	CV	3.53	-	8.79	-	-	11.50		
Top ranking entries at each locations									
	1	CoP 13453	-	CoP 13438	CoP 13453	-	-	-	
	2	CoP 13438	-	-	CoSe 13454	-	-	-	
	3	CoSe 13454	-	-	-	-	-	-	

Qualifying entries: CoP 13438 (2), CoP 13453 (2), CoSe 13454 (2)

Performance across the locations:

CoP 9301 (72.22 t/ha) was better standard for cane yield (t/ha). CoP 13439 (75.10 t/ha) ranked top and better than best standard CoP 9301. CoSe 13454 (74.71 t/ha), ranked second and it showed 10 per cent improvement in cane yield than the best standard (BO 91) at Seorahi and Motipur centres. CoSe 13453 (72.97 t/ha) ranked third among all the test entries and it has recorded 10 per cent improvement in cane yield over the best standard (BO 91) in Seorahi and Motipur centres. None of the entries recorded more than 10 per cent improvement over the best standard across locations.

Table 5.10.3. CCS (%) at harvest

S. No.	Entries	Seo rahi	Gora khpur	Pusa	Moti pur	Bethua dahari	Bura likson	Mean	Ove rall rank
1	CoP 13438	11.71	-	12.33	11.33	10.69	12.12	11.64	3
2	CoP 13439	11.24	-	12.45	10.68	11.53	12.10	11.60	
3	CoSe 13453	12.89	-	12.32	10.56	-	12.70	12.12	2
4	CoSe 13454	11.39	-	12.62	10.46	9.50	11.50	11.09	
	Standards								
1	BO 91	11.82	-	11.24	11.16	9.99	13.52	11.55	
2	CoP 9301	12.84	-	12.64	11.45	11.03	12.90	12.17	1
	GM	11.98		12.27	10.94	10.55	12.47		
	SE	-	-	0.39	0.47	-	0.15		
	CD	0.50	-	2.08	-	-	0.48		
	CV	2.79	-	-	8.71	-	2.17		
	Top ranking entries at each locations								
	1	-	-	-	-	-	-	-	
	2	-	-	-	-	-	-	-	
	3	-	-	-	-	-	-	-	

Qualifying entries: Nil

Performance across the locations:

CoP 9301 (12.17 %) was the better standard for CCS (%) and none of the test entries performed better than this standard. None of the entries recorded more than 5 per cent improvement over the best standard across locations.

Table 5.10.4. Sucrose (%) at harvest

S. No.	Entries	Seo rahi	Gora khpur	Pusa	Moti pur	Bethua dahari	Bura likson	Mean	Overall rank
1	CoP 13438	17.05	-	17.82	16.21	15.33	17.50	16.78	
2	CoP 13439	16.52	-	17.98	16.59	16.67	17.77	17.11	3
3	CoSe 13453	18.60	-	17.81	16.96	-	18.41	17.95	1
4	CoSe 13454	16.57	-	18.33	15.69	13.99	16.98	16.31	
	Standards								
1	BO 91	17.17	-	16.35	16.53	14.35	18.76	16.63	
2	CoP 9301	18.67	-	18.85	17.38	15.89	17.80	17.72	2
	GM	17.43	-	17.86	16.56	15.25	17.87		
	SE	-	-	0.61	0.25	-	0.44		
	CD	0.66	-	2.26	0.75	-	1.45		
	CV	2.53	-	-	3.02	-	2.55		
	Top ranking entries at each locations								
	1	-	-	-	-	-	-	-	
	2	-	-	-	-	-	-	-	
	3	-	-	-	-	-	-	-	

Qualifying entries: Nil

Performance across the locations:

CoP 9301 (17.72 %) was performed better among the standards. CoSe 13453 (17.95 %) ranked first for mean sucrose % at harvest. None of the entries recorded more than 5 per cent improvement over the best standard across locations.

Table 5.10.5. Brix (%) at harvest

S. No.	Entries	Seo rahi	Gora khpur	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	CoP 13438	19.55	-	20.15	17.90	17.07	19.50	18.83
2	CoP 13439	18.82	-	20.30	18.33	18.85	19.60	19.18
3	CoSe 13453	20.94	-	20.15	19.03	-	20.60	20.18
4	CoSe 13454	18.97	-	20.95	17.64	16.42	19.40	18.68
	Standards							
1	BO 91	19.55	-	18.73	19.18	16.01	20.60	18.81
2	CoP 9301	21.38	-	22.70	19.88	17.83	19.20	20.20
	GM	19.87		20.50	18.66	17.24	19.82	19.31
	SE	-	-	0.32	0.59	-	0.46	
	CD	0.61	-	0.98	-	-	1.45	
	CV	2.06	-	3.14	6.40	-	3.33	

Table 5.10.6. Purity (%) at harvest

S. No.	Entries	Seo rahi	Gora khpur	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	CoP 13438	87.22	-	88.43	87.15	89.78	88.44	88.20
2	CoP 13439	87.80	-	88.6	90.35	88.47	87.10	88.46
3	CoSe 13453	88.82	-	88.43	88.96	-	88.40	88.65
4	CoSe 13454	87.33	-	87.48	89.42	85.20	87.90	87.47
	Standards							
1	BO 91	87.79	-	87.28	89.71	89.69	88.70	88.63
2	CoP 9301	87.32	-	83.08	88.23	89.10	87.20	86.99
	GM	87.71		87.22	88.97	88.45	87.96	88.07
	SE	-	-	0.6	0.93	-	0.82	
	CD	NS	-	1.83	-	-	2.55	
	CV	1.21	-	1.38	2.11	-	4.65	

Table 5.10.7. Pol (%) cane at harvest

S. No.	Entries	Seo rahi	Gora khpur	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	CoP 13438	19.98	-	14.70	12.42	-	-	17.34
2	CoP 13439	12.62	-	14.85	12.76	-	-	13.74
3	CoSe 13453	14.12	-	14.52	12.99	-	-	14.32
4	CoSe 13454	12.61	-	14.99	11.96	-	-	13.80
	Standards							
1	BO 91	13.07	-	13.32	12.45	-	-	13.20
2	CoP 9301	14.20	-	15.56	13.35	-	-	14.88
	GM	14.43		14.66	12.65	--	-	13.91
	SE	-	-	0.22	-	-	-	
	CD	-	-	0.68	-	-	-	
	CV	-	-	3.05	-	-	-	

Table 5.10.8. Extraction (%) at harvest

S. No.	Entries	Seo rahi	Gora khpur	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	CoP 13438	60.28	-	58.50	62.01	-	-	60.26
2	CoP 13439	61.46	-	60.25	62.05	-	-	61.25
3	CoSe 13453	65.42	-	58.50	61.07	-	-	61.66
4	CoSe 13454	63.13	-	60.75	61.65	-	-	61.84
	Standards							
1	BO 91	62.14	-	61.30	61.87	-	-	61.77
2	CoP 9301	60.36	-	61.50	62.00	-	-	61.29
	GM	62.13	-	60.13	61.78	-	-	61.35
	SE	-	-	2.10	-	-	-	
	CD	-	-	2.89	-	-	-	
	CV	-	-	6.97	-	-	-	

Table 5.10.9. Fibre (%) at harvest

S. No.	Entries	Seo rahi	Gora khpur	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	CoP 13438	13.65	-	12.52	13.41	-	-	13.19
2	CoP 13439	13.82	-	12.41	13.08	-	-	13.10
3	CoSe 13453	13.36	-	13.50	13.43	-	-	13.43
4	CoSe 13454	13.42	-	13.20	13.75	-	-	13.46
	Standards							
1	BO 91	13.68	-	13.50	14.71	-	-	13.96
2	CoP 9301	13.47	-	12.50	13.17	-	-	13.05
	GM	13.57	-	12.94	13.59	-	-	13.37
	SE	-	-	0.27	-	-	-	
	CD	-	-	0.82	-	-	-	
	CV	-	-	4.18	-	-	-	

Table 5.10.10. Number of Millable Canes (‘000/ha) at harvest

S. No.	Entries	Seo rahi	Gora khpur	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	CoP 13438	118.00	-	135.18	106.14	121.55	81.22	112.42
2	CoP 13439	114.00	-	105.10	83.68	117.31	86.67	101.35
3	CoSe 13453	126.00	-	103.72	88.19	-	75.68	98.40
4	CoSe 13454	119.00	-	112.17	90.62	120.56	75.50	103.57
	Standards							
1	BO 91	115.00	-	119.25	124.08	118.26	70.58	109.43
2	CoP 9301	108.00	-	122.65	94.63	118.70	89.86	106.77
	GM	116.67	-	116.35	97.89	119.28	79.92	105.32
	SE	-	-	4.97	3.45	-	2.10	
	CD	6.44	-	15.10	10.42	-	6.55	
	CV	3.68	-	8.53	7.06	-	12.65	

Table 5.10.11. Stalk Length (cm) at harvest

S. No.	Entries	Seo rahi	Gora khpur	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	CoP 13438	208.00	-	267.00	295.00	262.00	205.00	247.40
2	CoP 13439	206.00	-	275.00	255.00	270.00	219.00	245.00
3	CoSe 13453	215.00	-	270.00	263.75	-	208.00	239.19
4	CoSe 13454	210.00	-	281.00	280.00	233.00	195.00	239.80
	Standards							
1	BO 91	175.00	-	267.00	278.75	232.00	214.00	233.35
2	CoP 9301	172.00	-	261.00	247.50	246.00	253.00	235.90
	GM	197.67		270.17	270.00	248.60	215.67	240.11
	SE	-	-	7.15	-	-	NS	
	CD	9.97	-	20.79	-	-	-	
	CV	3.35	-	5.30	-	-	-	

Table 5.10.12. Stalk Diameter (cm) at harvest

S. No.	Entries	Seo rahi	Gora khpur	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	CoP 13438	2.10	-	2.58	2.20	2.32	2.07	2.25
2	CoP 13439	2.10	-	2.63	2.52	2.36	2.17	2.36
3	CoSe 13453	2.30	-	2.71	2.70	-	2.47	2.55
4	CoSe 13454	2.10	-	2.64	2.62	2.39	2.37	2.42
	Standards							
1	BO 91	2.00	-	2.21	2.12	2.33	2.00	2.13
2	CoP 9301	1.80	-	2.54	2.50	2.30	2.33	2.29
	GM	2.07		2.55	2.44	2.34	2.24	2.33
	SE	-	-	0.07	-	-	NS	
	CD	0.13	-	0.21	-	-	-	
	CV	4.42	-	5.38	-	-	-	

Table 5.10.13. Single Cane Weight (kg) at harvest

S. No.	Entries	Seo rahi	Gora khpur	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	CoP 13438	0.71	-	0.83	0.93	0.75	1.08	0.86
2	CoP 13439	0.72	-	0.85	0.97	0.78	1.02	0.87
3	CoSe 13453	0.70	-	0.79	1.20	-	1.03	0.93
4	CoSe 13454	0.70	-	0.81	1.14	0.78	1.03	0.89
	Standards							
1	BO 91	0.57	-	0.76	0.68	0.76	0.88	0.73
2	CoP 9301	0.58	-	0.72	0.96	0.84	1.00	0.82
	GM	0.67		0.79	0.98	0.78	1.01	0.85
	SE	-	-	0.02	-	-	NS	
	CD	3.08	-	0.07	-	-	-	
	CV	3.05	-	5.78	-	-	-	

Table 5.10.14. CCS (%) at 300 days

S. No.	Entries	Seo rahi	Gora khpur	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	CoP 13438	10.84	-	11.82	-	8.93	10.13	10.43
2	CoP 13439	10.94	-	11.71	-	10.00	10.15	10.70
3	CoSe 13453	12.40	-	12.25	-	-	10.78	11.81
4	CoSe 13454	11.07	-	12.34	-	7.56	9.80	10.19
	Standards							
1	BO 91	11.55	-	11.24	-	7.76	10.60	10.29
2	CoP 9301	12.39	-	12.33	-	8.47	9.75	10.74
	GM	11.53	-	11.95	-	8.54	10.20	10.69
	SE	-	-	0.29	-	-	0.18	
	CD	0.84	-	0.27	-	-	0.56	
	CV	4.86	-	4.86	-	-	2.54	

Table 5.10.15. Sucrose (%) at 300 days

S. No.	Entries	Seo rahi	Gora khpur	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	CoP 13438	15.89	-	17.08	16.51	13.31	15.40	15.64
2	CoP 13439	15.95	-	16.96	15.29	14.67	15.41	15.66
3	CoSe 13453	18.09	-	17.62	15.22	-	16.40	16.83
4	CoSe 13454	16.15	-	17.69	15.04	11.47	14.98	15.07
	Standards							
1	BO 91	16.85	-	16.35	16.04	11.57	15.95	15.35
2	CoP 9301	17.94	-	18.45	16.58	12.61	14.98	16.11
	GM	16.81	-	17.36	15.78	12.73	15.52	15.78
	SE	-	-	0.32	0.70	-	0.19	
	CD	1.24	-	0.96	-	-	0.56	
	CV	4.91	-	3.63	8.92	-	2.24	

Table 5.10.16. Brix (%) at 300 days

S. No.	Entries	Seo rahi	Gora khpur	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	CoP 13438	18.48	-	19.30	18.95	15.98	19.50	18.44
2	CoP 13439	18.35	-	19.25	16.94	17.09	19.60	18.25
3	CoSe 13453	20.84	-	19.70	17.09	-	20.10	19.43
4	CoSe 13454	18.61	-	19.88	16.81	14.26	19.50	17.81
	Standards							
1	BO 91	19.41	-	18.73	17.88	13.91	19.40	17.87
2	CoP 9301	20.36	-	21.35	18.80	15.13	19.00	18.93
	GM	19.34	-	19.70	17.75	15.27	19.52	18.45
	SE	-	-	0.30	0.74	-	0.13	
	CD	1.50	-	0.90	-	-	0.45	
	CV	5.16	-	2.99	8.31	-	2.66	

Table 5.10.17. Purity (%) at 300 days

S. No.	Entries	Seo rahi	Gora khpur	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	CoP 13438	84.96	-	88.23	-	83.45	79.70	84.09
2	CoP 13439	85.51	-	88.08	-	85.85	79.66	84.78
3	CoSe 13453	87.11	-	89.40	-	-	81.43	85.98
4	CoSe 13454	86.04	-	89.00	-	80.43	78.60	83.52
	Standards							
1	BO 91	86.74	-	87.20	-	83.16	83.94	85.26
2	CoP 9301	88.12	-	86.60	-	83.39	77.21	83.83
	GM	86.41		88.09		83.26	80.09	84.57
	SE	-	-	0.59	-	-	0.85	
	CD	NS	-	1.80	-	-	2.55	
	CV	1.02	-	1.35	-	-	3.65	

Table 5.10.18. Number of Shoots ('000/ha) at 240 days

S. No.	Entries	Seo rahi	Gora khpur	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	CoP 13438	-	-	145.24	130.33	151.45	66.45	116.08
2	CoP 13439	-	-	110.81	108.68	138.67	75.00	107.45
3	CoSe 13453	-	-	119.13	112.72	-	49.65	81.19
4	CoSe 13454	-	-	128.490	107.29	132.95	49.50	96.58
	Standards							
1	BO 91	-	-	133.98	144.99	162.07	57.74	121.60
2	CoP 9301	-	-	134.06	108.45	155.62	73.49	112.52
	GM	-	-	128.62	118.74	148.15	61.97	105.90
	SE	-	-	4.63	7.61	-	1.84	
	CD	-	-	14.09	22.96	-	5.53	
	CV	-	-	7.20	12.83	-	10.40	

Table 5.10.19. Number of Tillers ('000/ha) at 120 days

S. No.	Entries	Seo rahi	Gora khpur	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	CoP 13438	157.00	-	96.09	111.79	120.21	53.35	107.69
2	CoP 13439	154.00	-	89.25	88.54	112.58	56.76	100.23
3	CoSe 13453	172.00	-	71.64	85.88	-	42.90	93.11
4	CoSe 13454	164.00	-	86.19	93.32	119.73	35.52	99.75
	Standards							
1	BO 91	145.00	-	93.72	146.53	141.03	41.25	113.51
2	CoP 9301	144.00	-	81.70	107.75	135.39	53.46	104.46
	GM	156.00		86.43	105.64	125.79	47.21	103.12
	SE	-	-	2.99	3.80	-	2.16	
	CD	7.86	-	9.11	11.46	-	6.55	
	CV	3.34	-	6.93	7.20	-	12.00	

Table 5.10.20. Germination (%) at 45 days

S. No.	Entries	Seo rahi	Gora khpur	Pusa	Moti pur	Bethua dahari	Bura likson	Mean
1	CoP 13438	41.14	-	45.03	38.37	34.38	43.00	40.38
2	CoP 13439	38.85	-	41.52	26.38	24.12	40.42	34.26
3	CoSe 13453	44.17	-	38.20	31.17	-	32.50	36.51
4	CoSe 13454	40.00	-	42.33	35.50	37.84	27.67	36.67
	Standards							
1	BO 91	40.93	-	43.25	38.47	37.49	31.25	38.28
2	CoP 9301	38.54	-	41.30	40.73	38.93	40.50	40.00
	GM	40.61		41.94	35.10	34.55	35.89	37.68
	SE	-	-	1.06	2.49	-	2.15	
	CD	NS	-	3.23	7.53	-	6.60	
	CV	10.96	-	5.06	12.28	-	13.33	

Table 5.10.21. Assessment of entries by monitoring team constituted by AICRP(S)

S. No.	Entries	Gorakhpur	Seorahi	Pusa	Motipur	Bethuadahari	Buralikson
1	CoP 13438						
2	CoP 13439						
3	CoSe 13453 [#]						
4	CoSe 13454						
	Standards						
1	BO 91						
2	CoP 9301						

[#] Seed cane of the entry not supplied from Pusa, Samastipur, Bihar.

6. Fluff Supply and National Hybridization Programme

National Hybridisation Garden (NHG) with cafeteria of parental clones for generating genetic variability for different agronomic traits for the breeders of 24 participating centers of fluff supply programme which is the part of the AICRP(S) was planted with 629 parents including 19 introductions, viz. CoLk 07201 from Lucknow, CoPant 99214 from Pantnagar, CoPb 13181, CoPb 14181, CoPb 14183, CoPb 14184, CoPb 14185 from PAU, CoP 12436 and CoP 13436 from Pusa, CoTI 1153 and CoTI 1358 from Thiruvalla, CoA 13323, CoA 13326, CoA 14321, CoA 14322, CoA 14323 and CoA 14324 from Anakapalle and CoC 24 and C 26028 from Cuddalore according to the interest of the centres after quarantine for pests and diseases.

All the parental clones in NHG were observed for their flowering behaviour. The flowering was delayed by two weeks and the first flowering was noticed in LG 99122, LG 99183 and NCo 310 on 19th October, 2016 followed by BO 130, CoJ 46, CoLk 7901, LG 04602 on 27th October 2016. Out of 629 parents, only 330 flowered and the per cent of clones flowered during 2016 was 52.46 %. The data on flowering of parental clones were hosted in the institute website and the same was updated at weekly interval to facilitate the participating centres to plan their hybridisation programme effectively.

Among 24 participating centers of Fluff supply / National Hybridization programme, 19 attended the crossing programme - 2016-17. Hybridization work was initiated on 27th October 2016 and concluded on 11th December 2016. Maximum number of station crosses were effected by the Kapurthala centre (38) followed by Cuddalore (37). The centers were facilitated to make 502 bi-parental crosses and 42 selfs in NHG at ICAR-SBI, Coimbatore. Besides bi-parental crosses, 12 poly crosses, 94 general collections of open pollinated fluff (GCs) were also made for these centers. Twelve centers were facilitated to effect 60 bi-parental crosses and 40 general collections in National Distant Hybridization Facility (NDHF) available at ICAR-SBI RC, Agali. Altogether 562 bi-parental crosses, 42 selfs, 12 poly crosses and 134 GCs were effected. Fluff weighing 19.52 kg of crosses made at NHG and NDHF was supplied to the 20 participating centers of fluff supply programme. The fluff was sent to Buralikson center on special request. Maximum quantity of 6.73 kg of fluff was sent to Peninsular Zone followed by North West Zone (5.68), North Central Zone (4.46) and East Coast Zone (2.64).

Narrowing down of genetic base of parental clones utilized in the hybridization is one of the drawbacks in achieving the potential yield and quality in sugarcane. Analysis of parents utilized by the breeders of participating centers of fluff supply programme inferred that Parental Diversity Index (PDI) of these 24 centers was found ranged from 30 to 50 % and pattern of utilization of parental clones was restricted to parents from particular centers /zone. In order to diversify the parental clones utilized in the crossing programme, the centers were advised to utilize the parents in such way that the parental diversity of the crosses is more than 70 % and care was taken to include parents from all the category available in NHG viz, parental from the zone in which the particular center is located, parents from other four zones, genetic stocks, foreign hybrids and interspecific hybrids. Accordingly, the parental diversity index of most of the centers during 2016 hybridization programme was more than 50 % other than Seorahi (47.1) and Navsari (47.4). Pattern of utilization of parents by the Farikot centers is depicted in Fig. 1. The PDI of the crosses done by the centers is presented in Table 1.

Table 1. Parental diversity index of crosses done by the fluff receiving centres

Peninsular Zone		North West Zone		North Central Zone	
Centre	PDI	Centre	PDI	Centre	PDI
Mandya	64.7	Faridkot	61.3	Pusa	62.5
Navasari	47.4	Kapurthala	56.6	PDI of NWZ	60.3
Padegaon	65.6	Lucknow	70.0	North East Zone	
Perumalapalle	67.9	Shajahanpur	66.7	Burlaliksion	77.8
Pune	62.5	Pantnagar	76.5	East Coast Zone	
Rudrur	66.7	PDI of NWZ	66.2	Anakapalle	53.4
Sankeshwar	66.7	North Central Zone		Cuddalore	51.3
Thiruvalla	66.7	Bathuadahari	71.4	Vuyyuru	67.3
PDI of PZ	63.5	Seorahi	47.1	PDI of ECZ	57.3

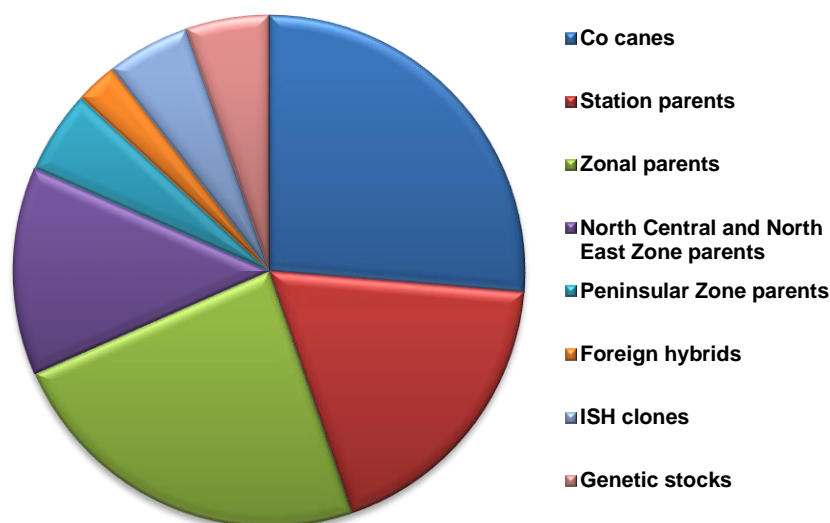


Fig. 1. Utilization pattern of parental clones by the Faridkot centre

6.1. Receipt of fluff and seedling raising by the participating centres during 2016-17

Among the 20 participating centers that received the fluff from ICAR-SBI, Coimbatore, 17 centers reported seedling generation. Eight centers reported the information on seedlings raised from the fluff of the crosses effected during February 2017 while nine reported the seedlings from the fluff received during February 2016. Two centers viz., Mandya and Faridkot stored the fluff. Details on seedlings generated by the centers during 2016-17 are presented below.

6.1.1 Peninsular Zone

Eight participating centres among the nine, except Powarkheda attended crossing programme and made 179 station crosses at NHG and 26 crosses at NDHF. Apart from these station crosses, 10 selfs, seven poly crosses and 99 general collections were made and 6.73 kg of fluff was supplied. Among eight centres that received the fluff during February 2017, seven centres sent the particulars on the seedlings produced from the fluff received.

6.1.1.1 Navsari

Seedlings generated from the Fluff Supply and National Hybridization Programme 2016-17

Crosses	No. of crosses	Quantity of fluff sown (g)	No. of seedlings obtained	No. of seedlings / g of fluff
Station Crosses	19	356.8	1290	3.61
Poly Crosses	6	37.5	3301	88.03
General Crosses	7	196.5	-	-
Total	32	590.8	4591	7.77

6.1.1.2 Padegaon

Seedlings generated from the Fluff Supply and National Hybridization Programme 2015-16

Crosses	No. of crosses	Quantity of fluff sown (g)	No. of seedlings obtained	No. of seedlings / g of fluff
Station crosses	28	-	4087	-
Zonal crosses	7	-	549	-
Poly crosses	13	-	1956	-
General collections	11	-	1821	-
Agali crosses	3	-	82	-
Total	62	-	8495	-

6.1.1.3 Perumalapalle

Seedlings generated from the Fluff Supply and National Hybridization Programme 2015-16

Crosses	No. of crosses	Quantity of fluff sown (g)	No. of seedlings obtained	No. of seedlings / g of fluff
Station Crosses	27	-	979	-
Zonal crosses	7	-	176	-
General Collections	19	-	6035	-
Poly crosses	13	-	6196	-
Total	66	-	13386	-

6.1.1.4 Pune

Seedlings generated from the Fluff Supply and National Hybridization Programme 2016-17

Crosses	No. of crosses	Quantity of fluff sown (g)	No. of seedlings obtained	No. of seedlings / g of fluff
Station Crosses	20	456.00	7498	16.44
Poly Crosses	7	45.0	415	9.22
General Crosses	3	17.0	45	2.65
Agali crosses	7	109.5	75	0.69
Total	37	623.5	8033	12.88

6.1.1.5 Rudrur

Seedlings generated from the Fluff Supply and National Hybridization Programme 2015-16

Crosses	No. of crosses	Quantity of fluff sown (g)	No. of seedlings obtained	No. of seedlings / g of fluff
Station Crosses	31	503.5	6500	12.90
Zonal crosses	9	54.0	400	7.41

Poly crosses	13	96.0	900	9.38
General collections	20	478.0	1440	3.01
Agali crosses	16	348.0	950	2.72
Total	89	1479.5	10190	6.89

6.1.1.6 Sankeshwar

Seedlings generated from the Fluff Supply and National Hybridization Programme 2016-17

Crosses	No. of crosses	Quantity of fluff sown (g)	No. of seedlings obtained	No. of seedlings / g of fluff
Station Crosses	29	Not reported	Not reported	-
Poly Crosses	19	by the center	by the center	-
General Crosses	-			-
Total	48		6140	-

6.1.1.7 Thiruvalla

Seedlings generated from the Fluff Supply and National Hybridization Programme 2015-16

Crosses	No. of crosses	Quantity of fluff sown (g)	No. of seedlings obtained	No. of seedlings / g of fluff
Station Crosses	17	393.0	2141	5.45
General Collections	9	186.5	659	3.53
Poly crosses	7	45.5	1141	25.08
Total	33	625.0	3941	6.31

Among the seven centres, Navsari (4591), Pune (8,033), Sankeshwar (6,140) and Thiruvalla (3,941) reported the seedling generation from the crosses made from 2016-17 crosses. Altogether they raised 22,705 seedlings. Apart from these centres, Padegaon (8,495), Perumalapalle (13,386) and Rudrur (10,190) reported the seedling generation from the crosses made during 2015-16. In total 54,776 seedlings have been raised at the seven centres in Peninsular Zone during 2017.

6.1.2 East Coast Zone

Among the four participating centres of fluff supply programme in this zone, three other than Nayagarh attended crossing programme 2016-17 and made 93 station crosses at NHG. Apart from these station crosses, two selfs, seven poly crosses and 32 general collections were made and 2.64 kg of fluff was supplied. Particulars on the seedlings produced from the fluff received from ICAR-SBI, Coimbatore are given below.

6.1.2.1 Anakapalle

Seedlings generated from the Fluff Supply and National Hybridization Programme 2015-16

Cross/GC/PC	No. of crosses	Quantity of fluff sown (g)	No. of seedlings obtained	No. of seedlings / g of fluff
Station crosses	24	500.00	3675	7.35
Zonal crosses	08	130.50	1722	13.57
GCs(Agali)	04	64.00	325	5.07
GCs(Coimbatore)	14	457.50	458	1.00
PCs	13	93.00	785	8.44
Total	63	1245.00	6965	5.59

6.1.2.2 Cuddalore

Seedlings generated from the Fluff Supply and National Hybridization Programme 2016-17

Type of cross	No. of crosses	Quantity of fluff sown (g)	No. of seedlings obtained	No. of seedlings / g of fluff
Station Crosses	35	-	4172	-
Poly crosses	07	-	386	-
General Collections	20	-	174	-
Total	62	-	4,732	-

6.1.2.3 Vuyyuru

Seedlings generated from the Fluff Supply and National Hybridization Programme 2015-16

Crosses	No. of crosses	Fluff weight (g)	No. of seedlings obtained	No. of seedlings /g of fluff
Station Crosses	18	312.0	2779	8.91
Zonal Crosses	8	113.5	2150	18.94
Polycrosses	13	89.5	798	8.92
General collections	8	174.5	1027	5.89
Total	47	689.5	6754	9.80

Cuddalore raised 4732 seedlings from the crosses effected during 2016-17 while Anakapalle (6965) and Vuyyuru (6,754) raised seedlings from the crosses effected during 2015-16. Altogether 18,493 seedlings were raised at the three centres in East Coast Zone during 2017.

6.1.3 North West Zone

Among the six participating centres of fluff supply programme, five other than Uchani attended crossing programme and made 146 station crosses at NHG and 33 at NDHF. Apart from 146 station crosses, 19 selfs, 5 poly crosses and 38 general collections were made and 5.68 kg of fluff was supplied. The fluff received during February 2017 was stored at Faridkot and Lucknow centre did not report on the fluff received from ICAR-SBI. Particulars on the seedlings produced from the fluff received by the centres are given below.

6.1.3.1 Kapurthala

Seedlings generated from the Fluff Supply and National Hybridization Programme 2016-17

Crosses	No. of crosses	Quantity of fluff sown (g)	No. of seedlings obtained	No. of seedlings / g of fluff
Station Crosses	41	-	12317	-
Polycrosses	4	-	59	-
General collections	7	-	584	-
Agali crosses	9	-	213	-
Total	61	-	13173	-

6.1.3.2 Pantnagar

Seedlings generated from the Fluff Supply and National Hybridization Programme 2016-17

Crosses	No. of crosses	Quantity of fluff sown (g)	No. of seedlings obtained	No. of seedlings /g of fluff
Station Crosses	17	355.0	797	2.25

Polycrosses	5	38.0	40	1.05
Agali crosses	10	174.5	344	1.97
Total	32	567.5	1181	2.08

6.1.3.3 Shahjahanpur

Seedlings generated from the Fluff Supply and National Hybridization Programme 2016-17

Cross	No. of crosses	Quantity of fluff sown (g)	No. of Seedlings obtained	No. of seedlings /g of fluff
Station crosses	30	634.2	3135	4.94
Selfs	4	80.5	18	0.22
Poly crosses	5	37.5	-	0.00
General collections	12	385.5	549	1.42
Agali crosses	11	175.0	80	0.46
Total	62	1312.7	3782	2.88

6.1.3.4 Uchani

Seedlings generated from the Fluff Supply and National Hybridization Programme 2015-16

Cross	No. of crosses	Quantity of fluff sown (g)	No. of seedlings obtained	No. of seedlings /g of fluff
Station crosses	-	401.5	4068	10.13
Zonal crosses	-	64.5	2097	32.51
Poly crosses	-	40.5	1423	35.14
General collections	-	365.0	4540	12.44
Agali crosses	-	32.5	578	17.78
Total	-	904.0	12706	14.06

Among the three centres who reported the data on seedling generation from the crosses made during 2016-17, Kapurthala raised the highest number of seedlings (13,173) followed by Shahjahanpur (3,782) and Pantnagar (1181). Apart from this, Uchani centre reported generation of 12,706 seedlings from the fluff received during 2015-16. Totally 30,842 seedlings were generated by the four centres during 2017.

6.1.4 North Central and North East Zone

Among the five participating centres of fluff supply programme, three attended crossing programme 2016-17. Centres of this zone were facilitated to effect 84 station crosses at NHG and one at NDHF. Apart from these station crosses, 11 selfs, five poly crosses and 46 general collections were made and 4.46 kg of fluff was supplied. Fluff was sent to Buralikson on special request. All the four centres that received the fluff during February 2017 reported the generation of seedlings. Particulars on the seedlings produced during 2016-17 from the fluff received from ICAR-SBI, Coimbatore are given below.

6.1.4.1 Buralikson

Seedlings generated from the Fluff Supply and National Hybridization Programme 2016-17

Crosses	No. of crosses	Quantity of fluff sown (g)	No. of seedlings obtained	No. of seedlings obtained / g of fluff
Station Crosses	18	466.5	507	1.09
Polycrosses	13	40.0	94	2.35

General collections	8	756.0	936	1.24
Grand Total	39	1262.5	1537	1.22

6.1.4.2 Bethuadahari

Seedlings generated from the Fluff Supply and National Hybridization Programme 2016-17

Crosses	No. of crosses	Quantity of fluff sown (g)	No. of seedlings obtained	No. of seedlings obtained / g of fluff
Station Crosses	14	324.5	999	3.08
Polycrosses	5	41.5	40	0.96
General collections	3	211.0	854	4.05
Agali crosses	1	12.5	22	1.76
Grand Total	23	589.5	1915	3.25

6.1.4.3 Pusa

Seedlings generated from the Fluff Supply and National Hybridization Programme 2015-16

Crosses	No. of crosses	Quantity of fluff sown (g)	No. of seedlings obtained	No. of seedlings obtained / g of fluff
Station Crosses	36	675.5	6986	10.34
Zonal crosses	11	138.0	2764	20.03
Polycrosses	8	37.0	2523	68.19
General collections	56	756.0	9409	12.45
Selfings	4	-	1259	-
Agali crosses	16	234.5	862	3.68
Grand Total	131	1841.0	23803	12.93

6.1.4.4 Seorahi

Seedlings generated from the Fluff Supply and National Hybridization Programme 2015-16

Crosses	No. of crosses sown	Quantity of fluff sown (g)	No. of seedlings obtained	No. of seedlings/g of fluff
Station crosses	35	658.17	2210	3.35
Zonal crosses	11	153.76	911	5.92
Poly crosses	8	38.22	359	9.39
General collections	19	512.59	1663	3.24
Selfs	2	22.79	245	10.75
Grand Total	75	1385.53	5388	3.888

Among the four centres who received the fluff during February 2017, two centres viz., while Buralikson (1537) and Bathuadahari (1915) reported about the seedlings generated from 2016-17 while Pusa (23,803) and Seorahi (5,388) raised seedlings from the crosses effected during 2015-16. Altogether 32,643 seedlings were raised by the four centres in this zone during 2017.

6.2 Summary of work done under fluff supply programme 2016-17

Centre	SC + PC + Self + GC + Agali crosses	Quantity of fluff supplied (g)			Rate of germi nati on NH G Stati on cross es	Rate of germi nati on of Gen eral colle ction s	Rate of germi nati on of Agali crosse s	Expected number of seedlings* **	Actual number of seedlings reported
		NDHF	NHG	Total					
Peninsular Zone (Rate of germination of tropical poly crosses = 40.77 seedlings / g of fluff)									
Mandya	17+7+0+7+10	225.5	527.5	753.0	15.12	7.8	2.2	8193.4	Stored
Navasari	19+0+6+7+0	-	590.8	590.8	2.85	22.5	-	6967.0	4591
Padegaon	32+2+6+7+18	344.0	860.0	1204.0	13.03	1.0	14.33	16817.7	8495*
Perumalapalle	28+0+19+7+0	224.0	1028.0	1252.0	16.7	12.8	5.73	18211.8	13386*
Pune	20+0+3+7+7	109.5	518.0	627.5	17.25	1.1	1.28	9718.4	8033
Rudrur	21+0+8+7+0	-	744.5	744.5	23.41	-	-	15013.7	10190*
Sankeshwar	27+7+7+7+9	203.5	734.0	937.5	5.94	-	2.78	8193.4	6140
Thiruvalla	15+1+9+7+1	33.5	591.5	625.0	8.13	-	0.0	6967.0	3941
East Coast Zone (Rate of germination of tropical poly crosses = 40.77 seedlings / g of fluff)									
Anakapalle	30+0+5+7+0	-	883.0	883.0	10.7	3.5	-	10637.6	6965*
Cuddalore	37+2+20+7+0	-	1205.5	1205.5	17.5	7.1	-	15938.6	4732
Vuyyuru	26+0+6+7+1	9.0	543.0	552.0	12.62	-	9.0	7161.2	6754*
North West Zone (Rate of germination of sub-tropical poly crosses = 25.97 seedlings / g of fluff)									
Faridkot	31+3+2+5+0	-	861.0	861.0	18.19	30.5	-	16604.5	Stored
Kapurthala	38+4+7+5+9	142.0	1187.0	1329.0	11.5	13.8	4.4	14546.9	13173
Lucknow	30+8+12+5+8	100.0	1518.0	1618.0	13.5	1.0	5.63	13329.9	No report
Shajahanpur	30+4+12+5+11	175.0	1137.7	1312.7	12.72	-	3.09	10605.6	3782*
Pantnagar	17+0+0+5+10	140.5	418.5	559.0	15.06	-	6.4	6777.2	1191
North Central and North East Zone (Rate of germination of sub-tropical poly crosses = 25.97 seedlings / g of fluff)									
Bathudahari	14+0+3+5+1	12.50	577.0	589.5	16.85	6.0	6.0	7886.6	1915
Burlikson**	18+0+13+15+0	-	942.0	942.0	-	-	-	-	1537
Pusa	17+7+30+5+0	-	1667.0	1667.0	9.92	7.7	-	14475.0	23803*
Seorahi	35+4+0+5+0	-	1262.5	1262.5	19.72	-	-	18829.4	5388*
Total		1719.0	17796.5	19515.5	13.72	9.56	5.07	2,43,603	45253+78763*

Germination of the fluff of crosses effected during 2016-17 was found generally poor when compare to the last year. The rate of germination of the fluff of bi-parental crosses effected during 2016 was 13.72 seedlings per gram and it was 51.92 seedlings / g of fluff in the previous year.

* seedlings raised from previous year crosses were reported

** Fluff was sent on special request

*** Calculated based on the weighted average of germination of station crosses, poly-crosses, general collections and Agali crosses

6.3. Identification and Evaluation of Zonal crosses

6.3.1 Peninsular Zone:

Among the nine centers in Peninsular Zone, eight centers viz., Mandya, Navsari, Padegaon, Perumalapalle, Pune, Rudrur, Sankeshwar and Thiruvalla provided the data in the given format for identification and evaluation of zonal crosses. Powarkheda did not provide this information.

6.3.1.1 Mandya

Performance of crosses in ground nursery (2014 crosses)

Cross combination	Quantity of fluff sown	No of seedlings produced	Total number of seedlings evaluated	HR (%)		NMC/clump		Cane diameter(cm)		No of seedlings selected
				Mean	Range	Mean	Range	Mean	Range	
Co 86002 x Co 1148	11.5	134	122	18.52	17-19	5.58	6-9	3.10	2.6-3.3	14
Co 85002 x Co 62174	17.5	53	46	17.90	17-20	5.68	5-7	2.60	2.0-2.7	10
Co 8371 x CoT 8201	9.5	165	152	19.20	18.4-20	7.00	7-9	2.73	2.2-2.7	12
Co 740 x Co 775	8.0	57	47	19.50	18-20	9.20	8-11	2.52	2.1-2.7	20
Co 8371 x Co 86011	11.0	300	203	17.69	17-19.3	6.52	6-8	2.53	2.2-2.7	24
CoM 0265 x Co 775	8.0	54	46	19.20	18.4-20	7.00	7-9	2.73	2.2-2.7	18
Over all in the trial	152	790	640							

Besides above crosses where more than ten selections per cross were made, selections were also effected in three other crosses viz., Co 8213 x CoT 8201 (4), CoV 94101 x Co 97015 (1), CoC 671 x CoT 8201 (3). No selections were made in four crosses (Co 8213 x Co 86011, CoC 671 x Co 94008, CoM 0265 x Co 99006 and Co 86032 x Co 86250).

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		NMC /clump		Cane diameter (cm)		No of clones selected
		Mean	Range	Mean	Range	Mean	Range	Mean	Range	Mean	Range	
Co 86002 x Co 1148	14	16.5	15.6-17.5	17.5	15.6-17.5	18.0	17.5-18.0	9	10-12	2.8	2.6-3.1	5
Co 85002 x Co 62174	10	17.0	16.5-17.0	18.0	17.5-19.0	20.0	21-22.0	10	10-12	2.6	2.6-3.2	6
Co 8371 x Co 86011	24	16.0	15.5-17.5	18.0	17.5-19.5	20.0	19.0-20.5	10.20	9-12	2.78	2.50-3.20	9

Apart from the above superior crosses, less than five selections per cross were made in four crosses viz., Co 8213 x CoT 8201 (1), Co 8371 x CoT 8201 (4), Co 740 x Co 775 (4) and CoM 0265 x Co 775 (4). However, no selections were made in the five bi-parental crosses viz., Co 8213 x Co 86011, CoV 94101 x Co 97015, CoC 671 x Co 94008, CoM 0265 x Co 99006 and Co 86032 x Co 86250.

Performance of crosses at second clonal trial

Cross combination	No of clones planted	No of clones with > 20% sucrose at 240 days	No of clones with > 20% sucrose at 300 days	No of clones with > 20% sucrose at 360 days	No of clones with > 70 NMC/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))
Co 8347 x Co 2198	2	-	-	-	-	1	-	a
CoSnk 03-44x Co 775	4	-	-	-	1	2	-	a & c
Co 8213 x Co 86011	1	-	-	-	-	1	-	c
CoSnk 03-44 x Co 86011	4	-	-	1	2	2	-	a,b,c
Co 8371 x Co 86011	2	-	-	-	1	2	-	b & c
CoC 671 x CoT 8201	3	-	-	-	2	3	-	b & c
Co 7201 x CoC 671	2	-	-	-	1	1	-	b
Co 86002 x Co 1148	1	-	-	-	-	1	-	c
Over all in the trial	19							

Apart from the above crosses, no superiority for any of the economic traits was observed in Co 86002 x ISH 69, Co 95021 x Co 97015, Co 85002 x Co 62174, Co 8213 x CoT 8201 and Co 8371 x CoT 8201 in second clonal trial.

6.3.1.2 Navsari

Performance of crosses in ground nursery

Cross combination	Quantity of fluff sown	No of seedlings produced	Total number of seedlings evaluated	HR brix (%)		Number of millable canes ('000 / ha)		Cane diameter (cm)		No. of seedlings selected
				Mean	Range	Mean	Range	Mean	Range	
Co 98008 PC	43.5	2001	1990	20.2	17 to 23	120	81 to 152	1.91	1.75 to 2.61	176
97R401 GC	12.0	1167	920	20.4	17.5 to 23.5	114	78 to 143	2.10	1.75 to 2.70	150
ISH 306 GC	13.0	780	550	19.8	17.0 to 22.5	102	72 to 108	2.03	1.78 to 2.54	150

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		NMC000/ha		Cane diameter (cm)		No. of clones selected
		Mean	Range	Mean	Range	Mean	Range	Mean	Range	Mean	Range	
Co 99006 x Co 94008	2540	15.1	13.2 - 16.8	19.8	17.4 - 23.8	23.4	21.0-25.8	111	81 - 124	2.70	2.26 - 2.83	465
Co 86002 x Co 86011	1891	15.8	13.8 - 17.9	20.1	13.8 - 23.2	22.1	19.6-24.8	102	91-114	2.98	2.23-3.02	213

CoC 90063 x CoN 91132	1779	15.4	13.2-17.4	19.4	17.1 - 23.4	21.6	20 - 24.4	108	94 - 117	2.57	2.26-2.67	208
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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 rot resistant clones (Naturally)	Superiority of the cross (Sucrose /NMC/ cane dia / Red rot resistance)	No. of clones selected
Co 89003 x Co 775	780	6	4	4	18	14	4	NMC	38
CoN 07072 x Co 1148	1330	12	9	9	15	12	3	NMC & Sucrose	36
Co 8371 x CoT8201	815	2	1	1	8	6	2	Cane diameter	12

6.3.1.3 Padegaon

Performance of crosses in ground nursery

Cross combination	Quantity of fluff sown (g)	No. of seedlings produced	Total number of seedlings	HR brix (%)		Number of millable canes (NMC)		Cane diameter (cm)		No. of seedlings selected
				Mean	Range	Mean	Range	Mean	Range	
CoSnk 05103 x Co 775	30.5	1485	1485	21.2	14.5-25.2	9	4-20	2.9	2.5-3.3	70
Co 0240 x Co 62198	35.5	325	325	22.1	17.5-26.2	9	5-12	2.6	2.3-3.0	21
ISH 100 x Co 89029	47.5	470	470	22.2	16.3-26.5	10	5-19	2.5	2.2-2.9	40
CoM 9220 x Bo 96	43.0	2250	2250	23.5	19.5-26.8	7	4-10	2.6	2.3-2.8	5
Co 8213 x ISH 176	53.0	870	870	18.2	13.4-22.0	10	4-19	2.8	2.4-3.2	8
Co 8371 x CoC 671	25.0	85	85	25.4	20.3-28.0	8	5-12	2.6	2.4-3.1	6
Co 94012 x CoT 8201	17.0	810	810	24.8	19.5-27.5	11	5-15	2.8	2.4-3.2	8
Co 0118 x 85 R 186	27.5	30	30	22.6	20.4-27.5	9	4-12	2.6	2.4-2.9	6
CoA 7602 PC	31.0	1005	1005	22.4	19.5-27.0	5	3-8	2.8	2.5-3.1	10
CoV 89101 PC	49.5	700	700	24.5	20.4-28.5	11	5-16	2.8	2.6-3.2	10
Overall trial		17830	17830							215

No selections were made in the crosses, Co 86002 x Co 1148, Co 8371 x Co 99006, Co 8371 x Co 86011, Co 8213 x Co 86011, ISH 41 x Co 94008 CoV 94101 x Co 97015, CoC 671 x CoT 8201, CoC 671 x Co 94008, Co 86032 x Co 94005, Co 86032 x Co 86250 Co 86002 x Co 7915, CoSnk 03-044 x Co 62198 Co 419 x CoA 7602, Co 8213 x CoSnk 03-044, C 79180 x Co 1307, LG 05460 x Co 87268, 85 R 186 x Co 94008, 85 R 186 x CoSe 92423, Co 94012 x Co 11004, Co 87044 x Co 86249, CoM 0265 PC, Co 94012 PC, Co 85002 PC, 86 V 96 PC, CoC 671 PC, Co 2000-10 PC, CoC 90063 PC, Co 8371 PC, ISH 100 GC, Co 7219 GC, CoT 8201 GC, 85R186 GC, Co 86032 GC, Co 92008 GC, CoC 671 GC, CoC 90063 GC, Co 8371 GC, Co 740 GC, MS 68/47 GC and Co 92020 GC and six Agali crosses viz., MS 68/47 x CoC 671, CoM 0265 x CoC 671, CoH 104 x C 81615, Co 7219 x CoH 56, CoC 8201 x CoV 92102. Less than five selections were effected in ten crosses viz., Co 0312 x Co 0209 (2), Co 94012 x Co 94008 (4),

CoM 0265 x CoC 671 (3), Co 1158 x CP 62-23 (2) Co 62198 x Co 775 (3), Co 99006 x Co 94008 (4) ISH 100 PC (4) CP 52-68 PC (2), Co 7201 PC (4) and Co 8213 GC (3)

Performances of crosses in first clonal trial

Cross combination	No. planted	HR Brix at 10 th month		HR brix at 12 th month		NMC		Cane diameter (cm)		No. selected
		Mean	Range	Mean	Range	Mean	Range	Mean	Range	
Co 8371 x CoT 8201	12	16.35	15.3-17.2	20.15	18.1-22.0	8	5-11	2.70	2.5-3.2	02
Co 85002 PC	09	16.10	15.4-16.9	20.20	19.6-21.2	11	8-14	2.40	2.3-2.7	02
CoM 9220 GC	19	16.80	15.4-19.3	19.60	18.4-20.3	11	7-14	2.90	2.7-3.1	04
Overall in the trial	93									17

Apart from above crosses, from nine other crosses viz., Co 740 x Co 775, CoM 0265 x Co 775, Co 99006 x Co 94008, Co 8371 x Co 775, Co 86032 x Co 94008, 85 R 186 x Co 775, ISH 100 X CoA 7602, Co 86032 x Co 94008 and one general collection Co 99006GC, one selection each was made in first clonal trial.

6.3.1.4 Pune

Performance of crosses in ground nursery

Cross combination	Quantity of fluff sown (gm.)	No of seedlings produced	Total number of seedlings evaluated	HR brix (%) (360 days)		Number of millable canes (NMC)		Cane diameter (cm)		No. of seedlings selected
				Mean	Range	Mean	Range	Mean	Range	
Co 86002 x Co 99006	35.5	2,135	1920	21.0	19.4-24.4	8.55	06-11	3.14	2.7-3.3	11
Co 6304 x Co 97009	26.0	531	470	20.8	22.2-23.4	11.3	9-14	3.00	2.8-3.3	06
Co 99006 x Co 94008	15.5	1,288	1,240	21.3	15.4-24.2	10.6	12-20	2.78	2.3-3.2	05
Co 85002 PC	28.0	2,235	1,628	20.8	18.0-23.5	11.0	09-14	3.01	2.8-3.6	10
CoV 89101 PC	57.0	2,317	2,100	21.4	19.8-23.3	10.4	8-16	3.16	2.6-3.3	05
Over all in the trial	1,313	19,505	16,911							55

Further, ten other crosses viz., Co 8371 x Co 86011 (4), CoH 110 x Co 97009 (1), CoC 671 x CoV 92101 (1), Co 94012 x 85 R 186 (1), ISH 100 x Co 99006 (1), 51NG 159 x CoSe 92423 (1), IK 76-81 x CoC 671 (1), Co 8371 PC (2), Co 99006 GC (2) and Co 06036 GC (3) had less than five selections from each of them. Seven station crosses viz., Co 86002 x Co 7915, ISH 1 x Co 97009, CoA 92081 x Co 97015, ISH 229 x Co 97009, Co 7201 x Co 11004, CoC 671 x Co 11004 and CoJ 80 x Co 92008, all the 14 zonal crosses viz., Co 86002 x Co 1148, Co 0213 x Co 0209, Co 8371 x Co 99006, Co 8371 x Co 86011, Co 8213 x Co 86011, ISH 41 x Co 94012, Co 94012 x Co 94008, CoV 94101 x Co 97015, CoC 671 x CoT 8201, CoC 671 x Co 94008, Co 86032 x Co 94005, Co 86032 x Co 86250, CoM 0265 x CoC 671 and CoM 0265 x Co 99006 and five crosses done at NDHF, Agali viz., IK 76-99 x Co 775, TC 2412 x Co 94008, 85 R 186 x CoC 671, 87 R 401 x CoC 671, IK 76-76 x CoC 671, ten poly crosses viz., CoM 0265PC, ISH 100 PC, Co 94012PC, CoA 7602 PC, 86 V 96 PC, CoC 671 PC, CP 52-68 PC, Co 2000-10 PC, CoC 90063 PC

and Co 7201 PC and five general collections viz., Co 0238 GC, Co 62198 GC, Co 6304 GC, ISH 229 GC and LG 95063 GC did not give any selectable progenies and hence no selections were made from these crosses.

Performance of crosses in first clonal trial

Cross combination	No of clones planted	HR brix at 12 th month		Number of millable canes/ha (NMC)		Cane diameter (cm)		No. of clones selected
		Mean	Range	Mean	Range	Mean	Range	
Co 85002 x Co 94008	10	21.40	19.78-22.46	89.95	85.67-95.33	3.13	2.87-3.39	2
Co 98006 x Co 86011	23	20.53	18.36-21.51	78.87	65.54-84.67	2.82	2.55-3.18	4
Co 2000-10 x Co 775	11	20.17	18.79-21.44	85.32	77.34-92.67	3.25	2.54-3.49	4
Co 8371 x 85 R 186	15	21.23	18.43-22.69	70.53	65.67-86.33	3.38	2.76-3.78	3
Co 88028 x CoT 8201	09	19.08	17.61-21.76	61.53	62.33-89.33	3.49	2.64-3.56	2
Co 87044 x Co 7717	05	21.03	17.71-21.89	70.46	66.33-78.34	3.19	2.85-3.28	2
Co 86032 x ISH 136	02	21.16	20.63-21.69	87.56	83.45-91.67	3.80	3.64-3.96	2
Over all in the trail	99							23

Further each one of the four crosses viz., Co 0235 x ISH 147, Co 94005 x Co 92008, Co 85002 x Co 62174 and Co 85002 PC produced one selectable progeny. Five bi-parental crosses viz., MS68/47 x CoT 8201, CoC 671 x Co 1148, Co 8213 x Co 86011, CoC 671 x CoT 8201 and Co 8371 x Co 86011 and a poly cross Co 8371 PC did not have any selectable progenies.

6.3.1.5. Perumalapalle

Performance of crosses in ground nursery

Cross combination	Quantity of fluff sown (g)	No. of seedlings produced	Total number of seedlings evaluated	HR brix (%)		NMC		Cane diameter (cm)		No. of seedlings selected
				Mean	Range	Mean	Range	Mean	Range	
Co 86002 x Co 1148	6.5	156	124	18.5	17.3-20.2	10	7-12	2.9	2.7-3.2	-
Co 0312 x Co 0209	7	78	56	17.6	17-18.3	12	8-14	2.8	2.5-3.5	-
Co 8371 x Co 99006	13.5	48	30	17.7	17-18.5	11	7-14	3	2.9-3.1	-
Co 8371 x Co 86011	12	52	42	17.8	16.9-18.7	7	4-8	3	2.5-3.5	-
Co 8213 x Co 86011	17.5	28	20	17.4	16.5-18.3	9	6-14	2.9	2.5-3.7	-
ISH 41 x Co 94008	9	52	37	18.3	18.1-18.5	10	5-17	2.4	2-2.6	-
Co 94012 x Co 94008	15.5	63	59	18.8	17-20	9	5-10	3.2	3-3.4	-
CoV 94101 x Co 97015	7.5	13	8	17	15.5-18.5	7	5-9	3.1	2.7-3.2	-

CoC 671 x CoT 8201	9.5	0	0	--	--	--	--	--	--	-
CoC 671 x Co 94008	10.5	13	7	18.6	18-19.2	10	7-13	3.1	3-3.2	-
Co 86032 x Co 94005	13	130	112	17.9	16-24.9	10	9-12	2.8	2-3.1	-
Co 86032 x Co 86250	7	0	0	--	--	--	--	--	--	-
CoM 0265 x Co 99006	7.5	0	0	--	--	--	--	--	--	-
CoM 0265 x CoC 671	7	52	37	17.7	16.7-22	8	7-13	2.7	2.5-3	-

Performances 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)	
		Mean	Range	Mean	Range	Mean	Range	Mean	Range	Mean	Range
Co 8213 x CoT 8201	11	15.2	14.5-16.0	17	16.1-18.1	18.6	17.0-24.2	70.71	20.37-92.59	2.66	2.50-2.90
Co 8371 x Co 86011	3	15.1	14.1-15.9	17	16.0-18.0	19.1	18.3-19.9	75.92	61.11-85.18	2.45	2.20-2.76
Co 8371 x CoT 8201	29	14.4	13.3-15.4	16	14.5-17.4	17.6	16.3-19.5	67.75	14.81-109.25	3.07	2.50-5.80
Co 86002 x Co 1148	2	15	14.5-15.5	16.9	16.3-17.4	18.3	17.9-18.8	77.77	72.22-83.33	3	3.00-3.00
CoM 0265 X Co 775	1	12.4	----	14.9	----	16.1	----	33.33	----	2.6	----
CoV 94101 x Co 97015	1	13.7	----	15.9	----	17	----	79.63	----	2.5	----

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 >70 NMC/20' row	No. of clones with >2.5 cm cane thickness	No. of red rot resistant types	Superiority of the cross (sucrose/ NMC/ cane dia/ Red rot resistance)
Co 8371 x Co 86011	2	0	0	0	0	2	--	Cane thickness
Co 8371 x CoT 8201	2	0	0	0	0	2	--	Cane thickness
Co 86002 x Co 1148	1	0	0	0	0	1	--	Cane thickness

6.3.1.6 Rudrur

Performance of crosses in ground nursery 2016

Cross combination	Quantity of fluff sown (g)	No of seedlings produced	Number of seedlings evaluated	HR Brix (%)		NMC /clump		Cane dia (cm)		No. of seedlings selected
				Mean	Range	Mean	Range	Mean	Range	
Co 06036 x Co 87268	23.5	130	125	22.7	21.5-23.5	15.0	14.0-16.0	2.5	2.1-3.4	16
Co Snk 03-044 x BO 91	9.5	230	220	23.4	22.0-24.5	13.5	11.0-15.0	3.0	2.9-3.4	12
Co 89003 x Co 1148	12.5	160	155	21.4	20.0-23.0	11.0	10.0-14.0	2.9	2.6-3.8	12
Co 8213 x CoPant 97222	23	440	400	23.1	21.5-24.5	12.5	11.0-15.0	2.8	2.5-3.6	20
Co H 110 x Co 97015	20	650	600	22.7	20.5-24.0	12.5	11.0-15.0	2.5	2.1-3.0	12
Co 98006 x 97 R 401	15	330	300	23.7	21.0-24.5	12.0	11.0-15.0	2.9	2.5-3.5	12
Co 98010 x Co 1148	21	400	380	22.4	20.0-24.6	13.5	13.0-15.0	3.1	2.1-3.5	13
Co 97015 x Co 1148	21	520	480	22.5	21.0-23.6	13.5	13.0-16.0	2.7	2.5-2.9	10
Co 8371 x Co 1148	19	410	390	24.4	22.8-25.9	13.5	12.0-16.0	2.7	2.4-3.6	10
Co 8371 x Co 97015	19.5	110	100	20.8	19.8-22.3	13.5	12.0-15.0	2.5	2.1-3.4	10
Co 98008 x Co 1148	8.5	210	190	21.8	20.9-22.6	15.5	14.0-16.0	2.8	2.5-3.4	15
Co 88013 x Co 97015	12.5	420	400	21.4	20.7-22.9	13.5	13.0-16.0	3.0	2.8-3.4	10
ISH 41 x Co 94008	9	120	100	21.9	20.8-22.6	13.5	12.0-15.0	2.5	2.1-2.9	13
Co 775	17	110	100	25.4	23.8-25.9	13.5	12.0-14.0	2.4	2.1-2.9	10
97 R 401	12	510	450	25.1	23.5-25.8	15.0	14.0-16.0	2.1	1.8-2.5	14
97 R 129	17	690	600	24.1	23.0-25.5	14.5	13.0-15.0	2.9	2.5-3.4	10
Co 84070	14	240	200	24.0	23.1-25.0	13.5	12.0-14.0	2.4	1.9-2.8	10

Apart from above crosses having more than 10 selections each, following crosses namely Co A 11324 x Co H12 (4), Co 98007 x Co 1148 (4), Co 06035 x CoPant 97222 (6), Co 8213 x Co 1158 (3), Co 97015 x Co 94008 (9), Co 97015 x Co 775 (8), Co 98008 x Co 775 (8), Co C 671 x Co 94008 (5), Co 1158 x Co H 70 (5), Co 85146 x Co 1148 (7), Co 0238 x Co 62198 (3), Co 85019 x Co 775 (4), Co 0240 x Co 775(5), Co 8371 x Co 0209 (3), Co C 671 x Co 775 (3), Co 86010 x Co 8213 (1), Co 86011 x Co 1148 (1), Co 0312 x Co 0209 (1), Co M 0265 x Co C 671 (3), Co C 671x Co 94008 (1), Co C 671x Co 78201 (5), Co 0312x Co 0209 (1), Co 94012 (1), CP 52-68 (1), Co C 90063 (1), Co V 89101 (6), Co 7201 (5), Co A 7602 (5),Co 2000-10 (3), ISH 100 (1), 86 V 96 (1), Co 85002 (1), Co 8371 (4), Co 775 and Co 86011 (6) produced less than 10 selections.

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	
2016 (14 crosses)	40	20.8	19.1-21.8	22.9	20.5-23.9	24.6	21.8-25.8	112	104-124	3.2	2.7-3.4	16

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 > 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
2016 (14 crosses)	16	1	-	-	2	3	10	-	Not reported

6.3.1.7 Sankeshwar

Performance of crosses in ground nursery

Cross combination	Quantity of fluff sown	No of Seed lings produced	No. of seedlings evaluated	HR brix (%)		Number of millable canes (NMC)		Cane diameter (cm)		No. of seedlings selected
				Mean	Range	Mean	Range	Mean	Range	
NB 94-545 x 85 R 186	40.5	403	358	17.71	15.5-20	9	1-14	2.7	1.7-3.0	26
Co 7204 x CoPant 97222	14	450	430	20.96	14.9-23.7	8	1-14	2.54	1.56-3.13	229
Co 86002 x Co 1148 ZC	17	250	224	20	15.5-22.5	7	2-4	2.48	1.4-3.0	15
Co 85002 x Co 62174ZC	16	291	276	19.12	15.5-23	5	2-9	2.6	1.7-2.8	18
Co 8371 x CoT 8201ZC	12	122	112	18.32	14.5-22	6	1-12	2.7	2.3-3.2	22
Co 8371 x Co 86011ZC	8	309	282	18.23	14-22	7	1-11	2.48	1.3-2.9	21
Co 85002PC	35.5	311	252	18.69	15.5-21.5	9	1-12	2.38	2.1-2.7	15
CoTI 85118GC	4.5		-	19.71	15.5-23	6	2-9	2.43	1.8-2.8	14

Besides above superior crosses, eight bi-parental crosses viz., BO 91 x Co 62198 (1), ISH 100 x Co 97015 (2), CoSnk 03707 x ISH 2 (1), CoSnk 03061 x CoA 7602 (6), Co 8213 x Co 86011 (1), Co 8213 x CoT 8201 (5), CoV 94101 x Co 97015 (1), CoM 0265 x Co 775 (1) and eight poly crosses viz., CoM 0265 PC (1), ISH 100PC (3), Co 94012PC (4), CoA 7602PC (3), 86V96PC (1), Co 2000-10PC (8), Co 7201PC (1) and Co 8371PC (1) and two general collections namely CoSnk 05103 GC (4) and Co 8318GC (2) produced less than 10 selections.

Performance of crosses in first clonal trial (2012-13)

Cross combination	No of Clones planted	HR brix 8 th month (%)	HR brix 10 th month (%)	HR brix 12 th month (%)		Number of millable canes (NMC)		Cane diameter (cm)		No. selection
				Mean	Range	Mean	Range	Mean	Range	
ISH 100 x Co 06037	N	N	N	23.11	21-23.7	14	3-19	3.1	2-3.3	1
CoSnk 05103 x Co 62198	O	O	O	22.61	21.6-22.9	12	2-17	2.9	1.9-3	2

Co 86002 x ISH 69	T	T	T	21.11	20-22	12	1-16	3.4	2.2-3.7	1
Co 86002 x Co 06037				23.61	19-24.6	20	5-39	2.8	2.1-3.3	4
Co 86002 x Co 06036	R	R	R	21.61	19-22	25	3-32	2.6	2.2-2.9	2
NB 94-545 x ISH 139	E	E	E	18.61	17-19.5	26	8-31	3.2	1.8-3.5	1
Co 8213 x CoT 8201	P	P	P	20.1	18.18-21	37	2-41	3.0	2.2-3.4	3
Co 8371 x CoT 8201	O	O	O	21.2	20.1-22.7	26	24-28	3.4	2.9-3.8	3
CoC 671 x Co 94008	R	R	R	19.68	18-20.5	35	5-42	2.9	2.4-3.2	1
Co 98010 PC	T	T	T	21.68	19-22	29	5-31	2.4	2.2-3.0	1
Co 8371 x CoC 671(AG)	E	E	E	20.7	20.1-21.7	36	14-46	2.9	2.7-3.1	5
Co 86001 x Co 8371 (AG)	D	D	D	22.7	21.2-23.2	45	33-63	2.6	2.1-2.8	3

Performance of crosses in second clonal trial (2011-12)

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 /NMC/ cane dia / Red rot resistance)	No. of clones selected
Co 8371 x Co 86032	13		-	-	-	11		-	3
ISH 100 x CoT 8201	16		-	-	1	13		-	5
Co 8371 GC	13		-	1	1	12		1	3
ISH 100 x Co 89003	11		-	-	-	11		-	2
Co 740 x Co 775	2		-	-	1	2		-	2
CoM 0265 x Co 775	2		-	-	-	2		-	2
CP 52-68PC	5		-	-	-	5		-	3
Co 86002 x Co 1148	11		-	1	2	10		1	5

Among the 14 crosses evaluated in the second clonal trial, those with more than one selection were presented in the above table. Two crosses, namely Co 99006 x Co 94005 and Co 8371 x CoT 8201 produced one selection each. Four crosses viz., BO 91 GC, CoA 7602 PC, Co 99006 x Co 94008 and Co 8371 x Co 86011 did not produce any selections.

6.3.1.8 Thiruvalla

Performance of crosses in ground nursery (2014-15 series)

Cross combination	Quantity of fluff sown (g)	No. of seedlings produced	Total No. of seedlings evaluated	HR brix (%)		NMC		Cane diameter (cm)		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 ZC	8	208	68	20.7	17.6-24.5	8.3	1-18	2.1	1.4-2.9	8
Co 8371 x Co 99006ZC	15	184	48	20.4	19.0-24.6	6.6	1-18	2.7	2.0-3.6	8
Co 94012 x Co 94008 ZC	15	66	41	20.8	19-25	5.8	1-15	2.3	1.7-2.9	7
CoC 671 x CoT 8201 ZC	9.5	55	32	20.9	19-25	5.1	1-9	2.3	1.5-2.9	6
CoC 671 x Co 94008 ZC	10.5	70	31	20.8	19-23.5	8.1	2-15	2.4	1.6-3.0	7
Co 86032 x Co 94005 ZC	11	58	32	21.1	18.1-25.5	5.5	1-11	2.5	1.9-3.1	11
Over all in the trial	507.5	2625	783*							108

Among the 31 crosses evaluated in the ground nursery, observations were not recorded in the 13 crosses namely 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. Four crosses viz., Co 86011 X Co 86249 (4), MS 68/47 x CoT 8201 (3), Co 86010 x Co 86249 (2) and Co 8371 x Co 86011ZC (4) had less than five selections each. No selections were effected in three bi-parental crosses viz., Co 94007 x Co 89003, Co 0312 x Co 0209 and Co 8213 x Co86011.

Performance of crosses in first clonal trial (2013-14 series)

Station crosses	No of clones planted	HR brix 8 th month (%)		HR brix 10 th month (%)		HR brix 12 th month (%)		NMC		Cane diameter (cm)		No. of clones selected
		Mean	Range	Mean	Range	Mean	Range	Mean	Range	Mean	Range	
Co 2000-10 x CoV 92102	6	17.3	16.5-18	19.3	18.0-20	22.0	21.0-23	37.4	22.0-54	2.5	2.0-2.-	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	16-18	18.9	18.0-20	22.0	21.0-23	29.1	22-43	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
CoC 671 x CoT 8201 ZC	7	16.8	15-17.5	18.6	17-19.5	22.4	21-23	23.4	14-32	2.5	2.1-2.3	5
Ovdr all in the trail	44											28

No selections were effected in 16 crosses viz., Co 8371 x Co 62198, ISH 100 x Co 94008, Co 98010 x ISH 69, Q 63 x CoT 8201, Co 88025 x CoV 92102, Co 94007 x ISH2, Co 8213 x Co 86017 ZC, Co 8213 x Co 8201 ZC, CoV 94101 x Co 92015 ZC, Co 8371 x CoT 8201 ZC, , CoC 671 x Co 94008 ZC, Co 740 x Co 775ZC, CoM 0265 x Co 99006 ZC, Co 86032 x Co 86250ZC, Co 8371 x Co 86011ZC, CoM 0265 x Co 775ZC. Less than four selections were made in Co 0233 x CoC 8001 (1), Co 88025 x Co 94008 (2), Co 86002 x Co 1148 ZC (2) and Co 85002 x Co 62174 ZC (1)

Performance of crosses in second clonal trial (2012-13 series)

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
Co 98010 x CoN 98133	2	0	0	0	0	2			1
ISH 100 x BO 32	2	0	0	0	0	2			2
Co 0238 x CoN 98133									
Co 2000-10 x CoT 8201	4	0	0	0	0	4			2
Co 93020 x CoT 8201	4	0	0	0	0	4			2
MS 6847 x CoA 7602	2	0	0	0	0	1			1
Co 86032 x CoA 7602	10	0	0	0	0	10			5
Co 8213 x CoT 8201 ZC	16	0	0	0	0	16			4

No selections were effected among the progenies of 17 bi-parental crosses viz., Co 98008 x Co 62198, Co 0238 x CoS 93278, Co 8371 x CoC 8001, Co 92006 x CoC 8001, Co86010 x Co 1148, Co 98010 x Co 86249, CoC 671 x ISH 229, Co 88028 x CoA 7602, CoTl 85119 x CoA 7602, Co 94007 x CoT 8201, Co 86002 x Co1148 ZC, Co 8213 x Co 86011 ZC, Co 86032 x Co 62198, Co 85002 x Co 62174 ZC, Co 8371 x Co 86011 ZC, Co 8371 x CoT 8201 ZC and Co 7201 x CoC 671 ZC

6.3.2. East Coast Zone

All the four centers in the East Coast Zone provided that data for evaluation and identification of Zonal crosses.

6.3.2.1 Anakapalle

Performance of crosses in ground nursery (2016-17)

Cross combination	Quantity of fluff sown (g)	No. of seedlings produced	Total number of seedlings evaluated	HR brix (%)		NMC		Cane diameter		No. of seedlings selected
				Mean	Range	Mean	Range	Mean	Range	
CoV 89101 x ISH 69	22.5	375	284	24.12	23.50-27.00	8.72	6-11	2.14	1.75-2.52	39
CoV 89101 x CoT 8201	34.0	609	548	24.12	22.00-28.00	6.72	5-9	2.28	1.80-2.65	77
CoV 89101 x CoA 7602	21.0	358	318	24.04	22.00-27.50	5.24	4-8	2.32	2.04-2.72	42
Co 8013 X CoC 671	10.0	375	319	24.32	21.00-29.00	5.32	4-9	2.32	2.00-2.85	22
CoLk8102 x Co 62198	25.0	173	163	22.24	18.50-23.00	4.32	3-7	2.18	2.04-2.34	12
Co A13327 x CoH 15	15.5	356	327	24.18	20.50-27.00	5.78	4-9	2.12	1.75-2.42	31
Co09321 x CoH 70	08.5	110	104	24.08	21.00-25.50	6.32	4-8	2.38	2.12-2.48	16

CoA 12321 x Co775	48.5	710	561	22.42	18.50-24.00	7.58	5-11	2.85	2.52-3.42	77
CoA 10321 x CoC 800	13.0	530	413	23.56	21.00-25.50	8.12	5-10	2.35	2.21-3.12	51
CoA 10321 x CoS 96260	17.50	337	277	24.18	20.00-25.50	6.35	5-9	2.32	2.12-2.68	41
Co88013 x Co 97015	30.5	563	425	24.25	23.50-30.00	6.24	4-9	2.78	2.32-3.42	51
Co T8201 x Co94008	09.0	268	181	24.12	20.00-26.00	6.45	4-10	2.32	2.23-2.47	31
Co V89101PC	16.0	283	264	23.62	20.00-25.00	6.78	4-9	2.18	1.82-2.45	15
Co8371PC	05.5	315	290	24.02	21.00-25.00	7.62	5-9	2.35	2.12-2.52	11
Co7202GC	16.0	318	283	23.12	22.00-25.00	4.18	4-8	2.24	2.12-2.32	12

Besides the above crosses, less than 10 selections were made in the 11 bi-parental crosses viz., CoA 92081 x CoT 8201 (2), Co 86032 x Co 94008 (3), Co Snk 05103 x CoH 15 (2), CoJ 83 x CoH 15 (4), Co 1158 x HR 83-65(2), Co 06036 x Co1148 (9), CoA 11324 x Co62198 (2), Co Or 03152 x CoS 96260 (8), CoN 05072 x BO 32/Co 89029 (2), Co A10321 x CoH 128 (6) and CoA 11324 x Co775 (7), six poly-crosses viz., Co 94012PC (3), CoC 90063PC (2), Co7201PC (2), CoA7602PC (2), CoC 671PC (2) and Co 85002PC (3) and four general collections namely 97A28GC (5), CoA7602GC (2), CoA13327GC (4) and Co0235GC (7). No seedlings establishment was observed in the nine bi-parental crosses viz., ISH 100 x Co 94008, CoA 92081 x Co 94008, BO 91 x BO 32 / Co 89029, CoJ 88 x Co 89029, CoA 93082 x Co 89029, Co Snk05-103 x CoS 08272, ISH 100 x CoPant 97222, CoN 98133 x Co 1158 and CoA 10321 x ISH 69, five poly crosses viz., CP52-68 PC, Co 2000-10PC, ISH 100PC, 86V96PC and CoM 0265PC and 13 general collections viz., CoA 92081GC, Co 94008GC, Co 8371GC, CoA 92081GC, 74 A 96 GC, 70 A2 GC, CoSnk 05-103GC, Co 09022GC, CoA 10321GC, Co 7915GC, Co 87268 GC, C 81615GC and Co 0232GC.

Performance of crosses in first clonal trial (2016-17)

Cross combination	No. of clones planted	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		
Co 86032 x Co 94008	40	21.40	19.2-23.0	24.80	22.0-27.0	78.00	74.5-83.0	2.73	7
ISH 100 x Co 87268	39	18.80	18.4-21.0	22.52	22.0-29.6	65.21	58.0-88.0	2.45	16
Co 86032 x CoA 7602	23	18.60	19.0-21.8	21.80	21.8-27.5	86.93	78.0-94.0	2.20	10
Co 85002 PC	22	18.00	17.0-20.8	19.80	19.8-27.0	84.60	72.0-91.0	2.30	5
Co A 93082 GC	26	18.40	18.2-20.0	22.85	22.0-28.8	82.40	72.0-92.0	2.70	10
Co A 7602 GC	9	18.60	18.4-20.8	23.31	22.2-25.0	90.11	86.0-94.0	2.80	7
CoC 671 GC	25	20.80	20.0-22.0	23.60	22.0-28.3	86.00	82.0-88.5	2.12	17
CoV 89101 GC	42	22.20	21.0-23.0	23.90	23.0-26.2	81.81	70.0-91.0	2.20	8
CoA 11323GC	22	18.60	18.2-20.8	22.32	21.2-28.6	74.68	75.5-81.0	2.30	8
Co 11001 GC	25	20.25	18.85-20	22.84	20.0-25.0	59.50	55.0-64.0	2.25	8
93A 145 GC	20	21.64	21.-22.8	22.62	20.0-26.5	76.41	65.0-71.5	2.40	8
Co 0118 GC	8	20.00	19-22	23.28	22.0-28.4	64.60	62.0-66.0	2.32	5
CoA 7602 GC	39	18.60	18.2-21.8	24.60	21.6-26.6	66.72	60.0-72.0	2.34	17
Co 8213 GC	20	21.40	21.-22	23.80	21.5-30.0	78.50	72.0-92.0	2.32	10
Overall in the trial	760								225

Among the crosses evaluated in ground nursery, 17 crosses viz., CoA 92081 x CoT 8201, CoA 11324 x Co 62198, CoA 05323 x Co 94008, Co 05011 x ISH 287, Co 62198 x ISH 287, Co 7219 x CoS 8436, CoA 05323 x Co 94008, CoA 7321 x CoC 671, Co 8371 GC, CoOr 03-152 GC, Co 2000-10 GC, 70A 5 GC, CoM 0265 GC, Co 98015 GC, Co 89003 GC, CoA 11326 GC and CoA 05321 GC did not produce any selectable progenies while another 42 crosses viz., CoV 89101 x ISH 69 (1), CoV 89101 x CoA 7602 (2), CoA 10321 x HR 83-65 (2), CoA 93082 x Co 89029 (2), Co 2000-10 x 2003V 46 (1), Co 87272 x CoS 88216 (3), CoA 11324 x Co 99006 (2), CoV 89101 x CoS 88216 (4), Co 0240 x Co 89029 (1), CoC 90063 x Co 94008 (1), CoA 07321 x ISH 50 (2), CoA 10321x CoH 13 (2), Co 86032 x 85R 186 (1), Co 86002 x Co 87268 (2), Co 8371 x Co 99006 (2), Co 05011 x ISH 76 (1), Co 86032 x CoT 8201 (3), Co 62198 x Co 89029 (2), 86V 96 PC (4), Co 8371 PC (3), ISH 100 PC (2), CoC 90063 PC (4), Co A 11324 GC (4), CoA 05322 GC (4), CoA 99082 GC (1), CoA 05323 GC (3), Co Jaw 270 GC (3), Co 99006 GC (1), 70A2 GC (3), CoT 8201 GC (4), Co 0233 GC (2), Co 97015 GC (3), Co 1158 GC (1), 97R 401 GC (1), Co 87044 GC (1), CoV 94101 GC (2), CoA 90081 GC (3), Co 98008GC (2), CoA 09321 GC (1), Co 0118 GC, CoA 7602 GC and CoA 07321 GC (3) produced less than five selections per cross

Performance of crosses in second clonal trial (2016-17)

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 rows	No of clones with >2.5 cm cane thickness	Superiority of the cross (Sucrose (a)/NMC (b)/cane dia (c)/red rot resistance (d))	No of clones selected
CoV 89101x ISH 69	12	4	8	-	8	-	a, b	4
CoT 8201 x 70A 2	2	2	2				a, c	1
ISH 100 x CoSe 92423	3	-	3	-	1	1	a, b, c	1
CoSe 92423 x CoC 8001	2		1	-	-	-	a	1
Co 6304 x CoA 7602	2	-	1	-	1	1	a, b, c	1
Co 740 x CoC 671	2		1	-	-	-	a	1
CoC 90063 x Co94008	9	3	6		7	7	a, b, c	3
Co 94012PC	5	4	1	-	2	2	a, b, c	1
Co 8371PC	3		1	-	-	-	a	1
Co 2000-10PC	2	1	1		2	2	a, b, c	1
86 V 96	1		1		1	1	a,b,c	1
ISH 100PC	1		1		1	1	a, b, c	1
Co 8213GC	4	3	-	-		1	a, c	1
CoA 92081GC	9	6	3		6	6	a, b, c	4
ISH 69GC	1	1			1	1	b,c	1
Co 98008GC	2				2	2	b, c	1
Co 1148GC	1		1		1	1	b, c	1
Overall in the trail	76							25

Among the 29 crosses evaluated in the second trial 12 of them including seven bi-parental crosses viz., CoV 89101 x CoA 7602, CoA 92081 x Co 94008, CoV 89101 x CoT8201, 2000 V 59 x CoA 7602, Co 2000-10 x Co 94008, CoA 7602 x SP 80-185 and Co 8371 x Co775, four general collections viz., MS 68/47GC, Co 90018GC, Co 85002GC and 89 V 74GC did not produce any selectable progenies. The clones in second clonal trial were not tested against red rot.

6.3.2.2 Cuddalore

Performance of Crosses in ground nursery (2016-17)

Cross combination	Quantity of fluff sown (g)	No. of seedlings produced	No. of seedlings evaluated	HR Brix (%)		No. of Millable canes (NMC)		Cane diameter (Cm)		No. of seedlings selected
				Mean	Range	Mean	Range	Mean	Range	
ISH 100 x Co 94008 ZC	18.5	145	107	20.15	18-21	4.30	3-5	2.75	2.3-3.0	12
CoV 89101 x ISH 69ZC	10.0	156	108	20.86	18-22	7.82	6-9	2.25	2.2-2.9	15
CoV 89101 x CoT 8201ZC	25.5	317	192	22.65	20.23	6.75	5-8	2.35	2.2-3.0	27
CoV 89101 x CoA 7602ZC	18.5	185	131	20.95	18-22	5.15	4-8	2.64	2.3-3.0	12
Co 86032 x Co 94008ZC	14.0	64	37	21.20	19-23	4.85	3-7	2.81	2.3-3.0	16
CoV 89101 x CoS 93278	13.5	337	225	20.95	19-22	2.37	4-7	2.52	2.4-2.9	27
CoC 8201 x Co 775	9.5	54	41	20.42	19-22	5.17	4-8	2.65	2.3-3.1	16
ISH 100 x Co 775	16.0	256	195	20.10	18-21	5.12	4-8	2.35	2.1-2.6	21
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 98006 x Co 775	30.5	375	282	21.65	19-24	6.75	4-8	2.52	2.2-3.0	45
CoV 89101 x Co 1148	18.0	311	207	20.17	18-22	6.13	4-9	2.65	2.4-3.0	35
Co 98006 x Co 0233	23.5	145	107	20.82	19-23	6.35	4-9	2.71	2.4-3.1	12
CoA 92081 x Co 775	11.0	153	115	20.95	19-23	7.15	5-9	2.65	2.4-3.0	15

Apart from the above, nine crosses viz., CoA 92081 x CoT 8201 (8) Co 8013 x CoC 671 (2), CoA 92081 x Co 94008 (2) Co 8371 x CoN 98133 (2) CoV 89101 x Co 06022 (1) CoC 8201 x Co 0233 (1), CoT 8201 x Co 775 (5), Co 976 x Co Pant 97222 (2) and CoM 6806 x CoPant 97222 (4) produced less than 10 selections per cross.

Performance of crosses in first clonal trial (2016-17)

Cross combination	No. of clones planted	HR Brix (%) 10 th month		HR Brix (%) 12 th month		NMC		Cane diameter (cm)	No. of clones selected
		Mean	Range	Mean	Range	Mean	Range		
CoC 90063 x Co 86011	25	20.70	19-23	21.50	20-22	6.45	5-8	2.7-3.1	10
Co 200-10 x 85 R 186	16	20.40	19-21	21.75	20-23	6.60	5-8	2.5-3.1	8
MS 68 /47 x Co 92006	16	20.35	19-22	21.10	20-22	5.90	5-8	2.7-3.1	7
Co 98010 x C 84026	08	20.50	19-21	20.95	20-22	6.15	5-8	2.5-3.1	5
Co 1148 x Co 775	10	20.55	19-22	21.30	20-22.5	6.85	5-9	2.5-3.2	7
C 79113 x Co 775	7	20.25	18-21	20.45	20-22	6.90	5-9	2.5-3.2	7
C 81165 x CoV 92102	4	20.35	19-21	21.80	20-23	5.33	5-7	2.7-3.1	7
CoV 89101 x CoT 8201	15	20.75	19-22	20.75	20-22	6.85	5-9	2.6-3.1	7
Co 85002 x ISH 175	7	20.65	19-22	21.65	20-22.5	6.85	5-9	2.6-2.95	7

Among the crosses evaluated in the first clonal trial, five crosses viz., CoV 89101 x Co 8371, Co 8371 x MS 68/47, CoN 98133 x Co 775, Co 7224 x Co 86010 and Co 86032 x Co 94008 did not produce any selectable progenies. Further 23 crosses viz., CoV 89101 x ISH 69 ZC (2), CoV 89101 x CoA 7602ZC (2), CoA 92081 x CoT 8201ZC (2), CoC x 671 x CoS 8436 (1), CoV 92102 x CoT 8201 (3), Co 1148 x Co 775 (2), Co 85002 x ISH 175 (4), MS 68 /47 x CoV 92102 (4), C 81615 x CoC 671 (2), ISH 100 x Co 94008 (1), Co 85002 x ISH 175(3), CoC 671 x Co 8436 (1), Co 8213 x CoH 119 (1), Co 92006 x CoH 119 (2), CoV 94101 x Co 62198 (4), CoM 9220 x CoV 92102 (1), Co 0240 x CoH 13 (1), Co 0233 x CoV 92102 (1), Co 8371 x 2003 V 46 (1), CoV 89101 x CoT 8201, Co 7201 x CP 5268 (2), Co 8371 x CoT 8201 (2) and MS 68/47 x Co 92006 (2) had less than five selections per cross.

Performance of crosses in second clonal trial (2016-17)

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 (Suc/NMC/ RR resistance)	No. of clones selected
CoV 89101 x ISH 69 ZC	24	2	--	-	3	5	NT	Suc, NMC	15
CoV 89101 x CoT 8201 ZC	10	-	-	-	1	2	NT	NMC, thick	04
Co 8371 x Co 775	12	-	-	-	-	4	NT	NMC, thick	6
Co 740 x CoC 671	33	-	-	-	4	7	NT	NMC	21
Co 89063 x Co 94008	12	-	-	-	1	4	NT	NMC, thick	4
C 79218 PC	32	-	-	-	3	2	NT	NMC, thick	10
Co 94012 x Co 775	10	-	-	-	-	1	NT	NMC, thick	03

Apart from the above, two crosses viz., CoA 92081 x CoV 92102 and CoV 89101 x CoA 7602 produced two selectable progenies each and three other crosses viz., CoV 89101 x CoA 7602, CoA 92081 x Co 94008 and CoA 92081 x CoT 8201 produced one selectable progeny each.

6.3.2.3 Nayagarh

Performance of crosses in ground nursery

Cross combination	Qty. of Fluff Sown (gm)	No. of Seedlings produced	Total No. of Seedlings evaluated	HR brix%		NMC		Cane Diameter (cm)		No. of seedling selected
				Mean	Range	Mean	Range	Mean	Range	
Co 1158 x Co 62198	22.5	180	110	22.8	17-26	3.6	2-7	2.2	1.5-2.8	16
Co 0238 x ISH 127	9.5	112	88	23.5	18.3-25.2	4.0	3-9	2.2	1.7-2.7	14
ISH 100 x Co 89029	24.0	192	102	25.8	24-25.6	2.3	2-8	2.3	2.0-2.5	18
Co 06035 x Co 89029	13.5	289	106	20.6	18.4-24.6	4.8	3-8	2.0	1.8-2.6	18
Co 92013 x BO 91	45.5	805	114	24.6	20.2-26.5	3.8	3-12	2.3	1.8-2.6	23
Co 06036 x Co 1158	15.0	120	86	22.6	22.0-25.2	4.2	2-9	2.3	2.1-2.4	12

Co 0327 x ISH 69	13.5	112	74	22.4	18.6-25.8	2.6	2-6	2.3	2.2-2.4	10
CoV 89101 x Co 1148	34.0	210	114	20.8	20.8-24.2	4.6	3-10	2.3	1.8-2.5	12
CoV 89101 x ISH 69	24.0	224	102	22.6	20.8-25.6	3.7	2-8	2.2	1.9-2.4	12
CoA 92081 x CoT 8201	7.5	65	32	26.3	22.2-26.8	4.6	2-10	2.4	1.9-2.6	12
CoV 89101 x CoT 8201	24.5	458	128	23.5	22.6-24.7	3.7	2-8	2.3	1.9-2.5	16
CoV 89101 x CoA 7602	19.0	210	95	20.6	22.6-26.4	2.8	3-10	2.4	2.2-2.8	12
Co 06027 x CoC 671	33.5	248	102	22.6	20.8-26.4	3.6	3-6	2.3	1.8-2.5	13
Co 88013 GC	30.5	210	90	26.0	22.3-27.5	4.2	2-7	2.4	1.9-2.5	12
Co 7424 GC	33.0	120	60	25.5	22.6-27.2	4.1	1-12	2.2	1.9-2.4	10

Apart from the above crosses having more than 10 selections per cross, seven bi-parental crosses viz., Co 85002 x Co 775 (8), CoC 8001 x ISH 69 (8), CoA 13327 x CoH 70 (8), ISH 100 x Co 94008 (8), Co 8013 x CoC 671 (6), Co 86032 x Co 94008 (8) and CoC 671 x Co 1148 (6), two general collections viz., ISH 28 GC (8) and ISH 306 GC (9) and 12 poly-crosses viz., Co 94012 PC (6), CP 52-68 PC (8), CoC 90063 PC (6), CoV 89101 PC (7), Co 7201 PC (5), CoA 7602 PC (6), Co 2000-10 PC (4), ISH 100 PC (6), 86 V 96 PC (3), CoC 671 PC (7), CoM 0265 PC (4) and Co 85002 PC (4) produced less than 10 selectable progenies per cross.

Performance of crosses in the first clonal Trial

Cross combination	No. of clones planted	HR brix at 8 month		HR brix at 10 month		HR brix at 12 month		NMC		Cane Diameter (cm)		No. of clones selected
		Mean	Range	Mean	Range	Mean	Range	Mean	Range	Mean	Range	
Co 86023 x Co 94008	10	20.0	18-22.4	22.2	20.2-24.0	23.0	21.5-24.6	100	98-103	2.3	1.9-2.4	2
CoV 89101 x ISH 69	5	18.5	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 90063 x Co 94008	8	18.5	17.9-20.2	20.6	20.0-21.5	22.2	21.6-23.0	90	84-102	2.0	1.8-2.2	3
Co8371 x Co 99006	15	19.2	18-20.2	20.6	19-24.5	22.3	20.6-24.9	92	88-106	2.2	1.8-2.5	2
Co 11001GC	6	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
CoT 8201 GC	12	16.8	16.4-17.2	20.3	18-21	22.8	20.4-24.6	112	102-114	2.2	2.0-2.3	2
Co 8213 GC	4	18.5	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
CoA11326 GC	6	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
Co85002PC	12	16.8	16.4-17.3	18.8	18.4-20.0	20.6	19.6-21.2	102	98-106	2.3	1.8-2.6	3
86V46PC	8	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
CoC90063PC	6	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

Apart from the above, from eight bi-parental crosses viz., CoV 89101 x CoA7602, CoV 89101 x CoT 8201, CoA 92081 x CoT 8201, Co 86002 x BO 91, CoV 89101 x ISH 69, Co 8213 x Co 1148, CoA 90081 x Co 62198 and CoOr

03152 x Co 06037, seven general collections viz., Co 0233 GC, Co 97015 GC, Co 1158 GC, Co 99006 GC, CoOr 03152 GC, CoC 671 GC and Co 89003 GC and two poly-crosses viz., Co 8371PC and ISH 100PC one selection each were effected.

Performance of crosses in the 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 > 2.5cm cane thickness	No. of Red rot Resistant clones	Superiority of the cross (Sucrose/NMC/ Cane dia./Red Rot resistant
ISH 100 x Co 775	6	-	-	-	2	2	NT	NMC/Cane dia
CoA 92081 x Co 62198	4	-	-	-	1	1	NT	NMC/Cane dia
85 R 186 x C 81615	3	-	-	-	1	1	NT	NMC/Cane dia
CoC 671 x CoT 8201	5	-	-	-	2	2	NT	NMC/Cane dia
Co 98010 x CoOr 04152	2	-	-	-	1	1	NT	NMC/Cane dia
C 79180 x Co 86249	3	-	-	-	2	2	NT	NMC/Cane dia
97 R 383 x ISH 229	2	-	-	-	1	1	NT	NMC/Cane dia
85 R 186 x ISH 229	2	-	-	-	1	1	NT	NMC/Cane dia
Co 0118 x ISH 2	1	-	-	-	1	1	NT	NMC/Cane dia
Co 98014 x ISH 229	3	-	-	-	1	1	NT	NMC/Cane dia
Co 0223 x Co 94008	4	-	-	-	2	2	NT	NMC/Cane dia
CoA 92081 x CoT 8201	1	-	-	-	1	1	NT	NMC/Cane dia
CoV 89101 x ISH 69	3	-	-	-	1	1	NT	NMC/Cane dia
CoA 92081 x CoV 92102	4	-	-	-	1	1	NT	NMC/Cane dia
CoC 90063 x Co 94008	2	-	-	-	1	1	NT	NMC/Cane dia
CoV 89101 x CoA 7602	2	-	-	-	1	1	NT	NMC/Cane dia
Co 740 x CoC 671	3	-	-	-	1	1	NT	NMC/Cane dia
CoM 0265 PC	2	-	-	-	1	1	NT	NMC/Cane dia
ISH100 PC	4	-	-	-	1	1	NT	NMC/Cane dia
86 V 46 PC	2	-	-	-	1	1	NT	NMC/Cane dia
Co 2000-10 PC	1	-	-	-	1	1	NT	NMC/Cane dia
CoC 90063 PC	2	-	-	-	1	1	NT	NMC/Cane dia
Co7201 PC	1	-	-	-	1	1	NT	NMC/Cane dia

Co 62198 GC	3	-	-	-	1	1	NT	NMC/Cane dia
CoA 7602 GC	2	-	-	-	1	1	NT	NMC/Cane dia
Co 98008 GC	1	-	-	-	-	-	NT	NMC/Cane dia
Co 7704 GC	1	-	-	-	1	1	NT	NMC/Cane dia
Co 87271 GC	1	-	-	-	1	1	NT	NMC/Cane dia

* The clones were not tested against red rot pathogen

Among the crosses tested in second clonal trial, four bi-parental crosses viz., CoA 92081 x Co 94008, ISH 100 x C 81615, Co 6304 x CoA 7602, Co 8371 x Co775, six poly-crosses viz., Co 94012 PC, Co 85002 PC, CoA 7602 PC, CoC 671PC, CP 52-63 PC and Co 8371 PC and two general collections viz., Co 89010 GC and C 81615 GC did not have any selection.

6.3.2.4 Vuyyuru

Performance of crosses in ground nursery

Cross combination	Quantity of fluff sown (g)	No of seedlings produced	No. of seedlings evaluated	HR brix (%)		Number of millable canes (NMC)		Cane diameter (cm)		No.of seedlings selected
CoV 89101 x ISH 69 ZC	21.5	495	184	23.30	21.40-24.80	115.6	95.00-145.00	2.43	1.76-3.09	9
CoV 89101 x CoT 8201ZC	19.5	700	195	23.59	20.10-25.50	146.8	125.00-208.30	2.41	2.16-3.04	7
	31.0	269	148	23.96	21.70-25.60	133.52	100.00-155.00	2.19	2.05-2.42	5
CoLk 7901 x BO 32	21.5	768	308	23.28	22.40-24.50	155.13	133.30-186.70	2.21	1.90-2.69	10
CoP 06436 x Co 62198 (6)	11.0	292	127	23.33	22.80-24.60	145.82	83.30-130.00	2.25	1.84-2.36	6
Co 09022 x Co 89029	20.5	168	103	23.41	21.50-26.20	155.66	138.00-185.00	2.37	2.05-2.67	7
CoV 89101 GC	71.5	550	225	23.09	21.90-25.60	156.13	126.30-208.30	2.53	2.29-2.78	10

Apart from the above crosses having more than five selections per cross, 10 bi-parental crosses viz., ISH 100 x Co 94008 ZC (1), Co V 89101 x Co A 7602 ZC(4), Co 8013 x Co C 671ZC (3), Co J 83 x Co 89029 (1), LG 95053 x HR 83-65 (1), Co 1158 x HR 83-65 (1), Co 8353 x Co S 510 (2), BO 91 x Co S 08272 (2), CoLk 8102 x Co 62198 (5) and ISH 100 x CoH 12 (2), four poly-crosses viz., CP 52-68PC (1), Co A 7602PC (1), Co 2000-10 PC (1) and Co8371PC (4) and two general collections viz., 89 V 74 GC (3) and Co 92002 GC (1) had less than five selections per cross. Eleven bi-parental crosses viz., CoA 92081 x Co T 8201, Co 86032 x Co 94008, CoA 92081 x Co 94008 CoSnk 05103 x BO 130, CoSnk 05103 x Co 0235, Co 1158 x ISH 287, CoN 05071 x Co H 15, CoS 96268 x BO 130, UP 9530 X BO 32, Co N 05071 X ISH 150 and Co 0237 X Co 1148 and nine poly-crosses viz., CoC 90063PC, Co 94012 PC, Co V 89101 PC, Co 7201PC, ISH 100 PC, Co V 94101PC, Co C 671PC, Co M 0265PC and Co 85002PC and five general collections viz. Co 92006 GC, CoA 92081 GC, CoA 05323 GC, CoV 94101 GC and CoV 92102 GC did not establish and hence no selection were effected in these crosses in the ground nursery.

Performance of crosses in first clonal trial

Cross combination	No. of clones planted	HR –Brix at 10 th month		Number of millable canes (NMC) (000s/ha)		Cane diameter (cm)		No. of clones selected
		Mean	Range	Mean	Range	Mean	Range	
CoV 89101 x CoT 8201	8	24.03	23.3-24.5	70.625	65.0-87.5	2.71	2.39-2.93	4
69 A 591 x Co 62198	16	23.83	23.3-24.3	72.500	60.0-92.5	2.76	2.49-3.05	3
CoC 90063 x Co 94008	7	24.55	24.4-24.8	94.375	67.5-107.5	2.70	2.44-2.91	4
CoSnk 05-103 x Co 62198	13	25.40	23.4-25.1	56.250	52.5-60.0	2.66	2.63-2.69	2
CoSe 96436 x 2000 V 59	10	24.98	24.4-25.9	59.375	45.0-70.0	2.50	2.50	4
CoV 89101 x 2000 V 59	27	24.97	23.5-26.8	76.091	50.0-95.0	2.69	2.50-2.99	11
Co 99006 x Co 62198	14	25.62	23.8-27.3	81.500	52.5-102.5	2.63	2.41-3.06	5
Co 8338 GC	11	24.93	23.8-27.0	83.333	60.0-120.0	2.73	2.43-2.98	6
CoC 671 x CoT 8201	4	25.00	24.7-25.3	61.250	60.0-62.5	2.72	2.41-2.89	2
UP 9530 x Co 775	5	23.97	23.6-24.6	78.333	57.5-112.5	2.56	2.40-2.73	3
Co 99006 x CoSe 92423	10	25.45	25.2-25.7	70.000	57.5-102.5	2.48	2.39-3.00	2

No selections were made in eleven bi-parental crosses viz., UP9530 x Co62198, C 79218 x CoA 7602, CoJaw 270 x Co 89029, CoJaw 270 x CoH 15, Co 740 x Co 62198 and MS68/47 x 89 V 74, ISH 100 x Co 94008, 2000 V 59 x Co1148, Co 99006 x CoJaw 270, ISH100 x Co 89029 and CoV 89101 x ISH69, four poly crosses viz., ISH100 PC, Co 85002 PC, CoV 89101 PC, CP52-68 PC and four general collections viz., Co 92006 GC, Co 8013 GC, CoV 89101 GC and 93 V 297 GC. One selection each was made in the six bi-parental crosses Co 8371 x Co 99006, 85 R 186 x Co 1148, Co 86032 x Co 94008, Co 0240 x Co 775, CoV 89101 x CoA 7602, CoJ 64 x Co 87268 and three poly-crosses Co A 7602 PC, Co 7201 PC and Co 94012 PC and two general collections viz., 97 R 129 GC and Co 99006 GC

Performance of crosses in second clonal trial

Cross combination	No. of clones planted in C1 and Ratoon in C2	No. of clones with > 20% sucrose at 240 days	No. of clones with > 22 % sucrose at 300 days <u>H.R.Brix (>22%)</u>	No of clones with > 22% sucrose at 360 days	No. of clones with > 70NMC /20'row (<u>000s per ha</u>)	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
97 R 401 x Co 8213	22		2 (24.9, 27.5)		1	2	Resistance to red rot will be tested on clones promoted to Main yield trials.	a,c	2
CoC 90063 x Co 94008	9		1 (25.1)		1	1		a,b,c	1
ISH 100 x Co 86249	3		1(24.2)		1	1		b, c	1
CoA 92081 x CoT 8201	2		2(23.4,24.1)		2	-		b	2
CoV 89101 x ISH 69	13		3(24.8,24.9,26.1)		2	3		a,b,c	3
CoC 671 x Co 94008	14		1(26.5)		1	-		a	1
Co 94012 PC	7		1(23.6)		1	1		c	1
Co 85002 PC	14		2(24.6,24.7)		1	-		a	2
ISH 100 x C	7		1(24.3)		1	1		b	1

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Co 94012 x Co 94008	6		1(24.3)		-	1		c	1
ISH 175 x CoV 92102	6		9(25.7,26.1)		2	2		a,b,c	2
CoV 92102 GC	2		1(24.7)		1	1		c	1
Co 90018 GC	6		1(24.2)		1	-			1
CoV 94101 GC	8		1(28.5)		-	1		a,c	1
CoV 89101 x Co 775	3		2(23.9,24.5)		2	2		c	2
Co 99006 x Co 775	2		1(23.8)		1	1		c	1
97 R 129 GC	5		1(23.5)		1	1			1

No selections were made in the 12 bi-parental crosses viz., CoM 0265 x CoT 8201, Co 88025 x CoC 8001, Co 740 x Co 775, CoA 93082 x Co 94008, Co 8371 x CoSe 92423, C 79218 x Co 62174, CoA 92081 x Co 86249, Co 99006 x Co 775, CoV 94101 x MS 68/47, CoA 90081 x ISH 69, CoV 89101 x CoT 8201 and Co 8371 x Co 775 and five general collections viz., Co 93009 GC, Co 84070 GC, 89 V 74 GC, Co 92006 GC and Co 7424 GC and two poly crosses Co8371 PC and Co 2000-10 PC in the second clonal trial conducted at Vuyyuru center.

6.3.3 North West Zone

Among the six centers in this zone, five centers namely Faridkot, Kapurthala, Pantnagar, Shahjahanpur and Uchani provided the data in the format for identification and evaluation of zonal crosses. Lucknow center did not provide the data.

6.3.3.1 Faridkot

Performances of crosses in ground nursery (2015 Series, Sown 2016-17)

Cross Combinations	Quant ity of fluff sown (g)	No. of seedlin gs produc ed	Total number of seedlings evaluated	HR Brix at 10th Months		Number of millable canes		No. of seedling s selected
				Mean	Range	Mean	Range	
Co 98010 x CoSe 92423	17.5	58	55	17.70	15.00-20.00	4.00	1-11	32
Co 86032 x CoSe 92423	43.5	43	40	18.81	15.00-21.20	3.83	1-10	33
CoC 671x CoSe 92423	37.5	30	25	17.50	10.50-21.60	3.32	1-8	16
MS 68/47x CoT 8201	23.5	67	47	15.99	11.20-20.20	1.71	1-5	11
CoJ 80 x SP 80-185	28.0	49	46	18.19	12.00-21.20	2.87	1-7	30
CoJ 83 x CoT 8201	28.5	29	26	17.87	12.00-21.50	4.15	1-12	11
Co 86032 x 85R186	25.5	33	32	19.05	17.00-21.40	3.66	1-7	29
CoN 05071 x CoJ46	42.0	38	37	17.08	15.00-20.20	4.86	1-10	16
Co 86002 x CoH15	13.0	48	43	19.68	14.20-22.40	3.18	1-10	29
BO 91 x Co 453	12.0	33	28	17.27	14.20-20.40	2.96	1-7	13
LG 95053 x BO 91	15.0	29	28	18.73	15.20-22.20	3.89	1-9	20
Co 98010 x Co 1148 (8)	9.5	18	16	17.49	15.20-20.40	3.44	1-7	8
Co 98008 x Co775	11.0	29	28	17.68	12.30-20.20	3.07	1-7	20
CoS 8436 x CoPant 97222	15.5	18	17	18.35	14.50-20.80	3.12	1-7	14
Co 0238 x CoSe 92423	15.50	33	31	18.81	12.00-22.00	3.32	1-8	24
MS 68/47x CoV 92102	22.50	55	38	17.72	13.00-20.50	2.18	1-6	22

Observation on cane diameter was not taken in the ground nursery. No seedlings were obtained in the two crosses viz., CoJ 80 × Co 775 and CoJ 80 x 85 R 186. Less than 10 selections were made in CoC 671 × ISH 69 (3) CoJ 64 × ISH 69 (3), Co 98010 × CoS 8436 (4), CoC 671 × Co 775 (3), Co 0237 × CoS 8436 (1), Co 98008 × Co 89003 (4) and CoS 8436 × Co 89003 (9).

Performance of crosses at first clonal trials

Cross Combinations	No. of clones planted	HR Brix at 8th months		HR Brix at 10th Months		HR Brix at 12th Months		NMC		No. of clones selected
		Mean	Range	Mean	Range	Mean	Range	Mean	Range	
CoC 671x CoSe 92423	12	14.67	12-19	18.72	15-21	19.40	16-23.6	15.58	3-26	7
5/22 x CoT 8201	20	13.65	11-19.2	17.73	14-21	18.85	14.4-21.	13.75	4-26	4
5/22 x CoSe 92423	59	14.25	10-18.5	16.90	12-20	17.52	15-20.4	15.33	4-34	6
CoS 8436 x Co 89003	16	15.44	11-17.4	17.24	13.2-19	18.41	17-20	14.00	4-27	6
Co 98010 x Co 1148	40	13.91	9.8-18.6	20.33	10-21.5	18.26	16-22.2	16.98	4-43	4
CoJ 83 x Co 62198	39	15.41	12-21	17.82	15.9-22	18.73	16-22.2	11.93	1-24	2
CoJ 88 x ISH 69	10	14.67	11-18	18.03	15.7-20	19.63	17-21.2	15.40	6-19	3
Co 98010 x CoSe 92423	34	14.07	10-17	16.57	11-19.2	17.76	13.2-22	16.65	5-35	2

Besides 34 selections from the above crosses, one selection each was made in three crosses viz., MS 68/47 x CoV 92102, Co 0238 x CoSe 92423 and CoJ 88 x CoSe 92423. No selections were made from the 21 crosses viz., Co 98008 x Co 775, ISH 100 x CoSe 92423, Co 98010 x CoS 8436, Co 8371 x CoT 8201, Co 98008 x CoPb 10182, Co 98010 x Co 94008, Co 8213 x Co1148, Co 8213 x CoSe 92423, Co8371 x ISH 69, CoJ 64 x Co 62198, CoJ 64 x ISH 69, CoJ 83 x CoPant 97222, Co7314 x Co1148, BO 91 x Co 453, LG 95053 x BO 91, CoS 8436 x CoPant 97222, 28 NG 20 x Co 85002, 28 NG 39 x CoS 90265, IG 76-545 x CoS 92423, IG 76-494 x Co 1148 and 57 NG 159 x CoT 8201. Seedlings of the crosses Co 86002 x Co 8213, and 57 NG 155 x Co1148 did not establish in the ground nursery. Observation on cane diameter was not reported by the Faridkot centre in the first clonal trial.

Performance of crosses in second clonal trials

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 / 20 rows	No. of clones with > 2.5 cm cane thickness	No. of red rot resistant clones	Superiority of the crosses (Sucrose/ NMC/ Cane Dia/ Red rot resistant)	No. of clones selected
CoH 110 x Co 97015	9	0	0	0	9	N	N	NMC & Sucrose	6
BO 91x Co 1148	1	0	0	0	0	O	O	Sucrose	1
CoC 98008 x Co775	1	0	0	0	0	R	R	Sucrose	1
Co 0238 x CoSe 92423	8	0	0	0	8	E	E	NMC & Sucrose	2
CoS 8436 PC	2	0	0	0	2	P	P	NMC & Sucrose	1
CoV 89101 GC	1	0	0	0	1	O	O	NMC & Sucrose	1
CoS 8436 GC	8	0	0	0	8	R	R	NMC & Sucrose	2
CoPant 88219 GC	3	0	0	0	3	T	T	NMC & Sucrose	1

No selections were effected in the 13 bi-parental crosses viz., Co 98010 x Co 775, CoH119 x Co 97015, Co 2000-10 x CoS 92423, Co 2000-10 x CoS 8436, Co 85002 x CoS 92423, LG 95055 x BO 91, CoS 8436 x CoPant 97222, CoS 8436 x Co 89003, Co 2000-10 x Co 1148, CoH ? x Co 8213, Co 8213 x CoSe 92423, ISH 100 x CoSe 92423, Co 85002 x Co 1148, four poly-crosses viz., Co 7201PC, CoSe 92423 PC, CoS 95422 PC and CoPb10183 PC and 21 general collections viz., CoJ 83 GC, CoJ 88 GC, CoJ 82191 GC, CoJ 92 GC, CoH 106 GC, CoH 110 GC, CoLk 94184 GC, ISH 128 GC, CoLk 8002 GC, CoPb 10182 GC, Co 2000-10 GC, Co 8371 GC, BO 86 GC, CoLk 8102 GC, Co 86002 GC, CoJ 83 GC, CoSe 92423 GC, CoH119 GC, CoH 114 GC, ISH 287 GC and CoPant 90224 GC evaluated in the second clonal trial at Faridkot.

6.3.3.2 Kapurthala

Performance of Ground nursery 2016-17 (Planted in 2015, Ratooned in January 2016)

Cross combination	No of seedlings produced	Total number of seedlings evaluated	HR brix (%) 8 months	HR brix (%) 10 months	Number of Millable canes (NMC) per clump	Cane diameter (cm)	No. of cones selected
			Range	Range	Range	Range	
Co 775 GC	544	501	11.00-18.4	14.1-20.0	2-6	1.3-2.5	
CoJ 82315 GC	514	464	8.00-16.00	9.1-17.3	3-7	1.5-2.8	
CoH 99 GC	397	366	17.1-20.3	18.0-20.0	2-7	1.5-3.0	N
Co 7201 PC	256	214	9.0-19.0	10.0-20.0	3-5	1.7-2.9	O
CoSe 95422 PC	309	155	4.0-18.4	5.0-20.5	3-9	1.2-3.32	T
CoJ 88 PC	332	145	4.0-16.3	6.0-20.0	3-9	1.2-2.35	
CoS 8436 PC	566	116	4.0-17.4	7.0-20.0	3-8	1.5-3.0	R
Co 0118 x CoPant 97222	67	67	7.1-19.1	21.0-9.1	4-8	2.1-2.8	E
CoS 8436 x CoPant 97222	17	17	7.0-17.2	7.0-18.2	3-8	1.8-3.1	P
CoV 89101 GC	207	207	3.0-21.0	5.1-21.1	2-8	1.5-3.0	O
CoJ 82315 x SP 80-185	7	7	15.3-16.3	16.3-17.2	4-5	2.0-2.8	R
SP 80-185 GC	601	106	6.0-20.2	9.1-21.1	2-9	1.5-2.5	T
CoS 8436 GC	53	53	9.0-19.0	10.0-20.0	2-4	1.8-3.0	E
CoV 89101 PC	106	106	7.0-20.3	11.0-21.3	3-6	1.4-2.8	D
CoJ 83 GC	159	106	8.0-19.0	11.2-20.3	2-7	1.2-3.1	
CoJ 88 GC	212	212	7.0-19.3	8.1-21.0	3-7	1.6-2.8	
Overall in the trial	6793	4369					

The above crosses had better performance either for quality or for cane characters. Other crosses evaluated in the trial that performed better for few economic traits are CoJ 65 GC, ISH 69 GC, Co 89003 GC, Co 1148 GC, CoJ 46 GC, CoH 133 GC, CoT 8201 GC, CoSe 92423 PC, CoJ 83 PC, CoH 110 GC, CoJ 83 x CoPant 97222, Co 0238 x CoSe 92423, Co 7314 x Co 1148, BO 91 x Co 453, CoS 8436 x Co 89003, Co 0118 x CoSe 92423, CoPb 10181 GC, ISH 100 PC and CoSe 92423 GC

Performance of crosses at first clonal trial (2016-17)

Cross combination	No of clones planted	HR brix (%) 8 month	HR brix (%) 10 month	HR brix (%) 12 month	NMC/plot (3.0m ²)	Cane diameter (cm)	No. of cones selected
		Range	Range	Range	Range	Range	
CoS 8436 PC	21	9.0-14.2	9.2-18.0	10.2-20.0	13-62	1.5-2.5	N
MS 68/47 x CoV 92102	11	9.0-16.5	9.1-19.5	10.1-19.5	19-63	1.4-2.8	O
CoJ 84 x CoV 92102	4	13.1-16.2	14.5-19.5	16.5-21.5	7.0-58.0	1.2-3.1	T
CoH 99 (GC)	58	10.5-19.1	12.1-20	13.5-20.8	14-87	1.6-3.4	R
CoSe 95422 PC	8	10.5-19.0	12.5-20.0	13.5-21.0	13-62	1.3-2.5	E
CoJ 86 x Co 89003	11	9.0-16.5	12.0-18.0	15.0-19.0	7.0-50	1.5-2.8	P
Co 617 GC	4	9.1-17.5	13.0-20.1	14.0-20.5	16-61	1.2-2.5	O
Co 94012 x CoPant 97222	2	10.65-15.0	10.8-19.0	11.8-21.0	31-47	1.8-3.1	R
Bo 91 x Co 453 (NWZ)	3	12.15-16.2	12.8-18.3	14.7-19.6	27-77	1.4-2.8	T
CoBln 05501GC	33	7.2-16.1	9.1-19.0	11.1-20.0	9.0-63	1.7-2.5	E
Co 86002 x Co 1148	10	9.0-16.0	13.1-18.0	15.5-20.0	11.0-49	1.4-2.5	D
Over all in the trial	385						

Other crosses evaluated in the trial that performed better for few economic traits are IJ 76545 x CoT 8201, Co 98010 x Co 1148, Co 89003 x CoS 8436, Co 98009 x Co 775 (NWZ), Co 98008 x Co 775 (NWZ), Co 89029 x LG 94114, Co 7314 x Co 1148 (NWZ), LG 95053 x BO 91 (NWZ), Sel 922198 x CoV 92102, CoC 671 x Co 1148, CoJ 82315 x CoV 92102, Sel 922198 x Co 1148, CoJ 82315 x Co 94008, CoS 8436 x Co 89003 (NWZ), CoLk 8102 x Co 419, Co 0238 x CoSe 92423 (NWZ), 28 NG 39 x CoT 8201, CoJ 83536 x Co 89003, CoJ 88 x Co 94008, CoH 119 x LG 97147, CoS 8436 x CoPant 97222, 5/22 x CoS 90265, CoC 671 x CoSe 92423, CoJ 83 PC, Co 7201 PC, CoSe 92423 PC, CoL 29 GC, CoLk 8102 GC, CoH 110 GC, CoS 8436GC, Co 7201 GC, CoJ 88 GC, CoJ 83 GC and CoJ 46 GC.

Performance of second clonal trial (2016-17)

Cross combination	No of clones planted	HR Brix 8 Months Range	HR Brix 10 Months Range	NMC/plot (18.0 m ²) Range	Cane diameter Range	No. of cones selected
Co 976 GC	3	15.65-18.03	16.4-19.25	227-266	1.87-3.3	
CoSe 95422 GC	2	16.75-16.83	17.36-18.04	147-219	2.61-3.11	N
CoJ 86 GC	1	16.65	18.15	328	3.02	O
CoV 89101	6	16.4-17.12	13.33-19.07	217-311	1.6-2.7	T
CoJ 88 GC	3	12.97-15.9	15.35-18.55	198-266	2.83-3.33	
Co 7314 x Co 1148	3	14.1-16.07	15.17-17.55	183-292	2.97-3.43	R
CoPant 97222 GC	5	14.07-16.87	16.8-19.37	171-289	1.5-2.6	E
CoH 92 GC	3	9.66-16.25	11.53-17.72	202-262	1.5-2.9	P
CoL 9 GC	4	11.1-16.15	12.5-18.07	113-249	2.0-3.4	O
Co 98010 x Co 775	3	11.5-18.1	15.03-19.76	140-368	1.92-3.07	R
CoJ 88 x CoS 8436	5	12.3-17.02	15.37-18.12	219-332	2.02-2.57	T
CoH 119 GC	9	13.12-16.35	15.3-19.12	181-251	2.1-2.7	E
CoJ 88 x Co 89003	4	14.8-17.8	17.15-19.82	191-288	2.1-2.55	D
Over all in the trial	110					

Other crosses evaluated in the trail that performed for better few economic traits are 12 bi-parental crosses viz., CoJ 86 x Co 89003, CoJ 77 x Co 85002, CoJ 87 x Co 775, CoJ 88 x ISH 69, CoJ 82315 x 5/22, ISH 1 x Co 86002, CoJ 83536 x CoPant 90222, LG 95053 x BO 91, CoJ 88 x Co 86002, CoJ 82191 x IJ 76-545, ISH 100 x LG 72115 and CoJ 82315 x CoJ 86 and 17 general collections viz., CoLk 8102 GC, Co Pant 1215 GC, ISH 100 GC, ISH 1 GC, CoJ 87 GC, CP 44-101 GC, Co 1158 GC, CoJ 88 GC, CoJ 65 GC, CoJ 89 GC, Co 85002 GC, CoSe 92423 GC, CoJn 862072 GC, CoV 92102 GC, CoA 7602 GC, CoH 110 GC and CoJ 61 GC

6.3.3.3 Pantnagar

Performance of crosses in the ground nursery was not reported by the center.

Performance of clones in first clonal trial

Cross combination	No. of clones planted	HR brix at 12 th month		NMC		Cane diameter (cm)		No. of clones selected
		Mean	Range	Mean	Range	Mean	Range	
Co 86002 X CoS 510	7	18.21	16.00-21.50					
CoJ 83 X Co Pant 1215	2	20.00	17.00-23.00					
CoS 8436 X Co 89003	16	18.16	15.00-22.50					
CoS 8436 PC	17	16.91	13.00-22.00					
CoS 92423 PC	4	18.75	16.50-22.50					
Co 7717 GC	12	17.85	15.00-21.50					
Co 775 GC	7	16.41	12.50-21.00		N	N	N	N
Co Pant 97222 GC	8	18.81	16.00-22.00		O	O	O	O
CoJ 88 GC	7	18.58	16.50-23.00		T	T	T	T
CoS 90269 GC	4	19.66	19.00-21.00					
CoPant 99214 X Co1148	16	18.14	15.00-20.00		R	R	R	R
CoS 8436 X CoPant97222	15	18.14	16.00-22.50		E	E	E	E
CoBln4175 X CoPant97222	6	19.33	18.00-22.00		P	P	P	P
Co7314 X Co1148	16	19.40	17.00-23.00		O	O	O	O
CoLK94184 X CoPant97222	13	21.23	19.00-24.00		R	R	R	R
Co98008 X Co775	6	18.66	18.00-21.50		T	T	T	T
BO91 X BO128	14	19.60	17.50-22.50		E	E	E	E
Co238 X Co1148	18	19.66	16.00-22.00		D	D	D	D
Co238 X CoPant 97222	2	18.50	17.50-19.50					

Above crosses recorded either average brix of more than 18 % or had individual with more than 20 % H.R. brix. Other crosses evaluated in the trial are 14 bi-parental crosses viz., CoS 8436 x Co 86249, BO 91 x Co 453, BO 91 x Co Pant 96219, Co 98010 x Co1148, Co 0238 x Co 775, Co 0238 x CoSe 92423, CoJ 64 x CoH 70, Co J 64 x CoH 70, CoS 8436 x Co 89003, Co Pant 99214 x Co 1148, ISH100 x Co775, Co 0238 x Co775, CoS 91269 x Co 62198 and LG 95053 x BO 91, four poly-crosses viz., CoV 89101PC, Co 7201 PC, CoJ 83 PC and CoJ 99192 PC and 19 general collections viz., Co 0237 GC, Co Pant 84212 GC, Co Pant 84213 GC, Co Pant 90223 GC, Co Pant 90224 GC, Co Pant 96219 GC, Co Pant 98224 GC, Co Pant 99214 GC, CoH 70 GC, CoLk 7901 GC, CoH 97169 GC, CoLk 97169 GC, CoLk 98148 GC, CoS 92263 GC, CoS 99261 GC, CoSe 95422 GC, CoT 8201 GC, UP 22 GC and UP 9530 GC.

Performance of crosses in second clonal trial

It was reported by the center that second clonal trial was not available last year.

6.3.3.4 Shahjahanpur

Performance of crosses in ground nursery (2015 Crosses of fluff supply programme)

Cross combination	Quantity of fluff sown	No. of seedlings produced	No. of seedlings evaluated	H.R. Brix (%)		NMC		Cane diameter (cm)		No. of seedlings selected
				Mean	Range	Mean	Range	Mean	Range	
CLk 8102 x BO 130	33.5	145	113	15.96	11.2-20.6					
CoLk 8102 x CoPb 13183	52.0	315	252	16.46	11.2-20.6					
CoS 08279 x BO 32	45.5	1175	786	15.34	11.2-21.0	N	N	N	N	N
CoS 88216 x Co 89029	29.0	08	06	17.48	15.8-19.6	O	O	O	O	O
CoS 08279 x Co 62198	21.5	190	168	15.62	11.0-20.3	T	T	T	T	T
Co 87268 x CoS 510	39.5	80	63	16.24	12.8-20.2					
CoV 89101 x Co Pant 97222	23.0	1080	772	16.18	11.2-20.8	R	R	R	R	R
CoV 89101 x Co 1148	21.0	760	552	17.45	11.0-22.0	E	E	E	E	E
BO 91 x Co 775	13.0	295	252	15.52	11.0-20.2	P	P	P	P	P
CoV 89101 Self	27.5	120	70	15.38	11.4-21.0	O	O	O	O	O
Co 98010 x Co 775 ZC	12.0	170	1344	15.08	11.0-20.2	R	R	R	R	R
Co 98008 x Co 94008 ZC	9.5	50	336	15.96	11.0-20.2	T	T	T	T	T
CoS 8436 x Co 89003 ZC	12.0	148	120	19.73	16.4-22.0	E	E	E	E	E
CoLk 8102 x Co 89003 AG	20.5	260	195	16.77	12.4-21.2	D	D	D	D	D
Overall in the trial	966.5	7788	5584							

Among the 50 crosses and selfs evaluated in ground nursery, the above crosses recorded either average brix of more than 17 % or had individual with more than 20 % H.R. brix. Twenty station crosses viz., CoSe 01434 x CoPb 13183, CoS 08272 x ISH 150, CoS 07233 x CoH 15, Co 1158 x Co 62198, CoJ 88 x Co 1158, CoS 96268 x BO 130, CoJ 88 x Co 1158, CoS 96260 x CoH 70, Co 0238 x CoS 93278, CoSe 01434 x CP 62-23, CoS 96275 x ISH 69, Co 7915 x CoH 70, Co 8371 x Co 1148, CoS 97261 x Co 775, CoS 08272 x Co 775, CoLk 94184 x Co 1148, CoLk 8102 x Co 775, CoA 7602 x CoS 8436, CoA 7602 x Co 775 and ISH 100 x Co 1148, two zonal crosses viz., Co 98008 x Co 89003 ZC and Co 0237 x CoS 8436 ZC and four crosses effected at SBIRC, Agali viz., CoLk 94184 x BO 89 AG, CoPb 09181 x Co 89029 AG, Co Pant 84213 x HR 83-65 AG, Co 1148 x CoA 7602 AG produced progenies with lesser quality. Ten bi-parental crosses viz., CoS 08272 x Co 62198, LG 94164 x CoPb 13183, CoS 96275 x BO 130, CoS 97261 x Co 89029, CoS 96268 x CoS 93278, Co 0238 x CoSe 92423 ZC, CoLk 94184 x CoPant 97222 AG, Co 8347 x Co 86011AG, Laukana x CoS 8436AG and CoS 8436 x Co 775 AG and a self CoS 08279 Self did not establish in the ground nursery.

Performance of crosses in first clonal trial (2015-17)

Cross combination	No. 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)		No. of clones selected
		Range	Mean	Range	Mean	Range	Mean	Range	Mean	Range	Mean	
Co 0238 x CoSe 92423	95					11.9-20.4	16.15					12
LG 99006 x CoH 129	196					10.6-20.8	15.70					11
CoSe 92423 x CoS 8436	45					11.2-17.6	14.40					03

CoS 8436 x Co 1148	21					12.1-17.3	14.70					04
CoSe 95422 x Co Pant 97222	24					11.3-18.7	15.00					03
CoH 70 x CoS 96275	104					9.0-15.8	12.40					10
CoS 97261 x Co 775	45					11.7-20.2	15.95					06

Apart from the above crosses two selection per cross were made in 12 crosses viz., CoV 89101 x CoS 510 (2), CoS 8436 x CoS 96260 (2), Co 0238 x CoS 510 (2), CoS 8436 x CoS 510 (2), Co 0238 x Co 1148 (2), CoLk 8102 x NCO 310 (2) and CoSe 95422 x CoT 8201 (2) Co 86011 x CoH 70 (2), CoS 96260 x CoH 70 (2), CoS 96260 x Co 775 (2), CoS 95255 x CoA 7602 (2), MS 68/47 x CoV 92102 ZC (2) and one selection each was made in 15 crosses viz., LG 99192 x Co 453 (1), Co 98008 x Co 775 (1), CoC 671 x CoS 90265 (1), CoS 8436 x Co 89003 (1), CoS 08272 x Co 1158 (1), ISH 100 x CoS 96260 (1), CoSe 95422 x ISH 69 (1), CoS 08272 x Co 775 (1), CoS 8436 x CoPant 97222 (1), CoS 8436 x Co 98008 (1), Co 8213 x CoS 96260 (1), LG 95053 x BO 91 ZC (1), CoH 119 x CoSe 92423 (1), Co 0238 x CoSe 92423 ZC (1) and MS 68/47 x Co 1148 (1). No selections were effected in 15 station crosses viz., LG 95053 x CoH 114, CoS 90265 x Co 62174, CoS 767 x Co 62198, Co 1148 x CoA 7602, CoJ 83 x Co 62198, Miami x CoS 90265, S.O. hybrid x CoS 90265, Co 62198 x CoSe 92423, Co 8371 x Co 86011, CoSe 95422 x Co 62198, Co 1148 x Co 775, CoH 119 x Co 62198, Co 1158 x Co 62198, CoLk 94184 x BO 89 and Co 0239 x Co 86011 and five zonal crosses viz., Co 98010 x Co 1148 ZC, BO 91 x Co 453 ZC, Co 98008 x Co 775 ZC, Co 7314 x Co 1148 ZC and CoS 8436 x Co 89003 ZC.

Performance of crosses in second clonal trial (PVT 2016-17)

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 clone	Superiority of the cross / Sucrose / NMC/ Cane thickness / Red rot Resistance	No. of clones selected
Co 453 x Co 86249	2	0	0	0		2	0		1
LG 95053 x BO 91	1	0	0	0		0	1		1
CoS 8436 x CoS 96260	4	0	0	0		1	4		1
CoS 8436 x Co Pant 97222	3	0	0	0		1	1		2
CoS 633 x Co 62198	2	0	0	0		1	0		1

No selections were effected in five crosses viz., Co 8371 x Co 1148, CoS 93278 x CoS 96260, CoS 96268 x BO 96, CoS 8436 x CoS 510 and Co 87267 x CoS 510 evaluated in second clonal trial conducted at Shahjahanpur.

6.3.3.5 Uchani

Performance of crosses in ground nursery during 2014-15

Cross combination	Quantity of fluff sown	No. of seedling produced	Total number of seedling evaluated	HR Brix (%)		NMC		*Cane diameter (cm)		No. of Seedling selected
				Mean	Range	Mean	Range	Mean	Range	
Co 89003 x Co 775	25.5	570	364	20.1	16.0-22.0	6.6	2-15	Mean	Range	32

CoS 8436 x Co 97015	17.8	300	193	20.4	19.0-21.0	7.1	4-12		-	17
Co 89003 x CoP 97222	29	780	378	20.7	15.0-22.0	6.8	4-15	N	N	76
CoS 8436 x Co 89003 ZC	8	185	99	21.8	19.0-23.0	7.1	4-13	O	O	13
Co 98008 x Co 775 ZC	13.5	210	147	19.8	17.0-21.0	4.8	3-8	T	T	13
CoS 8436 x CoP 97222 ZC	14.5	305	194	20.4	18.0-22.0	6.8	5-10			12
Co 1148 GC	51.5	1785	1269	18	17.0-20.0	6.4	3-12	R	R	11
CoH 114 GC	229.5	1716	1288	18.9	17.0-21.0	6.6	4-10	E	E	13
CoH 70 GC	40	1342	1034	19.2	18.0-21.0	6.2	3-11	P	P	15
CoH 99 GC	69	590	373	20.6	19.0-22.0	6.4	5-11	O	O	13
Co 86011 GC	37.5	2264	1834	19.7	18.0-21.0	4.8	3-8	R	R	14
CoH 7803 GC	46	2534	1902	18.4	15.0-20.2	6.8	4-16	T	T	35
CoH 104 GC	31	650	390	19.4	16.0-21.0	6.8	3-10	E	E	16
CoS 8436 PC	59	1500	780	19.4	17.0-21.0	8.7	5-18	D	D	30
CoSe 92423 PC	44.5	470	264	18.6	17.0-20.2	5.8	4-10		-	10
CoSe 95422 PC	55.5	1080	605	20.6	18.0-22.0	7.1	4-14		-	17
Overall in the trial	2049.8	18983	12588							373

Less than 10 selections were made in ISH 100 x Co 86011 (2), CoJ 64 x CoH 98 (3) Co 89003 x Co 62198 (2) MS 68147 x CoV 92102 ZC (5) Co 98010 x Co 1148 ZC (3), Co 0238 x Co 92423 ZC (5), CoH 15 GC (2), CoH 56 GC (1), CoH 106 GC (2), CoH 128 GC (5), Co 0240 GC (2), CoJ 99192PC (2) and CoV 89101 PC (2). Among the 62 crosses done during 2014, no germination was observed in 11 bi-parental crosses viz., CoS 97261 x ISH 67, MS 68/47 x CoT 8201, CoS 96268 x ISH 69, CoH 119 x CoS 510, CoH 98 x CoS 96260, CoH 76 x Co 94008, Co 06032 x CoC 8001, CoH 56 x ISH 229, Bo 91 x Co 453, CoS 97261 x ISH 69 and Co 7201 x Co 85002, three poly-crosses viz., Co 7201 PC, CoJ 83 PC and ISH 100 PC and seven general collections viz., CoH 107 GC, CoS 97261 GC, CoJ 83 GC, Co 976 GC, Co 7717 GC, Co 0237 GC and Co 89010 GC. No selection were effected in the eight bi-parental crosses viz., 51/22 x Co 1148 AG, CoC 671 x CoSe 92423AG, CoC 671 x CoT 8201AG, LG 95053 x BO 91, Co 0238 x Co 62198, CoJ 72 x ISH 69, Co 7314 x Co 1148 and CoH 110 x CoS 96260 and three general collections viz., CoH 76 GC, CoH 110 GC and Co 85002 GC.

Performance crosses in the 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	
Co 89003 x Co 775	32	19.0	18.0-21.2	-	-	21.8	21.0-23.5	-	-	-	-	11
Co 89003 x CoP 97222	76	19.0	17.0-21.2	-	-	22.3	20.0-24.0	-	-	-	-	30
CoS 8436 x Co 89003 ZC	13	19.03	17.5-21.2	-	-	22.8	21.5-24	-	-	-	-	6
Co 98008 x Co 775 ZC	13	18.3	16.7-20.0	-	-	22.1	21.5-22.5	-	-	-	-	7
CoH 99 GC	13	19.27	17.5-21	-	-	23	22.5-24	-	-	-	-	6
Co 86011 GC	14	17.8	17.2-19.4	-	-	20.9	20.0-22.5	-	-	-	-	6
CoH 7803 GC	35	18.27	16.2-21.2	-	-	21.9	20.0-23.5	-	-	-	-	12
CoH 104 GC	16	19.0	17.5-21.2	-	-	22.0	21.0-24.3	-	-	-	-	8
CoS 8436 PC	30	16.06	14.5-18.3	-	-	20.9	20-21.5	-	-	-	-	5
Overall in the trial	373											107

In the first clonal trial, no selection was effected in the 12 crosses viz., ISH 100 x Co 86011, CoJ 64 x CoH 98, Co 89003 x Co 62198, Co 98010 x Co 1148, CoS 8436 x CoP 97222, CoH 15 GC, CoH 56 GC, CoH 106 GC, CoH 128 GC, Co 0240 GC, CoJ 99192 PC and CoSe 92423 PC. Less than five selections were made in the three bi-parental crosses CoS 8436 x Co 97015 (2), MS 68147 x CoV 92102 (3) and Co 0238 x Co 92423 ZC (2), three general collections viz., Co 1148 GC (1), CoH 114 GC (4) and CoH 70 GC (2) and two poly-crosses viz., CoV 89101 PC (1) and CoSe 95422 PC (1)

Performance of crosses at second clonal trail

Cross combination	No. of clones planted	HR Brix (%) 8-9 months	HR Brix (%) 10-12 months	Superiority of the cross (Sucrose /NMC/ cane dia / Red rot resistance)	No. of clones selected
		Range	Range		
Co 8253 x ISH 69		15.5-19.0	24.0-24.5	-	6
CoH 112	3	16.2-17	23.5	-	2
CoSe 92423	7	16.2-17.0	24.0-25.0	-	2
CoH 129	5	17.7-18.2	23.5-24.0	-	2
CoH 114	1	14.8	23.5	-	1
CoH 106	3	19.6	24.5	-	1
Bo 108	1	16.5	24	-	1
Co 99006 x CoS 90265	6	14.8-17.0	24.0-25.0	-	2
Total	48				17

Data on number of clones with > 22 % sucrose at 300 days, number of clones with > 22% sucrose at 360 days, number of clones with > 70NMC /20' row, number of clones with > 2.5 cm cane thickness, number of red rot resistant clones, superiority of the cross (Sucrose /NMC/ cane diameter / Red rot resistance) were not reported by the centre. Among the 16 crosses evaluated in the trial, no selections were effected from the six bi-parental crosses viz., Co 0240 x CoL 29, CoPb 10183 x CoS 96260, CoLk 97169 x CoS 96260, Co 86010 x CoH 70, Co 89003 x CoS 8436 and Co 06033 x CoS 510 and two general collections viz., CoH 12GC and CoH 114GC.

6.3.4. North Central and North East Zone

Among the five centres in this zone Pusa and Buralikson provided the data for evaluation and identification of zonal crosses while Motipur and Seorahi did not provide the data. It was reported by the Bathuadahari centre that it could not provide the data in the required format as it has not participated in the National Hybridisation Programme since 2012 and the fluff of the crosses made during 2011 flowering season did not give any germinant.

6.3.4.1 Burlikson

Performance of crosses in ground nursery

Cross combination	Quantity of fluff sown	No. of seedlings produced	No. of seedlings evaluated	HR brix (%)		Number of millable canes (NMC)		Cane diameter (cm)		No. of seedlings selected
				Mean	Range	Mean	Range	Mean	Range	
CoJ 83 X CoH 70	13	30	30	22.6	21-23	3	1-4	1.1	0.4-1.5	5

CoP 06436 X CoPant 97222	14.5	200	200	21.46	18.9-24.6	3	1-5	1.3	1-1.5	7
CoSe 95422 X Co 62198	13.5	200	200	22.47	19-24.9	4	2-5	1.5	1-1.7	11
CoSe 95422 X CoSe 92423	13	90	90	18.1	18-18.2	3	1-4	1.6	0.5-2	5
CoS 8436 X Co 1148	8	60	60	20	19-21	3	1-5	1.0	0.4-1.8	6
CoS 8436 X Co 0233	13	90	90	19	18-20	3	1-5	1.2	1.1-2.0	10
CoSe 95422X CoS 8436	13	80	80	19.22	16-20.9	3	1-4	1.5	0.5-1.7	6
Co 0233 X CoS 8436	17	20	20	19.3	19-20.8	2	1-3	1.3	1-1.6	8
CoSe 92423 PC	10.5	50	50	20	19-21	2	1-3	1.0	0.5-1.3	5
CoV 89101PC	14.5	108	108	22.4	16-27	3	1-4	1.3	1.0-1.5	17
CoH 128 GC	37	350	350	23.63	19-25.4	3	1.4	2.4	2.0-2.5	6
LG 95123 GC	35	170	170	22.86	18.4-28.2	2	1-3	2.1	2.0-2.3	6

Apart from the above crosses having more than five selections each, selections were also made in three bi-parental crosses viz., CoSe 96436 x Co 0233 (3), CoLk 94184 x BO 91 (3) and Co1158 x Co 62198 (4), four general collections viz., LG 04602 GC (2), CoS 92263 GC (4), LG 05610 GC (3) and CoBln 05501 GC (3) and five poly-crosses viz., CoJ 88 PC (4), CoSe 95422 PC (1), CoS 8436 PC (1), CoJ 83 PC (2) and Co7201PC (4). No germination was found in 10 general collections viz., CoBln 04174GC, CoC 671GC, Co 0232GC, CoS 87216GC, CoH 104GC, Co 0235GC, CoPant 90224GC, CoLk 8102GC, LG 96115GC and Co09021GC and in a polycross ISH100 PC.

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		NMC		Cane diameter (cm)		No. of clones selected
		Mean	Range	Mean	Range	Mean	Range	Mean	Range	Mean	Range	
LG95053 x CoH 114	8	16.02	12.2-19.4	18.25	15-20.6	18.11	15.2-20.8	3	1-5	2.3	1.1-2.8	4
CoN 98133X Co 775	5	19.2	14.2-23.2	20.96	15.4-25	22.4	16-27	3	1-5	2.2	1-2.6	4
CoSe 95422 x CoS 8436	7	19.25	14.2-22	21.31	15.8-25	21.78	15-28.2	3	1-4	2.2	2-2.4	6
CoLk 8102 x Co 62198	8	15.86	14-20.2	19.6	15.2-25	22.46	16.0-28.2	3	1-5	2.1	2-2.5	4
CoSe 95422 x Co 62198	6	18.83	16-20	20.83	18-25	23.23	20-28.2	3	1-5	2.0	1.8-2.3	6
CoJ 83 x CoH 70	6	19.53	17-20.2	22.9	19-25.2	23.63	19-25.4	3	1-5	2.2	1.9-2.5	5
CoSe 95422 GC	5	19	18-20	19	20-22	23	20-24	2	1-3	2.1	1.5-2.3	5
BO 89 GC	5	19.5	18.2-20	21.6	21-22	22	19.2-24.6	3	1-5	2.3	3	4
Co 7424 GC	5	19.3	17.4-20.6	22	19-24	23.1	20-24.9	3	1-4	2.1	3	5

Among the 51 crosses evaluated in first clonal trial, from the eight bi-parental crosses viz., ISH 69 x CoN 05071, BO 147 x Co 62198, CoJ 83 x Co 1148, CoLk 94184 x BO 91, Co 8353 x ISH 69, CoBln 05501 x CoH 70, CoSe 95422 x CoSe 92423 and BO 91 x Co 62198 and four general collections viz., CoBln 04174 GC, BO 96 GC, Co 0233 GC

and Co 98010 GC no selections were effected. One selection each was made in the six bi-parental crosses viz., ISH100 x Co 62198 (1), Co 8353 x BO 96 (1), UP 9530 x CoP 9301 (1), Co 85002 x Co 62174 (1), Co 0240 x CoH 112 (1) and CoJ 83 x BO 110 (1) and four general collections viz., Co 7224 GC (1), C 79180 (1), CoS 8436GC (1) and Co 58? (1) and two selections per cross was made in the four bi-parental crosses viz., LG 95053x BO 91 (2), BO 97 x BO 32 (2), CoLk 8102 x NCo 310 (2) and Co8353 x BO 130 (2) and four general collections viz., Co 88028 (2), BO 109 GC (2), C 79113 GC (2) and CoPant 90224 GC (2). Three clones each were selected from the four general collections viz, CoPant 88219 GC (3), Co 99006 GC (3), CoSe 96436 GC (3) and HR83-65 GC (3) and seven bi-parental crosses viz., BO 91x NCo 310, Co1158 x Co 62198, MS 68/47 x Co775, CoSnk05-103 x BO 96, Co 8213 x Co 99006, CoBln 05501 x Co775 and CoS 8436 x Co 1148.

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 rot resistant clones	Superiority of the cross (Sucrose /NMC/ cane dia / Red rot resistance	No. of clones selected
CoH 92 x CoH 70	5	1	4	5	5	2	MR		2
CoBln 05501x Co 775	4	1	3	4	4	2	MR		2
CoLk 7901 x NCo 310	4	0	1	4	4	2	MR		2
BO 97 x BO 32	3	0	3	3	3	2	MR		2
CoJ 83 x CoH 70	5	1	5	5	5	2	MR		2
CoSe 95422 PC	4	0	2	4	4	2	MR		2
CoBln 04174GC	3	1	3	3	3	2	MR		2
CoJ 83PC	4	1	4	4	4	2	MR		2

In the second clonal trial, no selections were effected in the three bi-parental crosses viz., ISH 100 X Co 62198, Co1158 X Co 62198 and CoP 06436 x CoPant 97222, a general collection CoBln 03175GC and a poly-cross CoV 89101PC. One selection each was made in the six bi-parental crosses viz., BO 91 x Co 62198, LG 95053 x BO 91, BO 97 x Co775, CoP 06436 x CoH 15, CoBln 05501 x CoSnk 05103 and UP 9530 x CoH 15 and two poly crosses viz., CoSe 92423 PC and Co 7201PC.

6.3.4.2 Pusa

Data on ground nursery evaluation was not received from the centre.

Performance of crosses in first clonal trial (2015-16)

Cross combination	No. of clones planted	HR brix (8 th months)		HR brix (10 th months)		HR brix (12 th months)		NMC		Cane diameter		No. of clones selected
		Mean	Range	Mean	Range	Mean	Range	Mean	Range	Mean	Range	
CoSe 95422 x CoS 8436	16	18.7	16-20.2	19.4	17.0-21.0	20.1	18.0-22.0	7	4.0-12	2.48	2.20-3.10	06

BO 97 x BO 32	08	19.6	16.4-21	20.3	18.4-21.6	21.4	20.0-23.0	8	4.0-11	2.34	1.98-2.87	05
BO 97 x CoH 15	05	19.8	18-21	20.3	20.2-21.4	20.8	20.6-21.6	6	3.0-9	2.50	2.10-2.80	05
Co6035 x BO 110	10	19.0	16-21	19.3	16.8-21.4	19.8	17.0-21.6	5	3.0-9	2.52	2.30-2.90	05
CoM 9220 x CoS 96260	15	20.1	18-21	20.6	18.6-22.4	20.9	19.0-23.0	6	3-8	2.42	2.10-3.0	08
BO 128 x CoH 13	11	20.4	19.6-23	20.8	20.0-22.8	21.4	20.2-24.0	6	4-11	2.42	2.32-2.88	07
CoP 06436 x CoPant 97222	38	19.2	15-21	19.6	16.2-22.0	20.1	16.4-22.6	5	2-15	2.40	1.92-2.96	17
Co 87267 x CoS8436	31	19.4	16-21	19.7	16.8-21.6	20.2	18.0-22.6	6	1-12	2.52	1.95-2.86	12
CoJ 88 x BO91	17	19.5	16.4-23	19.7	16.4-22.8	19.9	17.2-22.6	6	3-13	2.46	2.00-2.91	08
UP 9530 x CoS 8001	10	18.7	15-21.2	19.4	16.0-22.0	20.0	18.0-22.2	6	3-12	2.48	1.90-2.88	05
CoSnk5-10 x BO 96	09	18.4	15-21	19.1	16.0-21.4	19.7	17.0-21.6	6	2-9	2.46	2.20-2.96	06
BO 108 GC	16	19.1	15-21	19.6	16.0-21.2	20.2	18.0-21.6	8	4-12	2.52	2.10-2.83	05
CoSe 92423 GC	67	18.2	10-21	19.0	11.4-21.6	19.7	12.6-21.8	7	3-14	2.45	2.20-2.94	18
CoPb 10183	13	18.3	14.4-21	19.0	15.8-21.2	19.6	16.0-21.4	7	2-10	2.56	2.20-2.86	05
Over all in the trial	441											174

Apart from the above crosses, less than five selection per cross were made in the 20 bi-parental crosses viz., CoSe 95422 x Co 62198 (4), MS 68/47 x Co 1148 (2), MS 68/47 x Co 775 (1), BO 91 x Co 62198 (1), CoS 8436 x Co 1148 (4), UP 9530 x CoP 9301 (2), CoS 8436 x Co 0233 (3), CoLk 8102 x BO 130 (3), CoS 8436 x BO 91 (1), BO 147 x Co 62198 (3), BO 96 x CoS 88216 (1), BO 17 x BO 91 (1), CoSnk 05103 x BO 96 (2), CoS 8436 x CoN 98133 (1), CoS 767 x BO 96 (2), CoH 104 x BO 96 (1), Co 6037 x CoS 93278 (4), Co 8353 x BO 91 (1), UP 39 x BO 146 (1) and BO 128 x CoH 56 (2) and 11 general collections viz., BO 114 GC (3), BO 130 GC (3), BO 97 GC (1), BO 89 GC (2), BO 109 GC (1), BO 128 GC (1), Co Pant 88219 GC (1), CoSe 95423 GC (2), CoH 106 GC (1), CoJ 88 GC (2) and CoLk 94184 GC (1) and a poly-cross CoV 89101 PC GC (1). No selections were effected in the eight bi-parental crosses viz., CoSe 95422 x CoSe 92423, CoPant 84212 x BO 91, BO 109 x BO 91, CoLk 94184 x BO 91, Co 0233 x CoS 8436, BO 106 x BO 91, BO 96 x CoS 98216 and CoJ 83 x BO 130 and five general collections viz., BO 91GC, CoSe 92263GC, UP 9530GC, CoN 98133GC and CoJ 46 GC.

Performance of crosses in second clonal trial (2016-17)

Cross combination	No. of clones planted	HR brix (8 th months)		HR brix (10 th months)		HR brix (12 th months)		NMC		Cane diameter		No. of selections
		Mean	Range	Mean	Range	Mean	Range	Mean	Range	Mean	Range	
CoSe 95422 x CoS 8436	06	19.3	17.6-21.2	20.5	18.4-22.0	20.4	18.0-21.3	6	5.0-12.0	2.40	2.10-2.84	03
BO 97 x BO 32	05	18.2	16.0-20.6	18.6	12.0-20.6	19.0	13.0-21.8	6	4.0-10.0	2.48	2.10-2.84	03
BO 97 x CoH	05	18.9	17.0-	19.3	16.0-	19.8	17.0-	7	4.0-	2.46	2.20-	03

15			21.0		21.8		21.0		11.0		2.83	
CoM 9220 x CoS 96260	08	18.7	17.2- 21.2	19.9	18.2- 22.0	20.4	20.0- 23.2	7	2.0- 10.0	2.52	2.20- 2.90	03
BO 128 x CoH 13	07	19.5	16.0- 22.6	20.8	19.2- 22.8	21.3	18.0- 23.0	7	4.0- 12.0	2.52	2.30- 2.85	04
Co 6037 x CoS 93278	04	18.9	16.0- 20.4	19.3	16.4- 21.0	21.3	21.0- 22.0	5	3.0- 8.0	2.50	2.10- 2.90	04
CoP 06436 x CoPant 97222	17	17.4	12.4- 20.2	18.6	15.6- 22.2	19.3	14.0- 22.6	8	5.0- 12.0	2.54	2.20- 2.90	06
Co 87267 x CoS8436	12	16.3	15.0- 19.2	17.4	15.2- 20.2	18.9	15.3- 22.0	5	3.0- 9.0	2.50	2.35- 2.95	03
CoJ 88 x BO 91	08	19.0	18.0- 20.8	19.8	18.6- 21.4	20.1	18.0- 24.0	6	3.0- 10.0	2.62	2.30- 2.96	04
BO 130 GC	03	18.7	17.0- 20.0	19.5	18.0- 21.0	21.6	21.0- 22.4	8. 0	5.0- 12.0	2.50	2.30- 2.80	03
Over all in the trial	174											64

Apart from the above selections, two selections each were also effected in four bi-parental crosses viz., CoSe 95422 x Co 62198 (2), CoS 8436 x Co 1148 (2), BO 147 x Co 62198 (2) and CoSnk 05-103 x BO 96 (2) and two general collections viz., CoSe 95423 GC (2) and CoSe 92423 GC (2). Besides, one selection each was made in nine bi-parental crosses viz., MS 68/47 x Co 1148 (1), MS 68/47 x Co 775 (1), UP 9530 x CoP 9301 (1), CoLK 8102 x BO 130 (1), CoS 8436 x BO 91 (1), Co 06035 x BO 110 (1), Co 8353 x BO 91 (1), UP 9530 x CoS 8001 (1) and BO 128 x CoH 50 (1) and five general collections viz., BO 97 GC (1), BO 109 GC (1), BO 128 GC (1), Co Pant 88219 GC (1) and CoPb 10183 GC (1). No selections were effected in nine bi-parental crosses viz., BO 91 x Co 62198, CoS 8436 x Co 0233, BO 96 x CoS 88216, BO 17 x BO 91, CoSnk 05103 x BO 96, CoS 8436 x CoN 98133, CoS 767 x BO 96, CoH 104 x BO 96 and UP 39 x BO 146 and nine general collections viz., BO 114 GC, CoSe 92263 GC, CoV 89101 GC, CoN 98133GC, CoJ 46 GC, CoJ 88 GC, CoLk 94184 GC, CoH 106 GC and UP 9530 GC.

6.3.4.2 Seorahi

Performances of crosses in ground nursery (2015 Series, Sown 2016-17)

Cross Combinations	Qua n t i t y o f f l u f f s o w n (g)	No. of seedlin gs pro duc ed	Total num ber o f seedlings evaluated	HR Brix at 10th Months		Number of millable canes		No. of seedling s selected
				Mean	Range	Mean	Range	
CoS 87216 x Co 775	16.0	405	392		16.4-18.4			15
Co 1148 x Co 62198	35.0	44	42		11.2-14.4			12
CoP 06435 x CoPant 97222	8.0	305	290		14.6-18.8			10
UP 9530 x CoP 9301	22.5	32	30		14.6-16.8			20
CoSe 95422 x CoSe 92423	17.5	205	200		14.8-19.2			10
CoPant 97222 GC	35.5	971	815		10.2-20.2			49
CoPb 10181 GC	26.0	12	12		18.2-19.2			39
CoS 96260 GC	44.5	2030	1705		14.2-19.4			127
CoS 90269 GC	25.0	1190	998		16.2-19.0			15
CoS 92263 GC	24.0	945	784		14.2-19.0			18
CoS 510 GC	58.5	3240	2643		10.8-17.4			130
CoSe 95422 GC	12.0	305	246		12.6-19.2			15
CoSe 92423 GC	22.0	930	781		11.6-16.4			53
BO 130 GC	30.5	2050	1722		16.0-18.6			27
BO 92 GC	24.0	100	84		16.2-19.2			53

CoS 08272 GC	18.5	162	142		12.6-18.6			20
CoSe 92423PC	54.0	3785	3520		16.2-20.2			243
CoSe 95422PC	31.0	3280	3048		16.2-19.2			134
CoV 89101PC	73.0	6995	6732		16.2-19.2			222
CoJ 88PC	52.5	3865	3555		16.0-18.2			79
CoS 8436PC	36.0	2825	2627		13.6-17.4			135
ISH 100PC	34.5	120	104		12.4-16.2			73
Co 7201PC	42.5	1238	1138		14.4-17.6			33
CoJ 83PC	31.0	502	486		12.6-18.2			39

Among the 78 crosses evaluated in ground nursery, apart from the above superior crosses, less than 10 selections were made in 15 crosses viz., CoPant 84212 x Co 775 (3), Co 86249 x CoS 510 (1), MS 68/47 x Co 1148 (3), CoSe 92423 x Co 1148 (1), BO 97 x BO 32 (8), CoLk 94184 x BO 91 (2), CoJ 83 x CoH 70 (4), BO 97 x Co 775 (8), CoSe 95422 x Co 62198 (1), CoS 8436 x Co 1148 (4), CoSe 95422 x CoS 8436 (8), MS 68/47 x Co 775 (2), Co 0233 x CoS 8436 (1), CoSe 96436 x Co 0233 (2) and CoS 8436 x Co 0233 (4). No selections were effected in 37 crosses including 29 station crosses effected at NHG viz., Bo 17 x Co 62198, Co 617 x BO 130, CoS 88216 x Co 62198, CoS 96268 x Co 86002, CoJ 72 x Co 62198, Co 99006 x BO 130, CoJ 83 x Co 62198, Co 0240 x Co 775, CoSe 95422 x CoC 8001, Co 0238 x CoS 88216, CoSe 95422 x Co 775, Co 0240 x CoS 510, Co 86002 x CoS 96260, CoSe 95422 x CoPant 90223, CoS 767 x CoC 8001, CoP 9301 x Co 775, Co 0238 x CoS 8436, CoS 8408 x CoC 8001, CoSe 92423 x Co 89003, CoSe 98231 x Co 775, UP 0097 x SP 80-185, CoSe 92423 x CoS 8436, CoSe 98231 x CoA 7602, CoS 8436 x CoC 8001, CoS 87267 x CoS 510, CoSe 98231 x CoS 87216 and Co 0238 x CoT 8201, two crosses effected at NDHF, Agali viz., Co 1148 x CoA 7602 AG and Co 86249 x CoS 8436AG, one zonal cross MS 68/47 x Co 775 and four general collections viz., CoJ 83GC, CoJ 89GC, CoPb 10183GC and CoH 199GC.

Performance of crosses in first clonal trial

Cross combination	No. of clones planted	HR brix (8 th months)		HR brix (10 th months)		HR brix (12 th months)		NMC		Cane diameter		No. of clones selected
		Mean	Range	Mean	Range	Mean	Range	Mean	Range	Mean	Range	
BO 108	576	14.0-21.4				Not Reported						16
ISH 192 GC	82	16.0-19.0				Not Reported						1
CoV 89101	52	18.0-20.0				Not Reported						1
CoSe 95422	48	14.0-20.2				Not Reported						3
CoSe 92423	111	16.0-20.0				Not Reported						3
CoPant 97222	164	14.0-23.0				Not Reported						2
CoSe 95423	99	14.2-19.6				Not Reported						1
BO 91 x Co 0238	1	19.4				Not Reported						1
Co 0238 x BO 91	13	17.8-20.0				Not Reported						1

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 (Range of brix)	No. of clones with > 70N MC /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
UP 0097 x SP 80-185	20			15.2-20.0					2
CoSe 92423 x Co 89003	15			14.6-16.4					3
CoS 8432 x CoT 8201	4			14.2-20.2					3
CoS 8432 x Co 89003	23			13.6-22.0					8
CoLK 8102 x CoS 96260	9			14.2-17.4					3
CoSe 96436 x Co 0233	6			16.0-17.2					2
CoSe 92423PC	6			16.0-18.0					2
CoS 8436PC	21			15.0-17.0					2
CoSe 98231 x Co 62198	6			17.0-19.8					2
CoSe 98231 GC	28			15.6-17.8					2
CoS 87216 GC	28			15.2-16.4					5

Apart from the above one selection each was made in the 14 crosses viz., UP 9530 x Co 86002 (1), CoSe 95422 x CoPant 90223(1), CoSe 92423 x Co 775 (1), CoS 87216 x CoS 510(1), Co 88039 x CoS 8436(1), CoC 671 x Co 1148(1), CoS 8432 x CoS 87216(1), CoS 87267 x BO 130(1), CoSe 95427 GC(1), UP 22 GC(1), CoSe 96436 GC(1), CoS 91269Gc(1), Co 86002 GC(1) and CoSe 92423 GC(1)

6.4. Progress made by the participating centres of fluff supply programme

6.4.1. Mandya

Year	Number of seedlings obtained	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 trials	Name (S) of the Clone released by SVRC/CVRC
2016	4021				CoVC 16061(VCF 10-43-06) CoVC 16062(VCF 09-16-07)	VCF 0517 by UAS
2015	5671	400			CoVC 15061(VCF 0961-02) CoVC 15062 (VCF 0706-05) CoVC 15063 (VCF 0961-05) CoVC 15064 (VCF 0734-05)	
2014	5795	230	54		CoVC 14061 (VCF 0517) CoVC 14062 (VCF 009-64) CoVC 10061(VCF 0604-04)	
2012	560	88	43	14	CoVC 10061(VCF 0604-04)	
2011	5182	101	81	4		CoVC 99463 (Vishal) by Karnataka state

6.4.2 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 trails	Name (s) of the clone(s) released by SVRC / CVRC
2017	4591	-	-	-		
2016	8610	951	-	-		
2015	17210	1075	280	-		
2014	17740	1584	293+7	46+6		
2013	14521	1493	115	40+6		
2012	23832	2411	377	50		

6.4.3 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
2012-13	1937	637	--	15	CoM 12081 CoM 12082 CoM 12083 CoM 12084 CoM 12085 CoM 12086	NIL
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	--	NIL

6.4.4 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 trials	Name (s) of the clone(s) released by SVRC / CVRC
2012	11,570	230	0	17	3	
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	

6.4.5. Pune

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
				PFVT	FVT		
2011	13493	107	16	11	5	1	
2012	22151	128	-	11	6	1	
2013	9283	26	5	5	1		
2014	9710	99		23			
2015	16911	55					

6.4.6 Rudrur

Year	No. of seedlings evaluated in ground nursery	No. of clones planted in first clonal trial	No. of clones in second clonal 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
2011	5867	87	41	16	6	-
2012	12001	168	72	17	4	-
2013	5120	120	48	19	-	-
2014	2670	34	14	-	-	-
2015	7438	78	-	-	-	-

6.4.7 Sankeshwar

Year	No. of seedlings evaluated in ground nursery	No. of clones planted in first clonal trial	No. of clones in second clonal 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
2011	1262	800	86			
2012	3213	28	10			
2013	3012	527	233			
2014	4011	431				
2015	5973	Under evaluation				
2016	6140	To be transplanted				

6.4.8 Thiruvalla

Year sown	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
2015	6841					
2014	2639	121				
2013	5685	84	48			
2012	4832	145	103	37		
2011						

6.4.9 Anakapalle

Year sown	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
2010-11	4537	321	100 / 519	15/23	-	
2011-12	11620	357	91/321	12/21	-	
2012-13	6250	369	104/357	12/41	-	
2013-14	6888	355	93/369	14/25	-	
2014-15	8539	300	115/369	12/22	-	
2015-16	7,314	760	76/300	12/23	-	
2016-17	5931	609	225/760	12/23	-	

6.4.10 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 trials – first year	No. of clones selected for Zonal Varietal Trails	Name of clone(s) released by SVRC / CVRC
2016-17	4,732	332				
2015-16	4189	428	175			
2014-15	4625	839	262	95		
2013-14	23309	788	215	73	-	-
2012-13	16288	535	205	62	2 (Mid-late)	-

6.4. 11 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 Trials	Names of the clone(s) released by SVRC / CVRC
2012	350	154	86	28	1 (CoOr 12346)	CoOr 04152 & CoOr 05346

2013	420	210	112	34	1 (CoOr 13346)	
2014	386	160	104	40		
2015	324	148	110	36	1 (CoOr 15346)	
2016	298	180	98	32		CoOr 10346

6.4.12 Vuyyuru

Year sown	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
2011-12	-	166	49	28		
2012-13	-	133	42	22		
2013-14	-	97	44	19		
2014-15	-	180	35	20		
2015-16	-	253	Damaged due to fire			
2016-17	-	83	57	24		

6.4.13 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 trials	No. of clones selected for zonal varietal trials	Name of the clone(s) released by SVRC/ CVRC
2017-18	Stored	-	-	-	-	-
2016-17	667	355	-	-	-	-
2015-16	773	501	37	-	-	-
2014-15	1551	587	50	-	-	-
2013-14	468	451	100	18	-	-
2012-13	2484	1245	149	17	1	-

6.4.14 Kapurthala

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 trials	No. of clones selected for zonal varietal trials	Names of clones released by SVRC/CVRC
2013-14	Shifting from Ludhiana to Kapurthala					
2014-15	8223	652	262	26	2	CoPb 91 (CoPb 09181)
2015-16	1700	331	468	34	4	-
2016-17	4406	385	110	66	2	CoPb 92 (CoPb 08212)
2017-18	21738	204	120	46	-	CoPb 93 (CoPb 08217) and CoPb 94 (CoPb 10181)

6.4.15 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 trials	No. of clones evaluated in station trial	No. of clones selected for Zonal varietal trials	Name (s) of the clone(s) released by SVRC / CVRC
2012-13	3000	-	74	34	29	4	
2013-14	-	558	-	29	32	2	
2014-15	28286	-	368	-	22	-	
2015-16	4900	508	-	84	-	4	
2016-17	-	-	255	-	58	4	

6.4.16 Shahjahanpur

Year	Location	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 trials	Name(s) of the clone(s) released by SVRC/CVRC
2017-18	NHG NDHG	3258 61	-				
2016-17	NHG NDHG	6454 316	-				
2015-16	NHG NDHG	13662 386	1083 536	- -	- -		
2014-15	NHG NDHG	44500 1301	1979 100	- 170 62	- -		
2013-14	NHG NDHG	7321 960	1783 201	94 07	34 1		
2012-13	NHG NDHG	19705 3016	5699 723	670 47	34 01		

6.4.17 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 trails	Name (s) of the clone(s) released by SVRC / CVRC
2012-13	15488	566	202	28		
2013-14	9595	369	48	3		
2014-15	12588	373	107			
2015-16	33947	3212				
2016-17	9708					

6.4.18 Buralikson

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
2017	1720	100	38	31	*	
2016	1897	150	62	24	2	
2015	4839	170	55	9	2	
2014	11673	287	30	20	2	
2013	10000	100	60	20	0	

6.4.19 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 trials	No. of clones selected for zonal varietal trials.	Names of the clones released by	
						SVRC	CVRC
2011-12	52031	636	145	09	06	CoP 2061	-----
2012-13	17655	619	127	07	04	---	----
2013-14	817(of Pusa cross)	591	103	11	04	-----	-
2014-15	5859	441	108	13	06	CoP 112 (CoP11437)	CoP 2061
2015-16	26824	231	174	08	06	-----	-----
2016-17	40427	441	94	10			-----

6.4.20 Seorahi

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
2012-13	42939	4241	488	51	3	-
2013-14	15591	1248	-	29		-
2014-15	50823	1889	-	-	-	-
2015-16	37362	1578	-	-	-	-
2016-17	5364	-	-	-	--	-

B. III 7. Evaluation and identification of climate resilient ISH and IGH genetic stocks (2016-17)

(ii) Evaluation for drought tolerance (I Plant)

Locations (4)	Tropical: Padegaon and Anakapalle Subtropical: Karnal and 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, CoM 0265 and Co 86032 Anakapalle :83 R 23, CoA 06231 and CoA92081 Faridkot : Co 98014, CoJ 88 and CoPb 91 Karnal : Co 0238, CoJ 88 and Co 98014
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: Entries were in multiplication during the year 2015-16

Results of the current year:

Twenty seven ISH/IGH clones were evaluated under drought condition at four centers by withdrawing irrigation during 60 to 150 days after planting. 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 1 to Table 29).

Response of traits to drought:

The traits *viz.*, number of shoots at 180 days, number of millable cane (NMC) at 240 days, Brix at 300 days, sucrose % at 300 days, juice extraction % at 300 days, cane fibre at 300 days, single cane weight at harvest, number of internodes at harvest, juice Brix % at harvest, extraction % at harvest, cane yield at harvest, relative water content during water stress and

relative water content after water stress showed significant GxE interaction at Karnal. At Farikot, GxE interaction were significant for the traits *viz.*, number of tillers at 90 days, number of tillers at 120 days, number of shoots at 150 days, number of shoots at 180 days, NMC at 240 days, NMC at harvest, Brix at 300 days, single cane weight at harvest, cane length at harvest, cane diameter at harvest, juice Brix % at harvest, juice sucrose % at harvest, extraction % at harvest, cane yield at harvest, tiller mortality, relative water content during water stress and relative water content after water stress. Whereas at Anakapalle traits *viz.*, juice extraction % at 300 days and relative water content after water stress showed significant GxE interaction. At Padegaon, number of tillers at 90 days, number of tillers at 120 days, number of shoots at 150 days, cane length at 300 days, cane diameter at 300 days, internodes at 300 days and relative water content after water stress showed significant GxE interactions. Significant GxE interactions indicated that, the entries behaved differentially between normal and drought conditions.

Ten traits *viz.*, Brix at 300 days, sucrose % at 300 days, cane diameter at 300 days, cane fibre % at 300 days, juice Brix % at harvest, extraction % at harvest, juice sucrose % at harvest, cane fibre % at harvest, leaf area after withdrawing the drought and relative water content after water stress showed less than 5% change, hence less sensitive to the drought. The most sensitive traits to drought were, number of tillers at 90 days, number of tillers at 120 days, number of shoots at 150 days, number of shoots at 180 days, NMC at 240 days, NMC at harvest, cane length at 300 days, cane length at harvest, cane diameter at harvest, single cane weight at harvest, cane yield at harvest, tiller mortality, relative water content during water stress and number of internodes at harvest as they recorded more than 15% difference between grand mean of the entries under normal and drought plots.

Response of entries to drought:

Twenty seven entries were analyzed individually for different traits like cane yield, juice quality and drought related traits for their response to drought (Table 30). 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, extraction % at harvest, juice sucrose %, 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 recorded less reduction.

Analysis of yield contributing traits indicated that PG 9869137, SA 98-13 and AS 04-2097 for tillers at 90 days, SA 04-458 for tillers at 120 days, SA 04-458 and GU 07-2276 for Shoots at 150 days, SA 04-458 and CYM 07-986 for shoots at 180 days, SA 04-458, GU 07-2276 and CYM 07-986 for number of millable canes at 240 days, SA 04-458 for number of millable canes at harvest, BM 1003143, BM 1005149, BM 1009163, PG 9869137, SA 04-409, AS 04-1687 and GU 07-3849 for cane diameter at harvest, SA 98-13, AS 04-1689, MA 5/99 and MA 5/22 for number of internodes at harvest, SA 04-409, AS 04-1687 and SA 04-472 for tiller mortality were less influenced by drought as they recorded <5% reduction. The complex character cane yield showed considerable reduction under drought however the entries *viz.*, GU 07-2276 (-8.71%), SA 04-458 (-16.10%), BM 1010168 (-18.91%) and AS 04-2097(-20.83%) recorded <20% reduction.

The traits *viz.*, number of tillers at 120 days, number of shoots at 150 days, number of shoots at 180 days, number of millable canes at 240 days, number of millable canes at 360 days and cane yield at harvest have recorded more than 15% change between grand means of normal and drought conditions. The entries AS 04-1689, AS 04-1687 and AS 04-635 have performed relatively better in drought condition for all the above mentioned traits as these clones ranked consistently in top three for above characters.

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.

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Table 1: Germination %

Entry	Karnal			Faridkot			Anakapalle			Padegaon			Mean		
	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change
BM 1003143	59.03	55.55	-5.90	34.73	40.13	15.55	35.07	55.56	58.43	51.04	53.13	4.09	44.97	51.09	13.62
BM 1005149	40.97	43.65	6.54	31.64	23.15	-26.83	41.32	36.81	-10.91	56.25	37.50	-33.33	42.55	35.28	-17.08
BM 1009163	62.50	59.72	-4.45	25.46	33.18	30.32	39.30	39.80	1.27	54.17	52.08	-3.86	45.36	46.20	1.85
BM 1010168	47.22	49.65	5.15	27.01	30.87	14.29	43.40	46.18	6.41	52.09	45.84	-12.00	42.43	43.14	1.66
BM 1022173	54.16	45.49	-16.01	40.12	27.78	-30.76	43.35	43.40	0.12	45.84	43.75	-4.56	45.87	40.11	-12.56
PG 9869137	52.78	52.06	-1.36	28.55	31.64	10.82	21.88	31.94	45.98	33.33	37.50	12.51	34.14	38.29	12.16
SA 98-13	56.25	48.26	-14.20	32.41	28.55	-11.91	22.92	31.25	36.34	43.75	53.13	21.44	38.83	40.30	3.77
SA 04-454	51.39	50.69	-1.36	34.72	24.69	-28.89	30.90	20.49	-33.69	27.08	43.75	61.56	36.02	34.91	-3.10
SA 04-472	49.65	46.53	-6.28	26.24	26.24	0.00	37.77	36.13	-4.34	37.50	53.13	41.68	37.79	40.51	7.19
SA 04-458	15.97	18.05	13.02	31.64	27.78	-12.20	23.26	43.75	88.09	37.50	54.17	44.45	27.09	35.94	32.65
SA 04-390	19.44	16.32	-16.05	35.50	28.55	-19.58	44.45	40.00	-10.01	44.79	40.63	-9.29	36.05	31.38	-12.96
SA 04-496	44.10	39.24	-11.02	34.73	23.92	-31.13	34.03	36.46	7.14	36.46	36.46	0.00	37.33	34.02	-8.87
SA 04-409	58.68	57.29	-2.37	38.58	27.01	-29.99	38.20	37.85	-0.92	62.50	44.79	-28.34	49.49	41.74	-15.67
AS 04-1689	60.07	57.64	-4.05	47.84	37.04	-22.58	35.42	44.10	24.51	57.29	48.96	-14.54	50.16	46.94	-6.42
AS 04-245	59.37	54.86	-7.60	40.90	28.55	-30.20	35.87	40.42	12.68	35.42	32.30	-8.81	42.89	39.03	-8.99
AS 04-2097	52.43	46.18	-11.92	27.78	28.55	2.77	34.03	36.46	7.14	19.27	43.75	127.04	33.38	38.74	16.05
AS 04-635	60.76	59.37	-2.29	35.50	35.50	0.00	49.31	40.37	-18.13	60.42	55.21	-8.62	51.50	47.61	-7.54
AS 04-1687	71.53	61.80	-13.60	44.75	37.04	-17.23	58.33	49.65	-14.88	59.38	60.42	1.75	58.50	52.23	-10.72
MA 5/51	61.80	59.09	-4.39	46.30	36.27	-21.66	50.80	37.85	-25.49	51.04	47.92	-6.11	52.49	45.28	-13.72
MA 5/5	55.55	49.30	-11.25	37.04	16.98	-54.16	36.46	46.53	27.62	55.21	45.84	-16.97	46.07	39.66	-13.90
MA 5/37	54.16	57.98	7.05	37.81	21.61	-42.85	42.36	32.29	-23.77	64.07	41.67	-34.96	49.60	38.39	-22.61
MA 5/99	65.28	62.84	-3.74	34.72	30.10	-13.31	34.73	36.46	4.98	58.34	44.79	-23.23	48.27	43.55	-9.78
MA 5/22	54.21	55.90	3.12	41.67	36.27	-12.96	37.11	44.46	19.81	53.13	50.00	-5.89	46.53	46.66	0.27
GU 07-3849	66.66	70.83	6.26	25.46	27.01	6.09	45.49	45.14	-0.77	46.88	43.75	-6.68	46.12	46.68	1.21
GU 07-3774	52.43	57.98	10.59	28.55	33.95	18.91	28.47	36.46	28.06	64.59	42.71	-33.88	43.51	42.78	-1.69
GU 07-2276	39.56	42.01	6.19	19.29	22.38	16.02	50.15	47.57	-5.14	57.30	57.29	-0.02	41.58	42.31	1.77
CYM 07-986	48.96	46.53	-4.96	49.39	30.86	-37.52	40.76	47.34	16.14	33.34	36.46	9.36	43.11	40.30	-6.53
Standards															
Check1	54.86	56.25	2.53	38.58	27.78	-27.99	37.50	40.98	9.28	50.00	59.38	18.76	45.24	46.10	1.91
Check2	52.43	47.57	-9.27	26.24	36.27	38.22	39.29	37.90	-3.54	58.34	43.75	-25.01	44.08	41.37	-6.13
Check3	53.82	46.53	-13.55	36.27	25.47	-29.78	48.83	41.32	-15.38	60.42	43.75	-27.59	49.84	39.27	-21.20
GM	52.53	50.51		34.65	29.50		38.69	40.16		48.89	46.46		43.69	41.66	-4.65
CD	14.63	11.53		8.19	6.84		NS	NS		10.91	8.91				
CV	13.68	11.21		11.61	11.38		23.41	18.83		10.96	9.42				
CD GxE	NS			4.94			NS			7.27					

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Table 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
BM 1003143	128.24	122.69	-4.33	61.49	80.00	30.10	80.56	77.32	-4.02	158.33	106.49	-32.74	107.16	96.63	-9.83
BM 1005149	156.49	175.46	12.12	48.15	35.56	-26.15	113.43	85.18	-24.91	166.67	100.00	-40.00	121.19	99.05	-18.27
BM 1009163	164.82	128.71	-21.91	60.00	44.45	-25.92	119.44	103.70	-13.18	160.19	125.93	-21.39	126.11	100.70	-20.15
BM 1010168	207.41	147.23	-29.01	97.78	70.37	-28.03	93.06	92.14	-0.99	148.15	110.19	-25.62	136.60	104.98	-23.15
BM 1022173	150.93	137.97	-8.59	61.48	47.41	-22.89	68.06	58.33	-14.30	121.30	91.67	-24.43	100.44	83.85	-16.52
PG 9869137	97.22	108.80	11.91	65.93	40.74	-38.21	54.63	48.62	-11.00	100.00	105.56	5.56	79.45	75.93	-4.42
SA 98-13	86.58	145.84	68.45	67.41	30.37	-54.95	56.02	62.97	12.41	117.59	87.96	-25.20	81.90	81.79	-0.14
SA 04-454	123.15	124.08	0.76	69.63	35.56	-48.93	82.87	62.04	-25.14	121.30	90.74	-25.19	99.24	78.11	-21.29
SA 04-472	187.97	118.52	-36.95	71.85	41.48	-42.27	78.71	74.08	-5.88	153.25	87.97	-42.60	122.95	80.51	-34.51
SA 04-458	46.30	36.11	-22.01	81.48	76.30	-6.36	79.17	91.21	15.21	143.52	112.96	-21.29	87.62	79.15	-9.67
SA 04-390	26.85	16.67	-37.91	80.75	68.89	-14.69	87.50	62.96	-28.05	107.41	87.96	-18.11	75.63	59.12	-21.83
SA 04-496	144.91	118.52	-18.21	54.08	49.63	-8.23	94.44	92.60	-1.95	128.71	88.89	-30.94	105.54	87.41	-17.17
SA 04-409	127.32	137.97	8.36	90.37	71.11	-21.31	74.08	64.35	-13.13	149.08	129.63	-13.05	110.21	100.77	-8.57
AS 04-1689	195.37	188.89	-3.32	82.97	75.56	-8.93	95.84	100.01	4.35	212.97	160.19	-24.78	146.79	131.16	-10.64
AS 04-245	216.67	193.52	-10.68	80.00	57.04	-28.70	107.87	79.17	-26.61	206.02	166.67	-19.10	152.64	124.10	-18.70
AS 04-2097	164.36	152.78	-7.05	65.19	71.11	9.08	88.43	84.26	-4.72	114.82	136.12	18.55	108.20	111.07	2.65
AS 04-635	233.33	194.91	-16.47	83.71	77.04	-7.97	113.43	76.40	-32.65	165.75	143.52	-13.41	149.06	122.97	-17.50
AS 04-1687	187.04	228.70	22.27	122.97	80.00	-34.94	126.39	105.10	-16.84	225.93	192.60	-14.75	165.58	151.60	-8.44
MA 5/51	142.13	113.43	-20.19	105.19	46.67	-55.63	95.37	62.04	-34.95	154.63	91.67	-40.72	124.33	78.45	-36.90
MA 5/5	125.93	106.48	-15.45	74.08	35.56	-52.00	70.37	75.00	6.58	145.37	108.34	-25.47	103.94	81.35	-21.74
MA 5/37	159.73	147.23	-7.83	68.15	88.89	30.43	65.28	50.46	-22.70	135.65	112.04	-17.41	107.20	99.66	-7.04
MA 5/99	164.35	121.76	-25.91	70.37	68.89	-2.10	106.49	91.21	-14.35	132.41	107.87	-18.53	118.41	97.43	-17.71
MA 5/22	125.47	114.82	-8.49	66.67	82.97	24.45	60.19	58.80	-2.31	139.82	100.93	-27.81	98.04	89.38	-8.83
GU 07-3849	205.56	219.91	6.98	75.56	63.71	-15.68	119.45	105.09	-12.02	177.78	150.00	-15.63	144.59	134.68	-6.85
GU 07-3774	241.21	209.73	-13.05	70.38	121.48	72.61	117.60	122.23	3.94	218.52	160.19	-26.69	161.93	153.41	-5.26
GU 07-2276	169.44	150.00	-11.47	34.82	42.96	23.38	98.61	89.36	-9.38	187.04	139.82	-25.25	122.48	105.54	-13.83
CYM 07-986	127.78	104.63	-18.12	64.45	42.96	-33.34	81.02	87.51	8.01	149.07	82.41	-44.72	105.58	79.38	-24.82
Standards															
Check1	139.36	139.35	-0.01	94.82	77.78	-17.97	62.96	55.56	-11.75	162.96	107.41	-34.09	115.03	95.03	-17.39
Check2	83.34	124.54	49.44	59.26	71.11	20.00	46.30	45.83	-1.02	156.48	108.34	-30.76	86.35	87.46	1.29
Check3	145.37	125.47	-13.69	60.74	71.12	17.09	68.99	61.11	-11.42	169.45	100.00	-40.99	111.14	89.43	-19.54
GM	149.15	138.49		72.99	62.22		86.89	77.49		154.34	116.47		115.84	98.67	-14.83
CD	57.37	51.04		10.94	7.47		41.80	29.76		22.85	19.64				
CV	18.89	18.10		7.36	5.90		23.63	18.86		7.27	8.28				
CD GxE	NS			6.06			NS			14.84					

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Table 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
BM 1003143	123.61	152.78	23.60	116.30	97.78	-15.92	106.95	106.48	-0.44	185.19	147.69	-20.25	133.01	126.18	-5.13
BM 1005149	164.17	126.39	-23.01	119.26	51.11	-57.14	125.93	115.74	-8.09	204.63	173.15	-15.38	153.50	116.60	-24.04
BM 1009163	167.13	115.74	-30.75	125.93	109.63	-12.94	131.48	127.32	-3.16	200.00	187.97	-6.02	156.14	135.17	-13.43
BM 1010168	165.80	128.71	-22.37	139.26	112.59	-19.15	134.72	126.86	-5.83	197.23	156.95	-20.42	159.25	131.28	-17.57
BM 1022173	132.40	143.06	8.05	89.63	48.89	-45.45	79.63	81.02	1.75	162.04	145.84	-10.00	115.93	104.70	-9.68
PG 9869137	88.89	79.63	-10.42	80.74	39.26	-51.37	59.73	58.80	-1.56	158.33	126.85	-19.88	96.92	76.14	-21.45
SA 98-13	109.44	109.26	-0.16	86.67	40.74	-52.99	91.21	91.21	0.00	154.63	118.52	-23.35	110.49	89.93	-18.60
SA 04-454	118.52	119.91	1.17	117.78	47.41	-59.75	105.10	94.91	-9.70	169.45	139.36	-17.76	127.71	100.40	-21.39
SA 04-472	154.89	117.13	-24.38	102.96	54.82	-46.76	105.56	100.93	-4.39	187.96	122.22	-34.98	137.84	98.78	-28.34
SA 04-458	49.91	65.28	30.80	109.63	123.71	12.84	121.30	119.45	-1.53	175.93	134.26	-23.69	114.19	110.68	-3.08
SA 04-390	50.20	17.13	-65.88	189.63	52.59	-72.27	112.50	86.11	-23.46	162.04	120.84	-25.43	128.59	69.17	-46.21
SA 04-496	110.78	110.65	-0.12	105.19	48.15	-54.23	120.83	124.08	2.69	169.45	153.70	-9.29	126.56	109.15	-13.76
SA 04-409	125.65	122.69	-2.36	120.00	85.19	-29.01	107.87	101.39	-6.01	191.67	159.26	-16.91	136.30	117.13	-14.06
AS 04-1689	187.78	171.30	-8.78	193.34	132.60	-31.42	140.74	129.17	-8.22	290.28	257.87	-11.17	203.04	172.74	-14.92
AS 04-245	166.21	162.04	-2.51	92.59	108.15	16.81	144.44	115.74	-19.87	241.21	194.45	-19.39	161.11	145.10	-9.94
AS 04-2097	155.10	127.78	-17.61	129.63	97.04	-25.14	137.51	131.48	-4.39	213.89	206.49	-3.46	159.03	140.70	-11.53
AS 04-635	207.41	199.08	-4.02	120.75	122.96	1.83	147.22	125.00	-15.09	268.52	253.24	-5.69	185.98	175.07	-5.86
AS 04-1687	170.84	193.52	13.28	210.37	163.71	-22.18	155.09	135.19	-12.83	289.82	241.67	-16.61	206.53	183.52	-11.14
MA 5/51	157.55	118.52	-24.77	125.93	52.59	-58.24	131.95	109.26	-17.20	186.11	151.39	-18.66	150.39	107.94	-28.22
MA 5/5	167.38	103.71	-38.04	95.56	50.37	-47.29	97.68	103.71	6.17	175.93	140.28	-20.26	134.14	99.52	-25.81
MA 5/37	143.98	126.39	-12.22	93.34	92.60	-0.79	81.48	79.63	-2.27	178.70	135.19	-24.35	124.38	108.45	-12.80
MA 5/99	152.05	109.72	-27.84	136.30	80.00	-41.31	147.69	136.58	-7.52	178.71	163.89	-8.29	153.69	122.55	-20.26
MA 5/22	115.75	100.00	-13.61	110.37	99.26	-10.07	86.57	84.26	-2.67	166.67	131.48	-21.11	119.84	103.75	-13.43
GU 07-3849	192.59	198.15	2.89	115.56	75.56	-34.61	144.45	131.02	-9.30	220.84	196.30	-11.11	168.36	150.26	-10.75
GU 07-3774	192.13	158.34	-17.59	148.89	123.70	-16.92	140.74	141.21	0.33	237.96	174.08	-26.84	179.93	149.33	-17.01
GU 07-2276	166.67	129.63	-22.22	55.56	63.71	14.67	134.26	121.76	-9.31	228.71	176.39	-22.88	146.30	122.87	-16.01
CYM 07-986	120.84	81.48	-32.57	62.96	53.33	-15.30	120.83	117.13	-3.06	172.23	123.15	-28.50	119.22	93.77	-21.34
Standards															
Check1	157.41	135.19	-14.12	177.04	110.37	-37.66	104.63	99.08	-5.30	179.63	122.23	-31.95	154.68	116.72	-24.54
Check2	135.65	114.35	-15.70	127.41	83.71	-34.30	84.26	82.88	-1.64	187.04	128.71	-31.19	133.59	102.41	-23.34
Check3	157.90	115.74	-26.70	108.15	100.74	-6.85	94.91	87.97	-7.31	184.26	119.45	-35.17	136.31	105.98	-22.25
GM	143.62	125.11		120.22	84.08		116.58	108.85		197.30	160.10		144.43	119.53	-17.24
CD	30.39	31.18		19.71	8.34		34.77	30.95		23.27	21.46				
CV	10.39	12.24		8.05	4.87		14.65	13.97		5.79	6.58				
CD GxE	NS			11.31			NS			14.96					

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Table 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
BM 1003143	110.90	111.50	0.54	172.59	92.60	-46.35	101.39	99.54	-1.82	162.04	131.49	-18.85	136.73	108.78	-20.44
BM 1005149	115.20	113.95	-1.09	158.52	60.00	-62.15	123.15	111.11	-9.78	182.41	158.80	-12.94	144.82	110.97	-23.38
BM 1009163	137.90	120.50	-12.62	166.67	125.93	-24.44	125.93	122.68	-2.58	179.63	155.10	-13.66	152.53	131.05	-14.08
BM 1010168	151.45	139.90	-7.63	129.63	86.67	-33.14	129.17	121.30	-6.09	163.89	138.89	-15.25	143.54	121.69	-15.22
BM 1022173	122.25	117.95	-3.52	118.52	62.97	-46.87	75.47	75.01	-0.61	146.30	131.95	-9.81	115.64	96.97	-16.14
PG 9869137	72.90	60.40	-17.15	77.78	47.41	-39.05	52.32	48.15	-7.97	111.58	85.65	-23.24	78.65	60.40	-23.20
SA 98-13	124.50	105.70	-15.10	85.93	35.56	-58.62	87.96	86.57	-1.58	116.67	88.43	-24.21	103.77	79.07	-23.80
SA 04-454	106.49	99.40	-6.66	149.63	54.07	-63.86	104.17	93.53	-10.21	132.41	114.36	-13.63	123.18	90.34	-26.66
SA 04-472	136.35	129.50	-5.02	131.12	62.23	-52.54	103.71	98.15	-5.36	131.02	109.26	-16.61	125.55	99.79	-20.52
SA 04-458	46.45	46.10	-0.75	105.19	97.78	-7.04	113.89	119.91	5.29	131.02	120.83	-7.78	99.14	96.16	-3.01
SA 04-390	45.20	29.60	-34.51	194.82	87.41	-55.13	108.80	84.26	-22.56	122.69	113.43	-7.55	117.88	78.68	-33.26
SA 04-496	137.50	95.80	-30.33	102.22	45.19	-55.79	114.36	114.82	0.40	148.15	141.21	-4.68	125.56	99.26	-20.95
SA 04-409	115.68	106.45	-7.98	146.67	86.67	-40.91	102.78	99.54	-3.15	155.56	135.65	-12.80	130.17	107.08	-17.74
AS 04-1689	173.60	149.50	-13.88	195.56	134.82	-31.06	132.87	127.32	-4.18	267.13	248.15	-7.11	192.29	164.95	-14.22
AS 04-245	173.60	152.30	-12.27	154.08	127.41	-17.31	137.96	111.12	-19.45	206.02	165.28	-19.77	167.92	139.03	-17.20
AS 04-2097	140.50	125.20	-10.89	124.45	102.97	-17.26	135.65	128.71	-5.12	204.17	188.43	-7.71	151.19	136.33	-9.83
AS 04-635	187.50	178.50	-4.80	291.11	188.89	-35.11	137.50	131.49	-4.37	250.93	232.41	-7.38	216.76	182.82	-15.66
AS 04-1687	174.25	178.55	2.47	227.41	148.89	-34.53	145.37	134.26	-7.64	259.26	214.82	-17.14	201.57	169.13	-16.09
MA 5/51	113.30	115.50	1.94	139.26	54.82	-60.63	131.48	106.03	-19.36	112.97	102.32	-9.43	124.25	94.67	-23.81
MA 5/5	140.45	136.60	-2.74	119.26	47.41	-60.25	97.23	101.39	4.28	147.22	113.89	-22.64	126.04	99.82	-20.80
MA 5/37	127.50	128.65	0.90	115.56	102.97	-10.89	80.10	69.45	-13.30	134.72	105.56	-21.64	114.47	101.66	-11.19
MA 5/99	120.65	101.90	-15.54	142.23	80.00	-43.75	137.96	132.41	-4.02	162.96	150.47	-7.66	140.95	116.20	-17.56
MA 5/22	115.45	109.20	-5.41	142.97	106.67	-25.39	71.76	71.30	-0.64	129.63	114.36	-11.78	114.95	100.38	-12.67
GU 07-3849	199.55	197.20	-1.18	147.41	66.67	-54.77	136.58	129.63	-5.09	200.00	183.80	-8.10	170.89	144.33	-15.54
GU 07-3774	175.00	171.45	-2.03	197.78	140.74	-28.84	131.48	133.34	1.41	222.23	212.04	-4.59	181.62	164.39	-9.49
GU 07-2276	148.55	145.05	-2.36	69.63	88.15	26.60	128.71	119.45	-7.19	175.47	159.26	-9.24	130.59	127.98	-2.00
CYM 07-986	136.55	98.10	-28.16	74.07	65.19	-11.99	116.21	115.74	-0.40	157.87	111.11	-29.62	121.18	97.54	-19.51
Standards															
Check1	137.05	123.00	-10.25	171.86	124.44	-27.59	100.47	89.36	-11.06	156.94	110.19	-29.79	141.58	111.75	-21.07
Check2	128.95	121.50	-5.78	174.82	94.82	-45.76	76.39	74.08	-3.02	162.04	112.97	-30.28	135.55	100.84	-25.60
Check3	149.60	129.00	-13.77	131.85	104.45	-20.78	89.82	83.80	-6.70	155.56	107.41	-30.95	131.71	106.17	-19.39
GM	132.16	121.27		145.29	90.79		111.02	104.45		166.28	141.92		138.69	114.61	-17.36
CD	21.17	14.11		21.72	13.92		31.57	32.08		20.89	18.08				
CV	7.87	5.71		7.35	7.53		13.97	15.09		6.17	6.26				
CD GxE	NS			12.27			NS			13.10					

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Table 5: 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
BM 1003143	105.10	89.82	-14.54	156.30	73.34	-53.08	97.69	94.45	-3.32	143.52	121.76	-15.16	125.65	94.84	-24.52
BM 1005149	96.30	91.87	-4.60	151.11	57.04	-62.25	109.73	96.30	-12.24	152.78	138.89	-9.09	127.48	96.03	-24.67
BM 1009163	109.56	96.87	-11.58	148.15	105.93	-28.50	124.07	118.52	-4.47	156.48	135.19	-13.61	134.57	114.13	-15.19
BM 1010168	148.53	111.01	-25.26	136.30	106.67	-21.74	111.11	112.50	1.25	151.85	129.17	-14.94	136.95	114.84	-16.14
BM 1022173	115.66	106.02	-8.33	126.67	69.63	-45.03	74.54	69.44	-6.84	126.85	116.21	-8.39	110.93	90.33	-18.57
PG 9869137	66.21	59.07	-10.78	96.30	24.45	-74.61	44.91	42.60	-5.14	81.48	73.61	-9.66	72.23	49.93	-30.87
SA 98-13	111.70	106.49	-4.66	88.89	20.00	-77.50	72.22	77.79	7.71	91.67	73.61	-19.70	91.12	69.47	-23.76
SA 04-454	91.54	91.21	-0.36	145.93	42.96	-70.56	91.21	76.39	-16.25	115.74	102.78	-11.20	111.11	78.34	-29.49
SA 04-472	103.04	94.31	-8.47	142.96	54.08	-62.17	93.06	83.80	-9.95	116.67	99.54	-14.68	113.93	82.93	-27.21
SA 04-458	42.04	38.89	-7.49	117.78	95.56	-18.87	93.06	107.87	15.91	119.44	111.11	-6.97	93.08	88.36	-5.07
SA 04-390	45.43	26.70	-41.23	184.45	92.60	-49.80	97.22	74.54	-23.33	106.95	95.84	-10.39	108.51	72.42	-33.26
SA 04-496	136.05	89.86	-33.95	97.04	29.63	-69.47	108.34	107.87	-0.43	136.11	123.61	-9.18	119.39	87.74	-26.50
SA 04-409	102.13	95.37	-6.62	131.85	100.74	-23.59	91.21	79.63	-12.70	122.69	112.04	-8.68	111.97	96.95	-13.42
AS 04-1689	175.00	152.35	-12.94	250.37	180.00	-28.11	120.37	116.67	-3.07	251.86	233.34	-7.35	199.40	170.59	-14.45
AS 04-245	186.11	199.07	6.96	189.63	151.11	-20.31	123.15	92.59	-24.82	190.28	150.93	-20.68	172.29	148.43	-13.85
AS 04-2097	135.75	122.22	-9.97	136.30	102.97	-24.45	108.80	106.48	-2.13	189.82	165.28	-12.93	142.67	124.24	-12.92
AS 04-635	183.71	173.15	-5.75	305.93	193.34	-36.80	132.87	99.54	-25.08	231.02	217.60	-5.81	213.38	170.91	-19.91
AS 04-1687	172.22	175.40	1.85	245.93	176.30	-28.31	143.52	124.54	-13.22	240.28	203.24	-15.42	200.49	169.87	-15.27
MA 5/51	92.59	95.37	3.00	114.82	68.15	-40.65	114.81	86.12	-24.99	104.17	93.98	-9.78	106.60	85.91	-19.41
MA 5/5	108.71	102.78	-5.45	122.22	54.82	-55.15	80.56	87.04	8.04	112.97	102.78	-9.02	106.12	86.86	-18.15
MA 5/37	124.39	99.08	-20.35	122.23	123.71	1.21	71.76	60.65	-15.48	114.35	81.49	-28.74	108.18	91.23	-15.67
MA 5/99	130.08	89.82	-30.95	138.52	62.23	-55.08	128.24	113.90	-11.18	146.76	131.95	-10.09	135.90	99.48	-26.80
MA 5/22	95.37	81.21	-14.85	114.08	115.56	1.30	62.50	59.26	-5.18	108.80	98.15	-9.79	95.19	88.55	-6.98
GU 07-3849	219.63	193.52	-11.89	148.89	65.19	-56.22	131.02	118.06	-9.89	183.80	157.87	-14.11	170.84	133.66	-21.76
GU 07-3774	159.72	134.46	-15.82	222.96	132.59	-40.53	128.71	131.94	2.51	211.58	202.32	-4.38	180.74	150.33	-16.83
GU 07-2276	117.13	100.93	-13.83	87.41	94.82	8.48	116.20	104.63	-9.96	157.87	147.23	-6.74	119.65	111.90	-6.48
CYM 07-986	131.17	92.13	-29.76	91.12	115.56	26.82	99.08	100.47	1.40	147.22	139.36	-5.34	117.15	111.88	-4.50
Standards															
Check1	121.15	90.25	-25.51	168.15	130.37	-22.47	95.37	82.02	-14.00	113.89	99.08	-13.00	124.64	100.43	-19.42
Check2	102.44	91.41	-10.77	129.63	84.45	-34.85	75.00	73.15	-2.47	121.30	66.67	-45.04	107.09	78.92	-26.31
Check3	161.50	125.60	-22.23	122.23	117.04	-4.25	82.87	79.23	-4.39	104.63	93.06	-11.06	117.81	103.73	-11.95
GM	123.00	107.21		147.81	94.69		100.77	92.60		145.09	127.26		129.17	105.44	-18.37
CD	19.30	17.48		21.13	13.27		39.55	31.90		19.89	18.18				
CV	7.71	8.01		7.02	6.88		19.28	16.92		6.73	7.02				
CD GxE	12.27			11.71			NS			NS					

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Table 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
BM 1003143	99.54	93.52	-6.05	159.26	115.56	-27.44	84.73	86.11	1.63	101.39	81.02	-20.09	111.23	94.05	-15.44
BM 1005149	102.78	87.96	-14.42	140.74	73.34	-47.89	99.08	83.33	-15.90	126.39	108.80	-13.92	117.25	88.36	-24.64
BM 1009163	117.50	87.96	-25.14	134.08	111.11	-17.13	108.34	101.39	-6.41	124.08	120.84	-2.61	121.00	105.33	-12.95
BM 1010168	135.19	106.48	-21.24	108.15	108.15	0.00	99.54	101.39	1.86	138.43	121.76	-12.04	120.33	109.45	-9.04
BM 1022173	113.24	95.83	-15.37	111.85	91.86	-17.87	70.83	62.97	-11.10	116.67	105.09	-9.93	103.15	88.94	-13.78
PG 9869137	68.52	47.23	-31.07	73.34	27.41	-62.63	39.36	38.89	-1.19	69.45	64.36	-7.33	62.67	44.47	-29.03
SA 98-13	117.97	107.41	-8.95	84.45	27.41	-67.54	64.82	72.69	12.14	81.48	70.37	-13.64	87.18	69.47	-20.31
SA 04-454	91.21	92.13	1.01	156.30	54.08	-65.40	83.79	70.37	-16.02	93.52	85.19	-8.91	106.21	75.44	-28.97
SA 04-472	87.50	83.80	-4.23	131.86	62.22	-52.81	84.72	75.47	-10.92	96.30	88.89	-7.69	100.10	77.60	-22.48
SA 04-458	41.39	38.43	-7.15	129.63	127.41	-1.71	84.26	99.54	18.13	112.50	96.30	-14.40	91.95	90.42	-1.66
SA 04-390	37.04	18.06	-51.24	148.89	111.12	-25.37	87.50	65.74	-24.87	91.67	77.78	-15.15	91.28	68.18	-25.31
SA 04-496	98.15	80.56	-17.92	103.70	34.82	-66.42	99.07	96.76	-2.33	120.37	109.26	-9.23	105.32	80.35	-23.71
SA 04-409	89.69	70.02	-21.93	131.85	102.97	-21.90	81.49	72.23	-11.36	110.65	100.93	-8.78	103.42	86.54	-16.32
AS 04-1689	192.13	125.00	-34.94	256.30	202.97	-20.81	109.72	108.34	-1.26	231.02	204.63	-11.42	197.29	160.24	-18.78
AS 04-245	205.56	168.52	-18.02	229.63	183.71	-20.00	110.65	84.26	-23.85	176.86	130.56	-26.18	180.68	141.76	-21.54
AS 04-2097	132.87	119.45	-10.10	142.22	128.15	-9.89	100.00	98.15	-1.85	162.50	143.98	-11.40	134.40	122.43	-8.90
AS 04-635	202.31	162.04	-19.91	300.75	285.19	-5.17	121.30	91.67	-24.43	213.43	193.06	-9.54	209.45	182.99	-12.63
AS 04-1687	182.41	173.62	-4.82	232.60	205.93	-11.47	130.56	113.43	-13.12	212.97	176.39	-17.18	189.64	167.34	-11.76
MA 5/51	107.41	81.49	-24.13	109.63	71.11	-35.14	105.56	77.78	-26.32	91.21	81.02	-11.17	103.45	77.85	-24.75
MA 5/5	117.59	78.24	-33.46	128.15	80.74	-37.00	68.52	78.24	14.19	101.39	89.82	-11.41	103.91	81.76	-21.32
MA 5/37	106.48	87.04	-18.26	99.26	85.93	-13.43	62.04	51.85	-16.42	104.63	72.69	-30.53	93.10	74.38	-20.11
MA 5/99	100.46	83.80	-16.58	104.44	46.67	-55.31	115.28	103.24	-10.44	132.87	113.43	-14.63	113.26	86.79	-23.38
MA 5/22	121.94	82.87	-32.04	105.93	125.93	18.88	53.71	51.39	-4.32	90.74	81.02	-10.71	93.08	85.30	-8.36
GU 07-3849	120.30	156.02	29.69	146.67	74.82	-48.99	114.35	109.26	-4.45	170.37	147.23	-13.58	137.92	121.83	-11.67
GU 07-3774	180.10	161.58	-10.28	251.85	154.08	-38.82	116.67	120.38	3.18	195.37	175.00	-10.43	186.00	152.76	-17.87
GU 07-2276	110.19	106.48	-3.37	75.56	111.85	48.03	106.95	98.15	-8.23	153.25	137.50	-10.28	111.49	113.50	1.80
CYM 07-986	116.58	99.08	-15.01	95.56	103.70	8.52	90.28	90.75	0.52	137.04	125.93	-8.11	109.87	104.87	-4.55
Standards															
Check1	102.78	76.95	-25.13	130.37	111.86	-14.20	83.34	72.68	-12.79	108.34	85.65	-20.94	106.21	86.79	-18.29
Check2	92.59	58.93	-36.35	114.82	99.26	-13.55	66.21	64.43	-2.69	110.19	95.37	-13.45	95.95	79.50	-17.15
Check3	103.69	91.20	-12.05	122.23	114.08	-6.67	73.62	71.76	-2.53	92.13	87.04	-5.52	97.92	91.02	-7.04
GM	116.50	97.39		142.00	107.78		90.54	83.75		128.91	112.36		119.49	100.32	-16.04
CD	20.30	11.02		31.42	16.40		36.04	29.90		16.40	16.55				
CV	8.56	5.56		10.87	7.48		19.55	17.54		6.25	7.23				
CD GxE	11.72			16.57			NS			NS					

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Table 7: Number of millable canes at harvest ('000/ha)

Entry	Karnal			Faridkot			Anakapalle			Padegaon			Mean		
	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change
BM 1003143				131.12	55.56	-57.63	78.71	79.17	0.58	93.52	74.54	-20.30	101.12	69.76	-31.01
BM 1005149				121.48	34.82	-71.34	91.67	74.08	-19.19	118.52	100.93	-14.84	110.56	69.94	-36.74
BM 1009163				91.86	46.67	-49.19	100.93	93.52	-7.34	120.37	109.73	-8.84	104.39	83.31	-20.19
BM 1010168				92.60	58.52	-36.80	91.21	93.06	2.03	120.84	100.00	-17.25	101.55	83.86	-17.42
BM 1022173				102.96	55.56	-46.04	66.21	54.63	-17.49	99.08	84.26	-14.96	89.42	64.82	-27.51
PG 9869137				62.23	10.37	-83.34	34.73	33.80	-2.68	57.87	52.32	-9.59	51.61	32.16	-37.68
SA 98-13				77.04	11.11	-85.58	57.88	62.97	8.79	70.37	63.43	-9.86	68.43	45.84	-33.02
SA 04-454				122.97	30.37	-75.30	76.39	60.65	-20.60	81.02	70.84	-12.56	93.46	53.95	-42.27
SA 04-472				98.52	45.19	-54.13	75.46	67.13	-11.04	97.22	78.71	-19.04	90.40	63.68	-29.56
SA 04-458				96.30	92.59	-3.85	75.47	91.20	20.84	104.17	80.56	-22.66	91.98	88.12	-4.20
SA 04-390				123.70	51.11	-58.68	78.24	56.02	-28.40	81.02	65.28	-19.43	94.32	57.47	-39.07
SA 04-496				76.30	16.30	-78.64	88.43	86.11	-2.62	109.26	94.45	-13.55	91.33	65.62	-28.15
SA 04-409				86.67	68.15	-21.37	74.54	63.89	-14.29	98.61	86.12	-12.67	86.61	72.72	-16.03
AS 04-1689				176.30	154.82	-12.18	101.39	100.01	-1.36	177.32	167.60	-5.48	151.67	140.81	-7.16
AS 04-245				145.93	180.74	23.85	100.47	75.00	-25.35	160.65	111.12	-30.83	135.68	122.29	-9.87
AS 04-2097				97.78	73.34	-24.99	90.28	91.67	1.54	135.65	118.98	-12.29	107.90	94.66	-12.27
AS 04-635				208.15	175.56	-15.66	111.11	82.87	-25.42	164.35	154.17	-6.19	161.20	137.53	-14.68
AS 04-1687				166.67	139.26	-16.45	117.59	100.93	-14.17	162.04	150.47	-7.14	148.77	130.22	-12.47
MA 5/51				74.82	44.45	-40.59	95.37	71.76	-24.76	81.02	70.37	-13.14	83.74	62.19	-25.73
MA 5/5				99.26	51.11	-48.51	62.04	68.52	10.44	90.74	76.39	-15.81	84.01	65.34	-22.23
MA 5/37				77.78	70.37	-9.53	54.63	46.30	-15.25	87.50	65.28	-25.39	73.30	60.65	-17.26
MA 5/99				72.60	28.15	-61.23	103.70	93.98	-9.37	122.69	93.52	-23.78	99.66	71.88	-27.87
MA 5/22				62.23	45.93	-26.19	44.91	43.52	-3.10	80.56	70.84	-12.07	62.57	53.43	-14.60
GU 07-3849				103.71	46.67	-55.00	105.56	99.08	-6.14	150.47	129.17	-14.16	119.91	91.64	-23.58
GU 07-3774				197.78	103.71	-47.56	107.41	111.58	3.88	144.91	134.73	-7.03	150.03	116.67	-22.24
GU 07-2276				76.30	77.04	0.97	97.68	89.36	-8.52	120.37	101.85	-15.39	98.12	89.42	-8.87
CYM 07-986				82.96	74.07	-10.72	80.56	81.48	1.14	117.60	97.69	-16.93	93.71	84.41	-9.92
Standards															
Check1				109.63	76.30	-30.40	78.71	68.99	-12.35	97.69	78.71	-19.43	95.34	74.67	-21.69
Check2				91.85	74.82	-18.54	62.97	61.12	-2.94	99.54	81.48	-18.14	84.79	72.47	-14.52
Check3				80.00	80.00	0.00	64.36	63.89	-0.73	94.91	83.34	-12.19	79.76	75.74	-5.03
GM				106.92	69.09		82.29	75.54		111.33	94.90		100.18	79.84	-20.30
CD				22.72	10.05		33.67	28.14		16.70	18.66				
CV				10.44	7.14		20.10	18.29		7.37	9.66				
CD GxE				11.55			NS			NS					

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 Table 8: 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
BM 1003143	16.70	18.05	8.08	16.65	18.55	11.41	16.15	16.56	2.54	17.04	17.69	3.81	16.64	17.71	6.48
BM 1005149	18.75	19.25	2.67	16.55	15.95	-3.63	19.23	18.94	-1.51	19.79	17.69	-10.61	18.58	17.96	-3.35
BM 1009163	18.80	19.45	3.46	16.10	18.25	13.35	10.06	10.80	7.36	19.29	19.44	0.78	16.06	16.99	5.74
BM 1010168	13.75	13.65	-0.73	17.35	17.75	2.31	19.42	18.90	-2.68	15.79	16.69	5.70	16.58	16.75	1.03
BM 1022173	14.20	15.90	11.97	15.50	14.50	-6.45	15.78	16.28	3.17	17.79	14.69	-17.43	15.82	15.34	-3.00
PG 9869137	18.70	17.75	-5.08	18.25	16.95	-7.12	17.45	17.77	1.83	18.54	18.19	-1.89	18.24	17.67	-3.13
SA 98-13	17.55	16.95	-3.42	15.65	16.65	6.39	17.01	17.42	2.41	17.54	15.69	-10.55	16.94	16.68	-1.54
SA 04-454	16.60	17.35	4.52	12.40	11.20	-9.68	11.80	12.06	2.20	15.54	15.69	0.97	14.09	14.08	-0.07
SA 04-472	19.95	20.10	0.75	18.35	16.10	-12.26	18.73	19.82	5.82	18.79	17.94	-4.52	18.96	18.49	-2.45
SA 04-458	16.25	17.40	7.08	14.90	19.15	28.52	15.25	14.92	-2.16	17.54	16.94	-3.42	15.99	17.10	6.99
SA 04-390	18.85	18.90	0.27	18.95	15.45	-18.47	16.75	16.43	-1.91	17.54	18.44	5.13	18.02	17.31	-3.98
SA 04-496	19.65	19.50	-0.76	18.65	16.25	-12.87	19.52	18.75	-3.94	20.54	18.69	-9.01	19.59	18.30	-6.60
SA 04-409	18.05	20.90	15.79	14.50	14.30	-1.38	19.42	18.42	-5.15	21.29	20.44	-3.99	18.32	18.52	1.09
AS 04-1689	12.65	12.65	0.00	13.50	12.30	-8.89	12.15	12.06	-0.74	17.54	17.69	0.86	13.96	13.68	-2.04
AS 04-245	13.75	14.30	4.00	15.50	12.05	-22.26	13.27	13.51	1.81	15.69	14.69	-6.37	14.55	13.64	-6.29
AS 04-2097	12.80	15.80	23.44	12.85	14.65	14.01	12.69	12.96	2.13	13.54	14.94	10.34	12.97	14.59	12.47
AS 04-635	13.90	14.55	4.68	17.45	13.95	-20.06	15.24	15.90	4.33	14.04	15.44	9.97	15.16	14.96	-1.30
AS 04-1687	12.65	13.05	3.16	12.70	12.35	-2.76	13.51	12.85	-4.89	15.19	14.44	-4.94	13.51	13.17	-2.52
MA 5/51	17.65	18.00	1.98	16.15	18.25	13.00	16.62	16.55	-0.42	16.54	15.44	-6.65	16.74	17.06	1.91
MA 5/5	16.95	17.65	4.13	13.60	17.55	29.04	17.30	17.40	0.58	16.29	15.94	-2.15	16.04	17.14	6.86
MA 5/37	18.15	17.45	-3.86	16.30	16.10	-1.23	18.78	18.11	-3.57	16.29	12.94	-20.56	17.38	16.15	-7.08
MA 5/99	17.15	17.45	1.75	15.40	15.45	0.32	13.89	14.89	7.20	17.04	16.69	-2.05	15.87	16.12	1.58
MA 5/22	17.25	17.50	1.45	15.90	17.95	12.89	16.18	17.20	6.30	18.04	18.69	3.60	16.84	17.84	5.89
GU 07-3849	13.85	15.60	12.64	16.10	16.55	2.80	19.05	17.74	-6.88	18.19	16.69	-8.25	16.80	16.65	-0.91
GU 07-3774	13.78	16.20	17.56	17.55	13.00	-25.93	12.26	12.04	-1.79	14.54	12.69	-12.72	14.53	13.48	-7.23
GU 07-2276	14.30	15.00	4.90	18.75	12.75	-32.00	15.04	15.08	0.27	15.29	12.94	-15.37	15.85	13.94	-12.01
CYM 07-986	11.75	13.60	15.74	13.60	12.00	-11.76	15.94	16.00	0.38	14.64	14.94	2.05	13.98	14.14	1.09
Standards															
Check1	20.50	21.10	2.93	18.30	19.65	7.38	18.49	18.45	-0.22	17.29	18.44	6.65	18.65	19.41	4.10
Check2	21.35	20.30	-4.92	12.35	18.80	52.23	17.76	17.99	1.30	17.29	17.69	2.31	17.19	18.70	8.77
Check3	19.00	20.00	5.26	16.25	18.60	14.46	20.13	19.43	-3.48	18.79	17.94	-4.52	18.54	18.99	2.43
GM	16.51	17.18		15.87	15.77		16.16	16.17		17.11	16.55		16.41	16.42	0.03
CD	1.28	1.11		1.12	1.34		1.71	1.55		1.99	2.08				
CV	3.80	3.17		3.48	4.17		5.21	4.72		5.70	6.19				
CD GxE	0.81			0.89			NS			NS					

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Table 9: 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	
BM 1003143	1.04	1.00	-3.85				0.80	0.73	-8.75	1.02	0.97	-4.90	0.95	0.90	-5.59	
BM 1005149	0.99	0.69	-30.30				0.99	0.81	-18.18	0.88	0.81	-7.95	0.95	0.77	-19.23	
BM 1009163	0.81	0.78	-3.70				0.52	0.48	-7.69	0.80	0.76	-5.00	0.71	0.67	-5.16	
BM 1010168	0.39	0.51	30.77				0.92	0.80	-13.04	0.68	0.59	-13.24	0.66	0.63	-4.52	
BM 1022173	1.37	1.10	-19.71				0.98	0.81	-17.35	1.01	0.74	-26.73	1.12	0.88	-21.13	
PG 9869137	1.41	1.25	-11.35				0.90	0.85	-5.56	1.34	1.49	11.19	1.22	1.20	-1.64	
SA 98-13	0.96	0.84	-12.50				0.75	0.76	1.33	1.03	1.03	0.00	0.91	0.88	-4.01	
SA 04-454	1.03	0.95	-7.77				0.55	0.51	-7.27	0.63	0.84	33.33	0.74	0.77	4.07	
SA 04-472	0.77	0.72	-6.49				1.00	0.88	-12.00	0.67	0.53	-20.90	0.81	0.71	-12.70	
SA 04-458	1.03	0.99	-3.88				0.43	0.44	2.33	0.81	0.86	6.17	0.76	0.76	0.88	
SA 04-390	1.04	0.87	-16.35				1.00	0.81	-19.00	0.82	0.71	-13.41	0.95	0.80	-16.43	
SA 04-496	1.01	0.69	-31.68				0.77	0.66	-14.29	0.66	0.58	-12.12	0.81	0.64	-20.90	
SA 04-409	0.91	0.86	-5.49				1.06	0.89	-16.04	0.99	0.84	-15.15	0.99	0.86	-12.50	
AS 04-1689	0.68	0.67	-1.47				0.59	0.48	-18.64	0.68	0.47	-30.88	0.65	0.54	-16.92	
AS 04-245	0.44	0.42	-4.55				0.42	0.55	30.95	0.39	0.34	-12.82	0.42	0.44	4.80	
AS 04-2097	0.88	1.00	13.64				0.64	0.58	-9.38	0.88	0.84	-4.55	0.80	0.81	0.83	
AS 04-635	0.42	0.36	-14.29				0.55	0.58	5.45	0.46	0.45	-2.17	0.48	0.46	-2.80	
AS 04-1687	0.59	0.73	23.73				0.63	0.53	-15.87	0.41	0.47	14.63	0.54	0.58	6.13	
MA 5/51	1.02	0.79	-22.55				0.89	0.80	-10.11	0.91	0.78	-14.29	0.94	0.79	-15.96	
MA 5/5	0.98	0.80	-18.37				0.94	0.85	-9.57	0.88	0.83	-5.68	0.93	0.83	-11.43	
MA 5/37	1.09	0.95	-12.84				0.90	0.81	-10.00	0.80	0.71	-11.25	0.93	0.82	-11.47	
MA 5/99	1.12	0.73	-34.82				0.46	0.45	-2.17	0.85	0.86	1.18	0.81	0.68	-16.05	
MA 5/22	1.05	0.96	-8.57				1.02	0.90	-11.76	1.13	1.27	12.39	1.07	1.04	-2.19	
GU 07-3849	0.46	0.48	4.35				0.75	0.75	0.00	0.45	0.41	-8.89	0.55	0.55	-1.20	
GU 07-3774	0.43	0.34	-20.93				0.39	0.47	20.51	0.41	0.39	-4.88	0.41	0.40	-2.44	
GU 07-2276	1.19	1.16	-2.52				0.83	0.71	-14.46	0.79	0.92	16.46	0.94	0.93	-0.71	
CYM 07-986	0.59	0.47	-20.34				0.56	0.53	-5.36	0.42	0.39	-7.14	0.52	0.46	-11.46	
Standards																
Check1	1.34	1.09	-18.66				1.01	1.01	0.00	1.07	1.00	-6.54	1.14	1.03	-9.36	
Check2	0.87	0.69	-20.69				0.97	0.86	-11.34	1.34	1.27	-5.22	1.06	0.94	-11.32	
Check3	1.05	0.96	-8.57				1.07	1.00	-6.54	1.01	1.10	8.91	1.04	1.02	-2.24	
GM	0.90	0.80					0.78	0.71		0.81	0.78		0.83	0.76	-8.16	
CD	0.17	0.22					0.18	0.14		0.24	0.20					
CV	9.27	13.87					11.69	9.90		14.75	12.83					
CD GxE	NS						NS				NS					

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Table 10: 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	
BM 1003143	14.13	15.62	10.54				13.84	13.60	-1.73	14.99	16.33	8.94	14.32	15.18	6.03	
BM 1005149	16.77	17.69	5.49				17.28	16.43	-4.92	17.52	15.74	-10.16	17.19	16.62	-3.32	
BM 1009163	17.72	17.57	-0.85				7.62	8.18	7.35	16.35	17.58	7.52	13.90	14.44	3.93	
BM 1010168	10.97	10.97	0.00				17.53	16.56	-5.53	13.53	14.16	4.66	14.01	13.90	-0.81	
BM 1022173	12.41	13.44	8.30				13.00	13.90	6.92	15.80	11.77	-25.51	13.74	13.04	-5.10	
PG 9869137	17.01	15.51	-8.82				15.01	14.93	-0.53	15.66	16.06	2.55	15.89	15.50	-2.47	
SA 98-13	15.76	14.83	-5.90				13.87	14.29	3.03	14.47	13.11	-9.40	14.70	14.08	-4.24	
SA 04-454	14.01	14.70	4.93				8.79	9.68	10.13	7.99	15.53	94.37	10.26	13.30	29.62	
SA 04-472	18.36	18.59	1.25				16.17	16.87	4.33	16.02	15.43	-3.68	16.85	16.96	0.67	
SA 04-458	13.90	14.81	6.55				11.10	9.37	-15.59	13.71	14.15	3.21	12.90	12.78	-0.98	
SA 04-390	16.89	17.24	2.07				13.12	14.04	7.01	14.70	15.14	2.99	14.90	15.47	3.82	
SA 04-496	18.14	17.80	-1.87				17.62	16.87	-4.26	19.10	15.89	-16.81	18.29	16.85	-7.84	
SA 04-409	15.74	19.25	22.30				16.97	16.79	-1.06	18.59	17.01	-8.50	17.10	17.68	3.41	
AS 04-1689	10.15	9.66	-4.83				8.85	9.45	6.78	13.82	13.61	-1.52	10.94	10.91	-0.30	
AS 04-245	10.97	11.69	6.56				10.89	10.45	-4.04	11.36	10.55	-7.13	11.07	10.90	-1.60	
AS 04-2097	9.54	11.15	16.88				9.50	9.81	3.26	10.35	10.71	3.48	9.80	10.56	7.76	
AS 04-635	11.33	11.79	4.06				11.91	12.11	1.68	11.44	11.08	-3.15	11.56	11.66	0.87	
AS 04-1687	9.42	10.14	7.64				10.12	10.31	1.88	11.37	10.53	-7.39	10.30	10.33	0.23	
MA 5/51	16.23	15.86	-2.28				14.41	14.04	-2.57	13.94	12.70	-8.90	14.86	14.20	-4.44	
MA 5/5	14.48	15.16	4.70				14.76	14.78	0.14	14.35	12.49	-12.96	14.53	14.14	-2.66	
MA 5/37	16.09	15.05	-6.46				15.83	15.07	-4.80	12.98	9.85	-24.11	14.97	13.32	-10.98	
MA 5/99	14.83	15.17	2.29				11.03	11.51	4.35	14.05	13.84	-1.49	13.30	13.51	1.53	
MA 5/22	14.70	15.17	3.20				13.15	14.05	6.84	15.54	16.55	6.50	14.46	15.26	5.49	
GU 07-3849	11.21	13.21	17.84				16.01	14.90	-6.93	15.41	14.80	-3.96	14.21	14.30	0.66	
GU 07-3774	10.47	13.67	30.56				9.41	8.80	-6.48	11.03	9.52	-13.69	10.30	10.66	3.49	
GU 07-2276	11.80	12.51	6.02				11.89	11.78	-0.93	11.65	9.45	-18.88	11.78	11.25	-4.53	
CYM 07-986	8.10	10.98	35.56				13.53	12.92	-4.51	11.13	10.93	-1.80	10.92	11.61	6.32	
Standards																
Check1	19.15	19.71	2.92				16.38	16.50	0.73	15.43	15.56	0.84	16.99	17.26	1.59	
Check2	19.69	18.93	-3.86				15.56	16.23	4.31	15.73	15.10	-4.01	16.99	16.75	-1.41	
Check3	17.11	18.48	8.01				18.66	18.02	-3.43	17.31	16.81	-2.89	17.69	17.77	0.43	
GM	14.24	14.88					13.46	13.41		14.18	13.73		13.96	14.01	0.35	
CD	1.41	1.30					9.34	1.10		3.74	2.48					
CV	4.85	4.30					0.62	4.03		12.97	8.87					
CD GxE	0.94						NS				NS					

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Table 11: 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
BM 1003143	48.28	45.96	-4.81				49.48	41.97	-15.18				48.88	43.97	-10.06
BM 1005149	49.90	43.71	-12.40				46.21	44.32	-4.09				48.06	44.02	-8.41
BM 1009163	45.49	46.90	3.10				35.06	30.71	-12.41				40.28	38.81	-3.65
BM 1010168	33.11	35.35	6.77				46.02	45.99	-0.07				39.57	40.67	2.79
BM 1022173	55.28	51.10	-7.56				44.96	36.48	-18.86				50.12	43.79	-12.63
PG 9869137	52.88	50.17	-5.12				48.39	43.13	-10.87				50.64	46.65	-7.87
SA 98-13	48.22	43.99	-8.77				47.64	42.49	-10.81				47.93	43.24	-9.79
SA 04-454	51.12	49.12	-3.91				41.12	36.81	-10.48				46.12	42.97	-6.84
SA 04-472	45.76	41.65	-8.98				48.39	49.04	1.34				47.08	45.35	-3.67
SA 04-458	52.63	51.84	-1.50				42.48	33.49	-21.16				47.56	42.67	-10.28
SA 04-390	47.93	37.97	-20.78				43.91	51.64	17.60				45.92	44.81	-2.43
SA 04-496	49.49	42.68	-13.76				42.99	41.63	-3.16				46.24	42.16	-8.83
SA 04-409	41.97	45.01	7.24				39.37	36.99	-6.05				40.67	41.00	0.81
AS 04-1689	30.96	38.35	23.87				41.64	34.59	-16.93				36.30	36.47	0.47
AS 04-245	31.75	29.77	-6.24				26.56	32.15	21.05				29.16	30.96	6.19
AS 04-2097	43.90	45.16	2.87				38.27	42.65	11.44				41.09	43.91	6.86
AS 04-635	33.36	30.60	-8.27				33.05	31.01	-6.17				33.21	30.81	-7.23
AS 04-1687	29.52	34.71	17.58				36.55	38.58	5.55				33.04	36.65	10.93
MA 5/51	43.89	50.04	14.01				42.88	47.02	9.65				43.39	48.53	11.86
MA 5/5	43.17	44.61	3.34				44.20	42.48	-3.89				43.69	43.55	-0.32
MA 5/37	54.36	49.55	-8.85				44.02	45.81	4.07				49.19	47.68	-3.07
MA 5/99	51.39	40.20	-21.77				31.94	29.71	-6.98				41.67	34.96	-16.10
MA 5/22	50.02	43.15	-13.73				51.26	45.09	-12.04				50.64	44.12	-12.88
GU 07-3849	32.31	34.54	6.90				40.27	36.86	-8.47				36.29	35.70	-1.63
GU 07-3774	26.66	25.00	-6.23				37.67	40.71	8.07				32.17	32.86	2.15
GU 07-2276	48.10	42.91	-10.79				48.34	48.01	-0.68				48.22	45.46	-5.72
CYM 07-986	31.18	28.24	-9.43				37.71	30.50	-19.12				34.45	29.37	-14.73
Standards															
Check1	52.28	51.23	-2.01				52.93	55.03	3.97				52.61	53.13	1.00
Check2	41.94	41.01	-2.22				48.54	49.13	1.22				45.24	45.07	-0.38
Check3	47.94	45.31	-5.49				51.55	50.09	-2.83				49.75	47.70	-4.11
GM	43.83	41.99					42.78	41.14					43.30	41.57	-4.01
CD	7.54	7.40					6.58	6.91							
CV	8.45	8.65					7.56	8.25							
CD GxE	5.19						4.60								

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Table 12: 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
BM 1003143	245.00	215.00	-12.24				279.89	273.33	-2.34	207.50	202.50	-2.41	244.13	230.28	-5.67
BM 1005149	230.00	185.00	-19.57				299.31	292.31	-2.34	207.50	197.50	-4.82	245.60	224.94	-8.41
BM 1009163	245.00	190.00	-22.45				213.95	213.18	-0.36	242.50	240.00	-1.03	233.82	214.39	-8.31
BM 1010168	205.00	210.00	2.44				300.40	287.01	-4.46	222.50	212.50	-4.49	242.63	236.50	-2.53
BM 1022173	300.00	240.00	-20.00				378.69	356.85	-5.77	212.50	202.50	-4.71	297.06	266.45	-10.31
PG 9869137	255.00	230.00	-9.80				235.29	231.90	-1.44	237.50	235.00	-1.05	242.60	232.30	-4.24
SA 98-13	240.00	255.00	6.25				249.26	248.90	-0.14	187.50	185.00	-1.33	225.59	229.63	1.79
SA 04-454	245.00	235.00	-4.08				399.46	371.46	-7.01	192.50	187.50	-2.60	278.99	264.65	-5.14
SA 04-472	215.00	200.00	-6.98				264.59	258.86	-2.17	172.50	167.50	-2.90	217.36	208.79	-3.95
SA 04-458	215.00	190.00	-11.63				288.92	281.85	-2.45	177.50	175.00	-1.41	227.14	215.62	-5.07
SA 04-390	220.00	190.00	-13.64				379.02	372.40	-1.75	150.00	140.00	-6.67	249.67	234.13	-6.22
SA 04-496	227.50	205.00	-9.89				299.56	287.42	-4.05	172.50	170.00	-1.45	233.19	220.81	-5.31
SA 04-409	275.00	235.00	-14.55				380.31	367.23	-3.44	195.00	190.00	-2.56	283.44	264.08	-6.83
AS 04-1689	285.00	257.50	-9.65				259.39	250.35	-3.49	227.50	222.50	-2.20	257.30	243.45	-5.38
AS 04-245	275.00	265.00	-3.64				317.62	300.25	-5.47	267.50	225.00	-15.89	286.71	263.42	-8.12
AS 04-2097	265.00	275.00	3.77				348.90	338.70	-2.92	255.00	230.00	-9.80	289.63	281.23	-2.90
AS 04-635	237.50	195.00	-17.89				304.54	301.44	-1.02	242.50	200.00	-17.53	261.51	232.15	-11.23
AS 04-1687	270.00	252.50	-6.48				352.75	347.99	-1.35	217.50	212.50	-2.30	280.08	271.00	-3.24
MA 5/51	280.00	200.00	-28.57				284.53	278.04	-2.28	212.50	200.00	-5.88	259.01	226.01	-12.74
MA 5/5	260.00	215.00	-17.31				349.39	343.29	-1.75	202.50	185.00	-8.64	270.63	247.76	-8.45
MA 5/37	255.00	227.50	-10.78				299.41	290.78	-2.88	202.50	187.50	-7.41	252.30	235.26	-6.76
MA 5/99	257.50	212.50	-17.48				319.41	310.28	-2.86	202.50	197.50	-2.47	259.80	240.09	-7.59
MA 5/22	255.00	225.00	-11.76				321.31	310.30	-3.43	232.50	230.00	-1.08	269.60	255.10	-5.38
GU 07-3849	230.00	215.00	-6.52				296.32	285.27	-3.73	152.50	147.50	-3.28	226.27	215.92	-4.57
GU 07-3774	210.00	142.50	-32.14				257.47	245.38	-4.70	140.00	135.00	-3.57	202.49	174.29	-13.92
GU 07-2276	282.50	255.00	-9.73				313.96	294.90	-6.07	172.50	162.50	-5.80	256.32	237.47	-7.36
CYM 07-986	270.00	210.00	-22.22				277.45	280.46	1.08	217.50	177.50	-18.39	254.98	222.65	-12.68
Standards															
Check1	257.50	205.00	-20.39				267.40	258.29	-3.41	177.50	162.50	-8.45	234.13	208.60	-10.91
Check2	155.00	150.00	-3.23				218.32	217.79	-0.24	197.50	185.00	-6.33	190.27	184.26	-3.16
Check3	285.00	245.00	-14.04				236.47	228.06	-3.56	182.50	180.00	-1.37	234.66	217.69	-7.23
GM	248.25	217.58					299.78	290.81		202.67	191.50		250.23	233.30	-6.77
CD	40.56	57.07					32.13	25.69		11.06	11.96				
CV	8.03	12.88					5.26	4.34		2.68	3.07				
CD GxE	NS						NS				7.81				

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Table 13: 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	
BM 1003143	2.27	2.20	-3.08				2.42	2.42	0.00	2.85	2.85	0.00	2.51	2.49	-0.93	
BM 1005149	2.27	2.13	-6.17				2.73	2.50	-8.42	2.55	2.45	-3.92	2.52	2.36	-6.23	
BM 1009163	2.09	2.30	10.05				1.32	1.47	11.36	2.75	2.65	-3.64	2.05	2.14	4.22	
BM 1010168	1.48	1.93	30.41				2.18	1.82	-16.51	2.25	2.05	-8.89	1.97	1.93	-1.86	
BM 1022173	2.38	2.56	7.56				2.77	2.55	-7.94	3.05	2.95	-3.28	2.73	2.69	-1.71	
PG 9869137	2.53	2.72	7.51				2.93	2.70	-7.85	3.55	3.45	-2.82	3.00	2.96	-1.55	
SA 98-13	2.28	2.42	6.14				2.15	2.08	-3.26	2.85	2.75	-3.51	2.43	2.42	-0.41	
SA 04-454	1.96	2.48	26.53				2.37	2.21	-6.75	2.65	2.65	0.00	2.33	2.45	5.16	
SA 04-472	2.11	2.28	8.06				2.44	2.30	-5.74	2.75	2.65	-3.64	2.43	2.41	-0.96	
SA 04-458	2.33	2.67	14.59				1.71	1.56	-8.77	2.85	2.65	-7.02	2.30	2.29	-0.15	
SA 04-390	2.75	2.37	-13.82				2.14	1.95	-8.88	2.95	2.65	-10.17	2.61	2.32	-11.10	
SA 04-496	2.33	2.12	-9.01				2.15	2.00	-6.98	2.75	2.65	-3.64	2.41	2.26	-6.36	
SA 04-409	2.25	2.23	-0.89				2.37	2.20	-7.17	2.70	2.45	-9.26	2.44	2.29	-6.01	
AS 04-1689	1.88	1.81	-3.72				2.59	2.23	-13.90	2.45	1.95	-20.41	2.31	2.00	-13.44	
AS 04-245	1.42	1.66	16.90				1.34	1.46	8.96	1.65	1.55	-6.06	1.47	1.56	5.90	
AS 04-2097	2.15	2.28	6.05				1.97	1.82	-7.61	2.55	2.35	-7.84	2.22	2.15	-3.30	
AS 04-635	1.52	1.50	-1.32				1.42	1.23	-13.38	1.80	1.70	-5.56	1.58	1.48	-6.54	
AS 04-1687	1.66	2.05	23.49				1.52	1.39	-8.55	2.05	1.95	-4.88	1.74	1.80	3.06	
MA 5/51	2.33	2.40	3.00				2.36	2.18	-7.63	2.75	2.70	-1.82	2.48	2.43	-2.15	
MA 5/5	2.28	2.32	1.75				2.45	2.26	-7.76	2.75	2.65	-3.64	2.49	2.41	-3.34	
MA 5/37	2.33	2.40	3.00				2.02	1.79	-11.39	2.95	2.70	-8.47	2.43	2.30	-5.62	
MA 5/99	2.17	1.98	-8.76				1.67	1.55	-7.19	2.75	2.75	0.00	2.20	2.09	-4.70	
MA 5/22	2.58	2.43	-5.81				2.44	2.29	-6.15	2.95	2.75	-6.78	2.66	2.49	-6.27	
GU 07-3849	1.50	1.62	8.00				2.12	1.95	-8.02	1.95	1.80	-7.69	1.86	1.79	-3.59	
GU 07-3774	1.43	1.58	10.49				1.97	1.80	-8.63	1.95	1.85	-5.13	1.78	1.74	-2.24	
GU 07-2276	2.10	2.42	15.24				2.57	2.44	-5.06	2.65	2.70	1.89	2.44	2.52	3.28	
CYM 07-986	1.60	1.63	1.87				1.62	1.44	-11.11	2.75	1.80	-34.55	1.99	1.62	-18.43	
Standards																
Check1	2.68	2.38	-11.19				1.78	1.72	-3.37	3.15	3.05	-3.17	2.54	2.38	-6.04	
Check2	2.02	2.13	5.45				1.93	1.94	0.52	3.45	3.35	-2.90	2.47	2.47	0.27	
Check3	2.29	2.18	-4.80				2.83	2.71	-4.24	3.05	2.95	-3.28	2.72	2.61	-4.04	
GM	2.10	2.17					2.14	2.00		2.67	2.51		2.30	2.23	-3.28	
CD	0.33	0.42					0.42	0.28		0.27	0.13					
CV	7.68	9.53					9.57	6.86		4.95	2.46					
CD GxE	NS						NS				0.14					

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 Table 14: 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
BM 1003143	22.00	22.50	2.27				20.00	19.00	-5.00	19.50	18.50	-5.13	20.50	20.00	-2.44
BM 1005149	22.00	22.80	3.64				21.50	20.00	-6.98	16.50	15.50	-6.06	20.00	19.43	-2.83
BM 1009163	23.50	21.50	-8.51				18.50	18.00	-2.70	16.50	15.50	-6.06	19.50	18.33	-5.98
BM 1010168	22.50	23.50	4.44				21.50	20.00	-6.98	18.00	16.50	-8.33	20.67	20.00	-3.23
BM 1022173	25.50	24.50	-3.92				18.00	17.00	-5.56	17.50	15.50	-11.43	20.33	19.00	-6.56
PG 9869137	21.50	22.50	4.65				15.00	17.00	13.33	18.50	18.00	-2.70	18.33	19.17	4.55
SA 98-13	25.50	24.50	-3.92				16.00	17.00	6.25	16.50	16.00	-3.03	19.33	19.17	-0.86
SA 04-454	23.00	19.50	-15.22				19.00	18.00	-5.26	16.50	15.00	-9.09	19.50	17.50	-10.26
SA 04-472	22.50	21.50	-4.44				19.00	20.00	5.26	20.50	19.50	-4.88	20.67	20.33	-1.61
SA 04-458	23.10	20.00	-13.42				19.00	19.00	0.00	17.50	17.00	-2.86	19.87	18.67	-6.04
SA 04-390	23.00	23.00	0.00				18.50	20.00	8.11	17.50	16.50	-5.71	19.67	19.83	0.85
SA 04-496	22.00	20.50	-6.82				17.00	16.50	-2.94	21.50	21.00	-2.33	20.17	19.33	-4.13
SA 04-409	25.00	22.50	-10.00				20.00	19.00	-5.00	20.50	16.50	-19.51	21.83	19.33	-11.45
AS 04-1689	22.50	22.50	0.00				28.50	26.00	-8.77	15.50	14.50	-6.45	22.17	21.00	-5.26
AS 04-245	24.50	22.50	-8.16				20.00	19.50	-2.50	18.50	17.50	-5.41	21.00	19.83	-5.56
AS 04-2097	22.00	20.00	-9.09				20.50	19.50	-4.88	17.50	17.00	-2.86	20.00	18.83	-5.83
AS 04-635	18.00	18.95	5.28				14.00	16.00	14.29	19.50	18.50	-5.13	17.17	17.82	3.79
AS 04-1687	24.50	25.00	2.04				24.50	24.00	-2.04	20.50	20.00	-2.44	23.17	23.00	-0.72
MA 5/51	24.00	21.50	-10.42				16.50	17.50	6.06	17.50	15.50	-11.43	19.33	18.17	-6.03
MA 5/5	22.70	23.50	3.52				28.00	26.00	-7.14	20.50	19.50	-4.88	23.73	23.00	-3.09
MA 5/37	23.50	17.50	-25.53				21.50	21.00	-2.33	17.50	16.50	-5.71	20.83	18.33	-12.00
MA 5/99	21.50	21.50	0.00				15.50	15.00	-3.23	16.00	15.00	-6.25	17.67	17.17	-2.83
MA 5/22	23.50	21.50	-8.51				21.00	19.50	-7.14	19.50	19.00	-2.56	21.33	20.00	-6.25
GU 07-3849	21.00	19.00	-9.52				22.50	20.00	-11.11	15.50	14.50	-6.45	19.67	17.83	-9.32
GU 07-3774	21.00	17.00	-19.05				18.00	19.00	5.56	12.00	11.50	-4.17	17.00	15.83	-6.86
GU 07-2276	22.70	22.50	-0.88				19.50	19.00	-2.56	20.50	19.50	-4.88	20.90	20.33	-2.71
CYM 07-986	24.00	18.50	-22.92				16.00	15.50	-3.13	18.00	16.00	-11.11	19.33	16.67	-13.79
Standards															
Check1	22.00	16.50	-25.00				19.00	18.00	-5.26	17.00	15.50	-8.82	19.33	16.67	-13.79
Check2	14.50	14.50	0.00				20.00	19.00	-5.00	19.50	17.50	-10.26	18.00	17.00	-5.56
Check3	23.50	20.00	-14.89				22.00	21.00	-4.55	16.50	15.50	-6.06	20.67	18.83	-8.87
GM	22.55	21.04					19.67	19.20		17.95	16.80		20.06	19.01	-5.19
CD	1.50	2.61					4.95	3.33		1.12	0.85				
CV	3.26	6.09					12.36	8.53		3.06	2.50				
CD GxE	1.54						NS				0.69				

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 Table 15: Cane fibre % at 300 days

Entry	Karnal			Faridkot			Anakapalle			Padegaon			Mean		
	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change
BM 1003143	11.19	12.08	7.95				18.60	19.14	2.90				14.90	15.61	4.80
BM 1005149	13.49	13.00	-3.63				16.58	17.78	7.24				15.04	15.39	2.36
BM 1009163	14.15	14.20	0.35				21.55	19.81	-8.07				17.85	17.01	-4.73
BM 1010168	12.40	12.45	0.40				16.44	16.17	-1.64				14.42	14.31	-0.76
BM 1022173	14.52	14.34	-1.24				15.96	16.60	4.01				15.24	15.47	1.51
PG 9869137	10.83	12.25	13.11				16.65	17.39	4.44				13.74	14.82	7.86
SA 98-13	14.49	13.45	-7.18				17.13	16.88	-1.46				15.81	15.17	-4.08
SA 04-454	8.31	8.78	5.66				17.30	17.67	2.14				12.81	13.23	3.28
SA 04-472	12.20	11.99	-1.72				20.23	19.47	-3.76				16.22	15.73	-2.99
SA 04-458	10.49	10.25	-2.29				19.31	18.94	-1.92				14.90	14.60	-2.05
SA 04-390	12.99	12.74	-1.92				14.89	16.79	12.76				13.94	14.77	5.92
SA 04-496	13.29	13.11	-1.35				19.15	19.53	1.98				16.22	16.32	0.62
SA 04-409	13.36	12.43	-6.96				16.10	17.05	5.90				14.73	14.74	0.07
AS 04-1689	16.34	14.98	-8.32				18.65	18.82	0.91				17.50	16.90	-3.40
AS 04-245	21.72	22.01	1.34				16.63	16.84	1.26				19.18	19.43	1.30
AS 04-2097	12.83	13.23	3.12				18.93	17.92	-5.34				15.88	15.58	-1.92
AS 04-635	18.55	20.15	8.63				20.66	20.97	1.50				19.61	20.56	4.87
AS 04-1687	20.33	20.34	0.05				17.39	18.29	5.18				18.86	19.32	2.41
MA 5/51	11.65	11.56	-0.77				17.25	18.95	9.86				14.45	15.26	5.57
MA 5/5	12.62	12.30	-2.54				16.46	17.91	8.81				14.54	15.11	3.89
MA 5/37	9.42	9.36	-0.64				17.61	18.43	4.66				13.52	13.90	2.81
MA 5/99	12.88	12.43	-3.49				17.73	18.89	6.54				15.31	15.66	2.32
MA 5/22	10.63	9.33	-12.23				19.90	20.25	1.76				15.27	14.79	-3.11
GU 07-3849	16.44	15.91	-3.22				17.81	18.77	5.39				17.13	17.34	1.26
GU 07-3774	12.13	14.17	16.82				17.04	18.15	6.51				14.59	16.16	10.80
GU 07-2276	11.81	13.04	10.41				21.05	19.97	-5.13				16.43	16.51	0.46
CYM 07-986	18.82	16.39	-12.91				18.21	19.04	4.56				18.52	17.72	-4.32
Standards															
Check1	12.00	12.15	1.25				16.06	17.23	7.29				14.03	14.69	4.70
Check2	13.25	11.45	-13.58				18.38	17.27	-6.04				15.82	14.36	-9.20
Check3	12.68	13.14	3.63				16.29	16.86	3.50				14.49	15.00	3.56
GM	13.53	13.43	-0.69				17.86	18.26	2.21				15.70	15.85	0.96
CD	1.51	1.53					1.56	1.29							
CV	5.48	5.59					4.30	3.46							
CD GxE	1.00						NS								

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Table 16: 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
BM 1003143	1.12	1.03	-8.04	0.83	0.61	-26.51	0.95	0.64	-32.63	1.07	1.01	-5.61	0.99	0.82	-17.13
BM 1005149	1.04	1.14	9.62	1.09	0.80	-26.61	1.02	0.79	-22.55	1.03	0.84	-18.45	1.05	0.89	-14.59
BM 1009163	0.93	0.94	1.08	1.04	0.71	-31.73	0.71	0.36	-49.30	0.88	0.81	-7.95	0.89	0.71	-20.79
BM 1010168	0.47	0.59	25.53	0.91	0.55	-39.56	1.08	0.89	-17.59	1.02	0.85	-16.67	0.87	0.72	-17.24
BM 1022173	1.41	1.16	-17.73	1.18	1.04	-11.86	1.20	0.90	-25.00	1.26	1.22	-3.17	1.26	1.08	-14.46
PG 9869137	1.40	1.17	-16.43	1.40	1.22	-12.86	1.10	0.83	-24.55	1.87	1.70	-9.09	1.44	1.23	-14.73
SA 98-13	1.05	0.97	-7.62	1.22	0.61	-50.00	1.02	0.66	-35.29	1.29	1.14	-11.63	1.15	0.85	-26.20
SA 04-454	1.05	0.96	-8.57	0.68	0.62	-8.82	0.77	0.44	-42.86	1.11	0.91	-18.02	0.90	0.73	-18.84
SA 04-472	1.13	0.87	-23.01	0.79	0.60	-24.05	1.24	0.99	-20.16	1.04	0.67	-35.58	1.05	0.78	-25.48
SA 04-458	1.17	1.15	-1.71	0.88	0.61	-30.68	0.59	0.37	-37.29	1.04	0.94	-9.62	0.92	0.77	-16.58
SA 04-390	1.08	1.03	-4.63	1.13	0.84	-25.66	1.19	1.01	-15.13	0.91	0.86	-5.49	1.08	0.94	-13.23
SA 04-496	1.10	0.70	-36.36	0.98	0.57	-41.84	0.96	0.58	-39.58	1.07	1.01	-5.61	1.03	0.72	-30.41
SA 04-409	0.87	0.84	-3.45	1.08	0.77	-28.70	1.21	0.91	-24.79	1.16	0.93	-19.83	1.08	0.86	-20.14
AS 04-1689	0.74	0.80	8.11	1.08	0.76	-29.63	0.73	0.54	-26.03	1.08	0.98	-9.26	0.91	0.77	-15.15
AS 04-245	0.45	0.43	-4.44	0.81	0.39	-51.85	0.60	0.36	-40.00	0.74	0.50	-32.43	0.65	0.42	-35.38
AS 04-2097	1.04	1.04	0.00	1.03	0.95	-7.77	0.80	0.54	-32.50	1.03	0.88	-14.56	0.98	0.85	-12.56
AS 04-635	0.57	0.48	-15.79	0.90	0.64	-28.89	0.71	0.34	-52.11	0.96	0.84	-12.50	0.79	0.58	-26.75
AS 04-1687	0.61	0.75	22.95	1.11	0.76	-31.53	0.82	0.61	-25.61	0.88	0.59	-32.95	0.86	0.68	-20.76
MA 5/51	1.05	0.84	-20.00	1.05	0.72	-31.43	1.11	0.70	-36.94	0.94	1.02	8.51	1.04	0.82	-20.96
MA 5/5	1.21	1.17	-3.31	0.85	0.87	2.35	1.16	0.73	-37.07	1.04	0.89	-14.42	1.07	0.92	-14.08
MA 5/37	1.08	0.94	-12.96	0.77	0.67	-12.99	1.03	0.70	-32.04	1.02	0.84	-17.65	0.98	0.79	-19.23
MA 5/99	1.21	0.86	-28.93	1.24	0.91	-26.61	0.73	0.38	-47.95	0.99	0.88	-11.11	1.04	0.76	-27.34
MA 5/22	1.18	1.03	-12.71	1.71	1.40	-18.13	1.16	0.80	-31.03	1.33	1.09	-18.05	1.35	1.08	-19.70
GU 07-3849	0.52	0.49	-5.77	0.54	0.41	-24.07	0.92	0.72	-21.74	0.87	0.52	-40.23	0.71	0.54	-24.91
GU 07-3774	0.44	0.40	-9.09	0.54	0.44	-18.52	0.60	0.26	-56.67	0.86	0.63	-26.74	0.61	0.43	-29.10
GU 07-2276	1.20	1.20	0.00	0.93	0.82	-11.83	1.03	0.73	-29.13	1.10	1.05	-4.55	1.07	0.95	-10.80
CYM 07-986	0.63	0.57	-9.52	1.44	0.36	-75.00	0.78	0.39	-50.00	0.88	0.63	-28.41	0.93	0.49	-47.72
Standards															
Check1	1.43	1.09	-23.78	0.92	0.71	-22.83	1.19	1.03	-13.45	1.15	1.07	-6.96	1.17	0.98	-16.84
Check2	0.95	0.99	4.21	0.99	0.80	-19.19	0.60	0.89	48.33	1.48	1.30	-12.16	1.01	1.00	-1.00
Check3	1.15	1.00	-13.04	1.37	1.21	-11.68	1.18	1.00	-15.25	1.37	1.22	-10.95	1.27	1.11	-12.62
GM	0.98	0.89		1.02	0.75		0.94	0.67		1.08	0.93		1.00	0.81	-19.53
CD	0.17	0.17		0.24	0.13		0.37	0.17		0.17	0.15				
CV	8.48	9.21		11.77	8.74		19.32	12.67		7.51	7.73				
CD GxE	0.11			0.13			NS			NS					

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Table 17: 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
BM 1003143	250.00	210.00	-16.00	209.17	139.67	-33.23	280.40	275.30	-1.82	235.00	210.00	-10.64	243.64	208.74	-14.32
BM 1005149	200.00	205.00	2.50	260.00	148.84	-42.75	306.83	298.26	-2.79	220.00	212.50	-3.41	246.71	216.15	-12.39
BM 1009163	260.00	215.00	-17.31	180.50	176.94	-1.97	219.30	213.28	-2.75	285.00	275.00	-3.51	236.20	220.06	-6.84
BM 1010168	225.00	230.00	2.22	260.84	134.00	-48.63	298.23	281.29	-5.68	240.00	227.50	-5.21	256.02	218.20	-14.77
BM 1022173	280.00	270.00	-3.57	213.84	146.00	-31.72	363.80	353.39	-2.86	237.50	212.50	-10.53	273.79	245.47	-10.34
PG 9869137	240.00	235.00	-2.08	215.84	160.34	-25.71	240.29	233.27	-2.92	267.50	245.00	-8.41	240.91	218.40	-9.34
SA 98-13	270.00	270.00	0.00	230.50	131.22	-43.07	244.53	237.05	-3.06	227.50	207.50	-8.79	243.13	211.44	-13.03
SA 04-454	230.00	210.00	-8.70	225.83	132.17	-41.47	397.24	383.61	-3.43	227.50	182.50	-19.78	270.14	227.07	-15.94
SA 04-472	245.00	202.50	-17.35	168.83	106.17	-37.11	264.54	261.56	-1.13	212.50	152.50	-28.24	222.72	180.68	-18.87
SA 04-458	215.00	225.00	4.65	202.34	146.67	-27.51	288.92	285.60	-1.15	232.50	202.50	-12.90	234.69	214.94	-8.41
SA 04-390	235.00	225.00	-4.26	207.50	122.50	-40.96	379.07	374.26	-1.27	157.50	142.50	-9.52	244.77	216.07	-11.73
SA 04-496	245.00	235.00	-4.08	207.50	155.00	-25.30	309.65	301.29	-2.70	207.50	165.00	-20.48	242.41	214.07	-11.69
SA 04-409	280.00	240.00	-14.29	260.84	193.33	-25.88	386.31	376.78	-2.47	235.00	222.50	-5.32	290.54	258.15	-11.15
AS 04-1689	290.00	255.00	-12.07	247.83	224.17	-9.55	267.39	263.25	-1.55	262.50	235.00	-10.48	266.93	244.36	-8.46
AS 04-245	275.00	260.00	-5.45	285.00	196.34	-31.11	315.62	308.05	-2.40	262.50	257.50	-1.90	284.53	255.47	-10.21
AS 04-2097	300.00	275.00	-8.33	284.17	171.84	-39.53	358.91	355.31	-1.00	312.50	240.00	-23.20	313.90	260.54	-17.00
AS 04-635	290.00	225.00	-22.41	269.17	216.84	-19.44	309.48	301.54	-2.57	292.50	267.50	-8.55	290.29	252.72	-12.94
AS 04-1687	275.00	245.00	-10.91	300.33	198.84	-33.79	350.25	340.47	-2.79	237.50	217.50	-8.42	290.77	250.45	-13.87
MA 5/51	255.00	230.00	-9.80	181.84	140.67	-22.64	292.53	276.33	-5.54	232.50	220.00	-5.38	240.47	216.75	-9.86
MA 5/5	265.00	245.00	-7.55	254.17	154.50	-39.21	346.39	340.38	-1.74	262.50	235.00	-10.48	282.02	243.72	-13.58
MA 5/37	245.00	190.00	-22.45	210.84	170.00	-19.37	296.80	286.06	-3.62	232.50	222.50	-4.30	246.29	217.14	-11.83
MA 5/99	285.00	220.00	-22.81	231.06	158.67	-31.33	318.92	316.55	-0.74	265.00	250.00	-5.66	275.00	236.31	-14.07
MA 5/22	260.00	255.00	-1.92	285.50	220.50	-22.77	320.81	309.23	-3.61	267.50	252.50	-5.61	283.45	259.31	-8.52
GU 07-3849	240.00	240.00	0.00	209.50	97.50	-53.46	301.32	294.98	-2.10	180.00	167.50	-6.94	232.71	200.00	-14.06
GU 07-3774	195.00	125.00	-35.90	221.67	154.17	-30.45	262.47	248.40	-5.36	185.00	167.50	-9.46	216.04	173.77	-19.57
GU 07-2276	265.00	220.00	-16.98	203.34	170.17	-16.31	310.99	302.89	-2.60	257.50	217.50	-15.53	259.21	227.64	-12.18
CYM 07-986	275.00	195.00	-29.09	230.50	126.67	-45.05	280.97	280.28	-0.25	217.50	210.00	-3.45	250.99	202.99	-19.13
Standards															
Check1	255.00	210.00	-17.65	229.17	163.00	-28.87	272.40	270.51	-0.69	150.00	142.50	-5.00	226.64	196.50	-13.30
Check2	250.00	235.00	-6.00	215.00	124.67	-42.01	223.34	223.73	0.17	240.00	230.00	-4.17	232.09	203.35	-12.38
Check3	200.00	185.00	-7.50	224.33	131.34	-41.45	240.47	235.65	-2.00	242.50	232.50	-4.12	226.83	196.12	-13.54
GM	253.17	226.08		230.90	157.09		301.61	294.29		236.17	214.08		255.46	222.89	-12.75
CD	NS	46.66		12.21	10.07		27.45	24.17		7.48	14.60				
CV	12.12	10.14		2.60	3.15		4.47	4.03		1.56	3.35				
CD GxE	NS			7.84			NS			8.92					

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Table 18: 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
BM 1003143	2.10	2.17	3.33	2.68	2.48	-7.46	2.53	2.45	-3.16	2.65	2.55	-3.77	2.49	2.41	-3.11
BM 1005149	2.20	2.26	2.73	2.33	2.27	-2.58	2.77	2.70	-2.53	2.45	2.20	-10.20	2.44	2.36	-3.28
BM 1009163	2.04	2.20	7.84	2.28	2.10	-7.89	1.42	1.54	8.45	2.70	2.55	-5.56	2.11	2.10	-0.59
BM 1010168	1.80	1.75	-2.78	2.31	1.70	-26.41	2.28	2.26	-0.88	1.80	1.60	-11.11	2.05	1.83	-10.74
BM 1022173	2.53	2.49	-1.58	2.88	2.66	-7.64	2.62	2.47	-5.73	2.85	2.30	-19.30	2.72	2.48	-8.82
PG 9869137	2.73	2.70	-1.10	3.18	2.99	-5.97	2.84	2.73	-3.87	3.10	2.95	-4.84	2.96	2.84	-4.05
SA 98-13	2.60	2.45	-5.77	2.76	2.33	-15.58	2.29	2.23	-2.62	2.90	2.75	-5.17	2.64	2.44	-7.49
SA 04-454	2.08	2.27	9.13	1.92	1.81	-5.73	2.45	2.33	-4.90	2.65	2.10	-20.75	2.28	2.13	-6.48
SA 04-472	2.20	2.20	0.00	2.75	2.35	-14.55	2.44	2.32	-4.92	2.60	2.45	-5.77	2.50	2.33	-6.71
SA 04-458	2.58	2.30	-10.85	2.56	2.25	-12.11	1.86	1.84	-1.08	3.00	2.95	-1.67	2.50	2.34	-6.60
SA 04-390	2.63	2.75	4.56	3.00	2.53	-15.67	2.18	2.01	-7.80	2.55	2.45	-3.92	2.59	2.44	-5.98
SA 04-496	2.13	2.12	-0.47	2.38	2.21	-7.14	2.14	2.10	-1.87	2.65	2.25	-15.09	2.33	2.17	-6.67
SA 04-409	1.83	2.13	16.39	2.59	2.35	-9.27	2.29	2.21	-3.49	2.65	2.45	-7.55	2.34	2.29	-2.35
AS 04-1689	1.85	1.83	-1.08	2.05	1.93	-5.85	2.60	2.46	-5.38	1.95	1.75	-10.26	2.11	1.99	-5.68
AS 04-245	1.45	1.54	6.21	1.82	1.58	-13.19	1.52	1.49	-1.97	1.65	1.55	-6.06	1.61	1.54	-4.35
AS 04-2097	2.05	2.08	1.46	2.58	2.43	-5.81	2.22	2.09	-5.86	2.65	2.20	-16.98	2.38	2.20	-7.37
AS 04-635	1.73	1.68	-2.89	2.07	1.72	-16.91	1.50	1.55	3.33	1.65	1.35	-18.18	1.74	1.58	-9.35
AS 04-1687	1.72	2.00	16.28	2.15	2.03	-5.58	1.60	1.67	4.37	1.85	1.60	-13.51	1.83	1.83	-0.27
MA 5/51	2.10	2.38	13.33	2.44	2.06	-15.57	2.39	2.26	-5.44	2.90	2.40	-17.24	2.46	2.28	-7.43
MA 5/5	2.15	2.13	-0.93	2.62	2.47	-5.73	2.48	2.37	-4.44	2.90	2.45	-15.52	2.54	2.36	-7.19
MA 5/37	2.36	2.30	-2.54	2.40	2.10	-12.50	2.08	1.90	-8.65	2.65	2.55	-3.77	2.37	2.21	-6.74
MA 5/99	2.18	2.03	-6.88	2.18	2.11	-3.21	1.60	1.53	-4.38	2.10	2.05	-2.38	2.02	1.93	-4.22
MA 5/22	2.52	2.33	-7.54	2.95	2.62	-11.19	2.38	2.21	-7.14	2.70	2.55	-5.56	2.64	2.43	-7.96
GU 07-3849	1.62	1.66	2.47	1.68	1.62	-3.57	2.18	2.15	-1.38	1.65	1.55	-6.06	1.78	1.75	-2.10
GU 07-3774	1.48	1.60	8.11	2.07	1.73	-16.43	2.00	1.85	-7.50	1.50	1.30	-13.33	1.76	1.62	-8.09
GU 07-2276	2.30	2.20	-4.35	2.47	2.11	-14.57	2.47	2.30	-6.88	2.95	2.20	-25.42	2.55	2.20	-13.54
CYM 07-986	1.75	1.98	13.14	2.71	1.93	-28.78	1.75	1.81	3.43	1.80	1.60	-11.11	2.00	1.83	-8.61
Standards															
Check1	2.60	2.37	-8.85	2.40	2.05	-14.58	1.79	1.75	-2.23	3.05	2.95	-3.28	2.46	2.28	-7.32
Check2	2.22	2.12	-4.50	2.63	2.48	-5.70	1.99	1.94	-2.51	3.25	2.95	-9.23	2.52	2.37	-5.95
Check3	2.18	2.10	-3.67	3.15	3.00	-4.76	2.82	2.72	-3.55	3.10	2.95	-4.84	2.81	2.69	-4.27
GM	2.12	2.14		2.47	2.20		2.18	2.11		2.50	2.25		2.32	2.17	-6.18
CD	0.35	0.24		0.13	0.15		0.29	0.22		0.14	0.16				
CV	8.02	5.50		2.60	3.40		6.61	5.05		2.76	3.54				
CD GxE	NS			0.10			NS			0.10					

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Table 19: 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
BM 1003143	24.00	23.00	-4.17	22.34	18.50	-17.19	20.50	20.00	-2.44	23.50	18.00	-23.40	22.59	19.88	-12.00
BM 1005149	24.05	23.00	-4.37	17.50	13.55	-22.57	22.50	21.50	-4.44	17.50	14.50	-17.14	20.39	18.14	-11.04
BM 1009163	22.75	22.70	-0.22	16.99	13.10	-22.90	20.50	21.00	2.44	20.00	18.50	-7.50	20.06	18.83	-6.16
BM 1010168	24.50	25.75	5.10	20.34	15.00	-26.25	23.50	21.50	-8.51	18.50	17.00	-8.11	21.71	19.81	-8.74
BM 1022173	27.00	23.00	-14.81	24.67	18.83	-23.67	20.50	20.50	0.00	19.50	17.50	-10.26	22.92	19.96	-12.92
PG 9869137	25.75	24.50	-4.85	25.50	15.17	-40.51	15.50	16.50	6.45	21.00	20.00	-4.76	21.94	19.04	-13.20
SA 98-13	25.40	25.50	0.39	17.83	16.17	-9.31	17.50	18.00	2.86	21.50	19.50	-9.30	20.56	19.79	-3.72
SA 04-454	22.25	20.25	-8.99	21.84	14.84	-32.05	20.00	20.50	2.50	21.50	16.50	-23.26	21.40	18.02	-15.77
SA 04-472	23.50	20.25	-13.83	18.67	15.84	-15.16	20.00	20.50	2.50	19.50	17.50	-10.26	20.42	18.52	-9.28
SA 04-458	22.25	22.50	1.12	23.67	15.84	-33.08	20.00	19.50	-2.50	21.50	19.50	-9.30	21.86	19.34	-11.53
SA 04-390	22.50	20.00	-11.11	19.50	12.77	-34.51	20.50	21.00	2.44	16.50	14.50	-12.12	19.75	17.07	-13.58
SA 04-496	26.25	20.50	-21.90	20.67	15.50	-25.01	18.50	18.00	-2.70	20.50	19.50	-4.88	21.48	18.38	-14.46
SA 04-409	25.70	24.50	-4.67	21.83	16.67	-23.64	20.50	19.50	-4.88	21.50	19.50	-9.30	22.38	20.04	-10.45
AS 04-1689	24.00	24.75	3.13	19.50	18.00	-7.69	29.00	27.00	-6.90	19.50	17.50	-10.26	23.00	21.81	-5.16
AS 04-245	25.45	23.25	-8.64	23.67	19.50	-17.62	22.00	20.50	-6.82	21.50	19.50	-9.30	23.16	20.69	-10.66
AS 04-2097	24.75	22.40	-9.49	22.34	16.83	-24.66	22.50	21.50	-4.44	20.00	18.50	-7.50	22.40	19.81	-11.56
AS 04-635	21.25	21.00	-1.18	21.00	17.17	-18.24	16.50	17.00	3.03	17.50	16.50	-5.71	19.06	17.92	-6.01
AS 04-1687	26.50	25.50	-3.77	23.34	21.34	-8.57	27.00	25.50	-5.56	20.00	17.50	-12.50	24.21	22.46	-7.23
MA 5/51	24.70	23.00	-6.88	18.83	13.39	-28.89	18.00	17.00	-5.56	18.50	17.50	-5.41	20.01	17.72	-11.42
MA 5/5	23.25	23.70	1.94	24.50	20.94	-14.53	28.50	26.50	-7.02	21.00	18.50	-11.90	24.31	22.41	-7.83
MA 5/37	20.50	15.75	-23.17	19.34	15.00	-22.44	22.50	21.00	-6.67	18.50	16.50	-10.81	20.21	17.06	-15.57
MA 5/99	22.80	23.50	3.07	19.12	17.60	-7.95	17.00	17.50	2.94	20.50	18.50	-9.76	19.86	19.28	-2.92
MA 5/22	23.50	22.50	-4.26	21.62	20.84	-3.61	22.50	21.50	-4.44	19.50	18.50	-5.13	21.78	20.84	-4.34
GU 07-3849	21.00	22.50	7.14	21.50	17.84	-17.02	24.50	23.50	-4.08	17.00	15.00	-11.76	21.00	19.71	-6.14
GU 07-3774	22.00	18.50	-15.91	17.67	15.17	-14.15	20.00	19.50	-2.50	17.50	16.50	-5.71	19.29	17.42	-9.72
GU 07-2276	23.75	22.95	-3.37	21.17	18.84	-11.01	21.50	20.00	-6.98	22.00	18.50	-15.91	22.11	20.07	-9.19
CYM 07-986	24.00	19.50	-18.75	22.22	11.67	-47.48	18.00	18.50	2.78	18.00	16.00	-11.11	20.56	16.42	-20.13
Standards															
Check1	24.00	15.90	-33.75	19.00	17.50	-7.89	21.00	20.50	-2.38	18.50	16.50	-10.81	20.63	17.60	-14.67
Check2	21.95	22.00	0.23	17.50	14.84	-15.20	21.50	20.50	-4.65	21.00	19.50	-7.14	20.49	19.21	-6.24
Check3	23.50	20.50	-12.77	24.67	19.17	-22.29	23.00	22.50	-2.17	21.00	18.50	-11.90	23.04	20.17	-12.48
GM	23.76	22.09		20.94	16.58		21.17	20.60		19.80	17.72		21.42	19.25	-10.14
CD	2.10	1.84		4.27	3.09		3.76	2.22		1.77	0.00				
CV	4.34	4.10		10.00	9.15		8.72	5.30		4.39	2.15				
CD GxE	1.35			NS			NS			0.91					

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Table 20: 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
BM 1003143	19.16	18.88	-1.46	16.40	17.75	8.23	18.07	18.95	4.87	20.71	20.04	-3.24	18.59	18.91	1.72
BM 1005149	21.21	21.22	0.05	18.90	19.40	2.65	21.20	20.16	-4.91	21.46	21.29	-0.79	20.69	20.52	-0.85
BM 1009163	21.65	20.80	-3.93	19.70	20.50	4.06	13.00	13.08	0.62	21.96	21.79	-0.77	19.08	19.04	-0.18
BM 1010168	14.73	16.81	14.12	14.40	13.40	-6.94	21.34	21.03	-1.45	17.71	18.54	4.69	17.05	17.45	2.35
BM 1022173	18.62	17.71	-4.89	16.25	16.85	3.69	17.41	18.58	6.72	18.96	19.54	3.06	17.81	18.17	2.02
PG 9869137	20.12	20.05	-0.35	18.15	20.20	11.29	18.99	19.55	2.95	19.96	20.29	1.65	19.31	20.02	3.72
SA 98-13	18.50	18.02	-2.59	16.20	17.70	9.26	18.31	19.05	4.04	19.71	20.54	4.21	18.18	18.83	3.56
SA 04-454	16.88	18.57	10.01	14.50	13.50	-6.90	13.62	13.48	-1.03	15.71	15.79	0.51	15.18	15.34	1.04
SA 04-472	20.21	20.67	2.28	18.75	18.95	1.07	20.31	21.11	3.94	21.46	21.29	-0.79	20.18	20.51	1.60
SA 04-458	18.33	18.70	2.02	20.95	18.10	-13.60	16.75	16.92	1.01	19.71	20.04	1.67	18.94	18.44	-2.61
SA 04-390	19.72	21.20	7.51	18.95	19.00	0.26	19.25	18.30	-4.94	17.96	18.79	4.62	18.97	19.32	1.86
SA 04-496	20.37	20.90	2.60	19.25	19.00	-1.30	20.61	20.07	-2.62	21.71	21.79	0.37	20.49	20.44	-0.22
SA 04-409	20.87	20.80	-0.34	19.80	19.60	-1.01	21.36	20.67	-3.23	18.46	23.29	26.16	20.12	21.09	4.81
AS 04-1689	15.08	14.94	-0.93	12.65	12.45	-1.58	14.07	14.41	2.42	13.71	14.04	2.41	13.88	13.96	0.59
AS 04-245	14.62	17.40	19.02	14.85	14.95	0.67	15.49	15.61	0.77	13.46	15.79	17.31	14.61	15.94	9.12
AS 04-2097	15.80	16.34	3.42	15.15	14.70	-2.97	14.23	15.30	7.52	14.96	15.79	5.55	15.04	15.53	3.31
AS 04-635	16.16	16.11	-0.31	14.55	14.70	1.03	16.61	18.01	8.43	13.46	15.29	13.60	15.20	16.03	5.48
AS 04-1687	15.84	15.84	0.00	12.00	13.60	13.33	15.41	14.80	-3.96	13.96	14.79	5.95	14.30	14.76	3.18
MA 5/51	18.99	18.84	-0.79	21.70	17.50	-19.35	18.91	18.97	0.32	16.96	17.29	1.95	19.14	18.15	-5.17
MA 5/5	20.50	20.42	-0.39	17.80	17.65	-0.84	19.86	19.93	0.35	14.96	15.29	2.21	18.28	18.32	0.23
MA 5/37	19.09	18.79	-1.57	17.80	17.35	-2.53	20.74	19.80	-4.53	12.21	14.04	14.99	17.46	17.50	0.20
MA 5/99	19.19	18.48	-3.70	16.00	14.00	-12.50	15.77	16.84	6.79	18.96	18.54	-2.22	17.48	16.97	-2.95
MA 5/22	20.36	19.95	-2.01	21.90	15.70	-28.31	18.26	16.80	-8.00	20.96	20.29	-3.20	20.37	18.19	-10.73
GU 07-3849	16.23	16.27	0.25	16.65	16.55	-0.60	21.04	20.02	-4.85	18.46	18.04	-2.28	18.10	17.72	-2.07
GU 07-3774	13.80	18.00	30.43	14.95	16.20	8.36	14.78	13.52	-8.53	16.21	16.04	-1.05	14.94	15.94	6.73
GU 07-2276	15.25	15.83	3.80	18.70	14.60	-21.93	16.79	16.80	0.06	14.96	15.79	5.55	16.43	15.76	-4.08
CYM 07-986	13.66	16.29	19.25	15.65	13.90	-11.18	17.78	18.50	4.05	13.71	16.29	18.82	15.20	16.25	6.87
Standards															
Check1	22.44	20.94	-6.68	20.75	20.10	-3.13	21.18	20.33	-4.01	18.21	19.54	7.30	20.65	20.23	-2.02
Check2	21.04	20.29	-3.56	22.40	21.35	-4.69	19.91	20.97	5.32	18.96	20.29	7.01	20.58	20.73	0.72
Check3	21.95	21.60	-1.59	20.20	22.45	11.14	21.97	21.91	-0.27	21.21	22.04	3.91	21.33	22.00	3.13
GM	18.35	18.69		17.53	17.06		18.10	18.12		17.69	18.41		17.92	18.07	0.83
CD	1.82	1.74		3.01	1.31		1.76	1.64		2.22	1.78				
CV	4.86	4.56		8.44	3.76		4.77	4.44		6.16	4.75				
CD GxE	1.19			1.56			NS			NS					

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Table 21: 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
BM 1003143	16.79	16.92	0.77	14.05	14.78	5.20	15.78	16.19	2.60	19.29	18.18	-5.75	16.48	16.52	0.24
BM 1005149	19.13	18.29	-4.39	16.92	17.35	2.54	18.57	17.43	-6.14	20.20	19.76	-2.18	18.71	18.21	-2.66
BM 1009163	19.24	19.23	-0.05	17.59	18.34	4.26	9.57	9.78	2.19	20.36	20.35	-0.05	16.69	16.93	1.41
BM 1010168	11.60	13.52	16.55	11.47	11.50	0.26	19.30	18.50	-4.15	16.91	16.98	0.41	14.82	15.13	2.06
BM 1022173	16.10	15.26	-5.22	14.13	14.13	0.00	14.59	16.10	10.35	17.91	18.79	4.91	15.68	16.07	2.47
PG 9869137	18.01	17.18	-4.61	15.10	17.70	17.22	16.59	16.63	0.24	17.60	18.42	4.66	16.83	17.48	3.91
SA 98-13	16.43	15.30	-6.88	14.31	14.32	0.07	16.05	16.41	2.24	17.99	18.96	5.39	16.20	16.25	0.32
SA 04-454	14.58	16.87	15.71	10.96	11.06	0.91	10.13	10.30	1.68	13.63	13.74	0.81	12.33	12.99	5.42
SA 04-472	17.59	17.16	-2.44	16.62	16.86	1.44	17.40	18.53	6.49	19.10	18.90	-1.05	17.68	17.86	1.05
SA 04-458	15.57	15.94	2.38	17.03	15.99	-6.11	13.45	12.46	-7.36	18.12	18.52	2.21	16.04	15.73	-1.96
SA 04-390	17.48	17.94	2.63	17.34	16.53	-4.67	16.94	15.95	-5.84	16.20	16.48	1.73	16.99	16.73	-1.56
SA 04-496	18.30	18.17	-0.71	15.82	17.10	8.09	18.55	17.74	-4.37	18.89	18.93	0.21	17.89	17.99	0.53
SA 04-409	18.23	17.41	-4.50	16.88	17.25	2.19	18.18	18.27	0.50	16.24	21.40	31.77	17.38	18.58	6.90
AS 04-1689	12.18	12.29	0.90	10.06	10.86	7.95	10.10	10.74	6.34	10.56	10.46	-0.95	10.73	11.09	3.38
AS 04-245	12.54	15.05	20.02	10.69	12.74	19.18	13.25	11.97	-9.66	9.57	13.84	44.62	11.51	13.40	16.40
AS 04-2097	12.72	13.72	7.86	13.64	12.43	-8.87	10.81	11.57	7.03	11.58	13.63	17.70	12.19	12.84	5.33
AS 04-635	13.51	13.27	-1.78	11.33	11.20	-1.15	13.76	14.05	2.11	10.69	11.78	10.20	12.32	12.58	2.05
AS 04-1687	13.22	13.35	0.98	9.95	11.24	12.96	11.77	12.55	6.63	10.65	12.24	14.93	11.40	12.35	8.31
MA 5/51	16.55	16.66	0.66	18.99	15.08	-20.59	16.80	16.45	-2.08	14.18	15.39	8.53	16.63	15.90	-4.42
MA 5/5	17.34	16.76	-3.34	14.38	14.11	-1.88	16.91	17.41	2.96	11.96	12.80	7.02	15.15	15.27	0.81
MA 5/37	16.74	17.39	3.88	15.53	14.69	-5.41	18.46	17.40	-5.74	9.89	11.10	12.23	15.16	15.15	-0.07
MA 5/99	16.53	15.63	-5.44	11.91	12.46	4.62	12.38	13.52	9.21	17.31	16.69	-3.58	14.53	14.58	0.29
MA 5/22	17.46	17.71	1.43	18.87	12.72	-32.59	14.75	15.02	1.83	18.05	19.17	6.20	17.28	16.16	-6.52
GU 07-3849	13.61	14.14	3.89	14.46	14.50	0.28	17.57	17.19	-2.16	15.29	16.08	5.17	15.23	15.48	1.61
GU 07-3774	12.45	14.55	16.87	13.64	13.21	-3.15	12.06	10.42	-13.60	13.24	13.91	5.06	12.85	13.02	1.36
GU 07-2276	13.17	12.68	-3.72	16.22	11.12	-31.44	14.34	14.42	0.56	12.74	13.13	3.06	14.12	12.84	-9.07
CYM 07-986	11.32	12.92	14.13	12.71	11.10	-12.67	15.07	15.25	1.19	11.59	13.75	18.64	12.67	13.26	4.60
Standards															
Check1	19.71	18.89	-4.16	18.96	18.14	-4.32	18.51	18.50	-0.05	15.18	18.24	20.16	18.09	18.44	1.95
Check2	19.16	17.36	-9.39	20.24	18.10	-10.57	17.27	18.37	6.37	17.92	19.07	6.42	18.65	18.23	-2.27
Check3	19.61	18.62	-5.05	18.13	19.42	7.12	19.25	19.57	1.66	19.49	21.03	7.90	19.12	19.66	2.82
GM	15.90	16.01		14.93	14.53		15.27	15.29		15.41	16.39		15.38	15.56	1.16
CD	1.47	1.93		2.97	1.19		1.23	1.28		2.31	2.35				
CV	4.53	5.92		9.77	4.03		3.97	4.12		7.36	7.05				
CD GxE	NS			1.52			NS			NS					

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Table 22: 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
BM 1003143	49.73	47.06	-5.37	50.89	43.89	-13.76	49.43	48.24	-2.41	42.58	42.70	0.28	48.16	45.47	-5.58
BM 1005149	46.24	45.95	-0.63	56.10	55.12	-1.75	45.53	45.94	0.90	51.44	49.63	-3.52	49.83	49.16	-1.34
BM 1009163	42.71	51.35	20.23	55.01	51.91	-5.64	38.25	41.32	8.03	48.92	50.01	2.23	46.22	48.65	5.25
BM 1010168	45.15	43.39	-3.90	51.63	44.63	-13.56	46.00	44.49	-3.28	51.04	50.91	-0.25	48.46	45.86	-5.37
BM 1022173	55.61	54.37	-2.23	54.82	50.82	-7.30	44.55	45.32	1.73	37.81	46.97	24.23	48.20	49.37	2.43
PG 9869137	53.89	52.28	-2.99	55.84	51.71	-7.40	50.31	48.30	-4.00	33.91	41.98	23.80	48.49	48.57	0.16
SA 98-13	49.40	44.16	-10.61	49.33	42.75	-13.34	51.12	49.94	-2.31	43.15	43.25	0.23	48.25	45.03	-6.68
SA 04-454	52.00	49.47	-4.87	43.97	32.81	-25.38	39.69	40.80	2.80	41.90	42.06	0.38	44.39	41.29	-6.99
SA 04-472	49.21	41.51	-15.65	52.71	45.59	-13.51	50.24	48.92	-2.63	48.87	50.99	4.34	50.26	46.75	-6.97
SA 04-458	53.72	52.50	-2.27	50.92	44.00	-13.59	43.92	43.23	-1.57	49.11	43.02	-12.40	49.42	45.69	-7.55
SA 04-390	49.62	42.05	-15.26	56.70	48.27	-14.87	44.82	42.19	-5.87	45.35	44.76	-1.30	49.12	44.32	-9.78
SA 04-496	47.60	44.67	-6.16	50.73	45.89	-9.54	43.51	42.05	-3.36	36.56	34.29	-6.21	44.60	41.73	-6.45
SA 04-409	47.22	46.90	-0.68	51.54	44.56	-13.54	41.89	40.52	-3.27	34.50	37.16	7.71	43.79	42.29	-3.43
AS 04-1689	32.45	39.30	21.11	46.12	43.22	-6.29	42.99	41.01	-4.61	33.72	32.86	-2.55	38.82	39.10	0.71
AS 04-245	39.60	36.20	-8.59	49.15	38.35	-21.97	30.52	34.26	12.25	41.54	48.08	15.74	40.20	39.22	-2.44
AS 04-2097	46.50	48.14	3.53	52.54	40.80	-22.34	39.92	39.28	-1.60	32.89	36.79	11.86	42.96	41.25	-3.98
AS 04-635	34.62	33.50	-3.24	49.58	44.31	-10.63	34.18	34.93	2.19	40.13	40.46	0.82	39.63	38.30	-3.35
AS 04-1687	34.95	36.23	3.66	47.81	42.67	-10.75	39.68	40.05	0.93	47.88	45.14	-5.72	42.58	41.02	-3.66
MA 5/51	45.75	52.69	15.17	48.78	42.48	-12.92	43.44	41.85	-3.66	43.48	39.30	-9.61	45.36	44.08	-2.83
MA 5/5	46.99	45.61	-2.94	48.87	42.18	-13.69	44.20	42.77	-3.24	30.75	35.36	14.99	42.70	41.48	-2.86
MA 5/37	55.70	52.00	-6.64	49.06	45.51	-7.24	45.59	43.58	-4.41	44.97	39.39	-12.41	48.83	45.12	-7.60
MA 5/99	50.44	41.91	-16.91	49.29	52.21	5.92	31.97	33.76	5.60	49.67	47.92	-3.52	45.34	43.95	-3.07
MA 5/22	49.99	45.27	-9.44	49.44	44.72	-9.55	51.76	49.32	-4.71	40.38	31.72	-21.45	47.89	42.76	-10.72
GU 07-3849	34.11	36.64	7.42	39.96	30.95	-22.55	43.22	42.43	-1.83	37.50	43.12	14.99	38.70	38.29	-1.07
GU 07-3774	36.69	33.33	-9.16	55.87	47.78	-14.48	39.54	40.22	1.72	34.68	43.30	24.86	41.70	41.16	-1.29
GU 07-2276	48.98	48.87	-0.22	54.16	42.98	-20.64	48.79	47.27	-3.12	40.16	35.37	-11.93	48.02	43.62	-9.16
CYM 07-986	33.63	35.40	5.26	45.65	28.93	-36.63	40.23	40.78	1.37	32.31	35.55	10.03	37.96	35.17	-7.35
Standards															
Check1	54.25	55.30	1.94	52.08	44.79	-14.00	52.45	50.52	-3.68	47.39	54.86	15.76	51.54	51.37	-0.34
Check2	45.27	41.47	-8.39	51.04	47.27	-7.39	49.93	48.82	-2.22	50.22	53.94	7.41	49.12	47.88	-2.52
Check3	47.60	44.95	-5.57	54.67	48.48	-11.32	51.90	50.55	-2.60	52.19	52.12	-0.13	51.59	49.03	-4.97
GM	45.99	44.75		50.81	44.32		43.99	43.42		42.17	43.10		45.74	43.90	-4.02
CD	6.21	5.82		4.63	2.96		5.46	3.53		9.49	0.00				
CV	6.63	6.39		4.48	3.28		6.10	3.99		11.05	9.13				
CD GxE	4.09			2.62			NS			NS					

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Table 23: 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
BM 1003143							18.81	19.00	1.01	17.15	17.65	2.92	17.98	18.33	1.92
BM 1005149							17.51	17.74	1.31	16.33	16.80	2.88	16.92	17.27	2.07
BM 1009163							21.07	20.54	-2.52	16.26	16.90	3.94	18.67	18.72	0.29
BM 1010168							15.97	15.88	-0.56	13.67	17.58	28.60	14.82	16.73	12.89
BM 1022173							16.32	16.50	1.10	17.12	17.05	-0.41	16.72	16.78	0.33
PG 9869137							16.77	17.37	3.58	13.08	14.66	12.08	14.93	16.02	7.30
SA 98-13							16.51	16.90	2.36	14.96	14.46	-3.34	15.74	15.68	-0.35
SA 04-454							17.55	17.66	0.63	15.95	17.10	7.21	16.75	17.38	3.76
SA 04-472							19.62	20.03	2.09	17.85	18.25	2.24	18.74	19.14	2.16
SA 04-458							18.57	18.69	0.65	11.70	12.73	8.80	15.14	15.71	3.80
SA 04-390							15.77	16.51	4.69	16.69	17.32	3.77	16.23	16.92	4.22
SA 04-496							19.37	19.25	-0.62	19.57	16.88	-13.75	19.47	18.07	-7.22
SA 04-409							16.53	16.79	1.57	18.74	17.66	-5.76	17.64	17.23	-2.32
AS 04-1689							18.81	17.35	-7.76	17.07	18.98	11.19	17.94	18.17	1.25
AS 04-245							16.68	16.98	1.80	17.87	19.37	8.39	17.28	18.18	5.21
AS 04-2097							18.39	17.98	-2.23	17.78	18.97	6.69	18.09	18.48	2.16
AS 04-635							20.61	20.03	-2.81	12.71	19.95	56.96	16.66	19.99	19.99
AS 04-1687							17.77	18.52	4.22	19.86	22.53	13.44	18.82	20.53	9.09
MA 5/51							18.19	18.75	3.08	15.65	16.72	6.84	16.92	17.74	4.82
MA 5/5							17.23	17.88	3.77	16.49	16.79	1.82	16.86	17.34	2.82
MA 5/37							17.51	17.69	1.03	16.82	18.04	7.25	17.17	17.87	4.08
MA 5/99							18.75	18.90	0.80	19.44	19.14	-1.54	19.10	19.02	-0.39
MA 5/22							20.10	20.32	1.09	17.33	16.52	-4.67	18.72	18.42	-1.58
GU 07-3849							17.81	18.17	2.02	17.25	18.98	10.03	17.53	18.58	5.96
GU 07-3774							18.01	18.23	1.22	17.03	18.87	10.80	17.52	18.55	5.88
GU 07-2276							20.47	20.39	-0.39	17.86	18.86	5.60	19.17	19.63	2.40
CYM 07-986							18.89	18.85	-0.21	19.88	18.82	-5.33	19.39	18.84	-2.84
Standards															
Check1							17.03	17.45	2.47	13.55	14.86	9.67	15.29	16.16	5.66
Check2							17.83	17.81	-0.11	12.96	14.10	8.80	15.40	15.96	3.64
Check3							16.54	16.56	0.12	12.40	13.92	12.26	14.47	15.24	5.32
GM							18.03	18.16		16.37	17.35		17.20	17.75	3.21
CD							1.76	1.53			0.00				
CV							4.78	4.15		7.53	3.75				
CD GxE							NS			1.35					

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Table 24: 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
BM 1003143	110.14	96.46	-12.42	95.56	26.67	-72.09	63.43	51.08	-19.47	99.78	75.05	-24.78	92.23	62.32	-32.43
BM 1005149	106.17	100.28	-5.55	100.75	27.41	-72.79	90.57	58.59	-35.31	122.25	84.69	-30.72	104.94	67.74	-35.44
BM 1009163	108.76	82.46	-24.18	50.37	24.45	-51.46	49.28	33.51	-32.00	105.72	88.64	-16.16	78.53	57.27	-27.08
BM 1010168	62.82	62.60	-0.35	46.67	26.67	-42.85	83.33	82.93	-0.48	122.82	83.76	-31.80	78.91	63.99	-18.91
BM 1022173	159.31	110.86	-30.41	95.56	34.82	-63.56	64.35	49.17	-23.59	124.28	102.49	-17.53	110.88	74.34	-32.96
PG 9869137	95.28	54.53	-42.77	44.45	5.19	-88.32	31.33	28.32	-9.61	107.89	88.62	-17.86	69.74	44.17	-36.67
SA 98-13	123.99	104.15	-16.00	71.11	6.67	-90.62	43.44	41.59	-4.26	90.94	71.05	-21.87	82.37	55.87	-32.18
SA 04-454	96.07	88.46	-7.92	78.52	14.82	-81.13	40.87	26.67	-34.74	88.90	64.26	-27.72	76.09	48.55	-36.19
SA 04-472	98.27	72.41	-26.32	55.56	18.52	-66.67	74.93	66.31	-11.50	100.38	52.41	-47.79	82.29	52.41	-36.30
SA 04-458	48.54	44.31	-8.71	59.26	54.82	-7.49	33.44	34.53	3.26	107.69	75.18	-30.19	62.23	52.21	-16.10
SA 04-390	40.17	18.69	-53.47	117.78	33.33	-71.70	77.59	56.48	-27.21	74.22	55.76	-24.87	77.44	41.07	-46.97
SA 04-496	107.96	55.93	-48.19	50.37	7.41	-85.29	67.78	49.67	-26.72	116.66	95.28	-18.33	85.69	52.07	-39.23
SA 04-409	78.03	58.48	-25.05	54.07	46.67	-13.69	78.80	58.96	-25.18	113.75	80.59	-29.15	81.16	61.18	-24.63
AS 04-1689	142.64	99.63	-30.15	181.48	102.96	-43.27	60.70	55.30	-8.90	190.54	164.47	-13.68	143.84	105.59	-26.59
AS 04-245	91.58	72.45	-20.89	100.00	59.26	-40.74	41.25	28.72	-30.38	119.08	55.19	-53.65	87.98	53.91	-38.73
AS 04-2097	137.73	124.17	-9.85	97.78	62.97	-35.60	56.83	50.32	-11.46	138.90	103.95	-25.16	107.81	85.35	-20.83
AS 04-635	114.20	77.22	-32.38	162.96	102.22	-37.27	61.71	27.93	-54.74	156.89	128.83	-17.89	123.94	84.05	-32.18
AS 04-1687	111.36	129.86	16.61	170.37	97.04	-43.04	73.53	61.77	-15.99	142.62	88.27	-38.11	124.47	94.24	-24.29
MA 5/51	112.41	68.78	-38.81	33.34	19.26	-42.23	85.02	50.47	-40.64	76.36	71.84	-5.92	76.78	52.59	-31.51
MA 5/5	141.58	91.90	-35.09	50.37	31.12	-38.22	57.76	50.48	-12.60	94.68	67.92	-28.26	86.10	60.36	-29.90
MA 5/37	115.17	81.89	-28.90	37.78	44.45	17.65	49.62	31.92	-35.67	88.93	54.73	-38.46	72.88	53.25	-26.93
MA 5/99	121.33	71.50	-41.07	53.33	20.00	-62.50	47.60	35.91	-24.56	120.89	81.90	-32.25	85.79	52.33	-39.00
MA 5/22	143.70	85.00	-40.85	68.15	37.04	-45.65	45.33	35.03	-22.72	106.68	76.85	-27.96	90.97	58.48	-35.71
GU 07-3849	62.23	76.27	22.56	54.08	18.52	-65.75	79.14	71.53	-9.62	130.02	67.25	-48.28	81.37	58.39	-28.24
GU 07-3774	78.52	64.64	-17.68	93.34	42.96	-53.97	42.85	29.33	-31.55	123.18	84.55	-31.36	84.47	55.37	-34.45
GU 07-2276	132.78	127.78	-3.77	48.15	59.26	23.07	80.05	64.40	-19.55	131.86	107.19	-18.71	98.21	89.66	-8.71
CYM 07-986	72.99	55.97	-23.32	91.12	29.63	-67.48	45.92	31.03	-32.43	102.89	61.35	-40.37	78.23	44.50	-43.12
Standards															
Check1	147.17	83.89	-43.00	94.08	54.08	-42.52	79.49	70.08	-11.84	112.26	84.45	-24.77	108.25	73.12	-32.44
Check2	87.60	58.37	-33.37	85.19	49.63	-41.74	60.54	53.97	-10.85	146.89	105.68	-28.06	95.05	66.912	-29.60
Check3	119.29	90.76	-23.92	104.45	64.45	-38.30	68.73	63.70	-7.32	132.11	101.63	-23.07	106.14	80.13	-24.50
GM	105.59	80.32		81.53	40.74		61.17	48.32		116.34	84.13		91.16	63.38	-30.73
CD	26.16	15.20		21.82	8.13		26.81	20.79		23.86	19.36				
CV	12.17	9.30		13.15	9.80		21.53	21.13		10.07	11.30				
CD GxE	14.01			10.81			NS			NS					

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Table 25: Tiller mortality (%)

Entry	Karnal			Faridkot			Anakapalle			Padegaon			Mean		
	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change
BM 1003143				23.99	51.94	116.51	22.37	19.83	-11.35	49.52	49.26	-0.53	31.96	40.34	26.23
BM 1005149				23.42	52.36	123.57	25.64	33.33	29.99	42.00	41.75	-0.60	30.35	42.48	39.95
BM 1009163				44.79	63.03	40.72	21.80	23.86	9.45	39.83	41.64	4.54	35.47	42.84	20.78
BM 1010168				33.53	50.48	50.55	29.55	23.31	-21.12	38.68	36.15	-6.54	33.92	36.65	8.04
BM 1022173				18.15	39.57	118.02	13.49	26.93	99.63	38.70	42.26	9.20	23.45	36.25	54.62
PG 9869137				35.53	78.53	121.02	33.65	29.43	-12.54	63.52	58.86	-7.34	44.23	55.61	25.71
SA 98-13				16.11	72.75	351.58	33.99	27.14	-20.15	54.56	46.56	-14.66	34.89	48.82	39.93
SA 04-454				22.67	44.74	97.35	27.06	33.65	24.35	51.92	48.51	-6.57	33.88	42.30	24.84
SA 04-472				31.37	34.63	10.39	26.92	31.44	16.79	48.13	35.05	-27.18	35.47	33.71	-4.98
SA 04-458				25.79	27.34	6.01	34.33	24.03	-30.00	40.71	39.92	-1.94	33.61	30.43	-9.46
SA 04-390				36.60	54.01	47.57	27.68	32.05	15.79	49.92	46.03	-7.79	38.07	44.03	15.67
SA 04-496				31.34	67.71	116.05	22.61	25.09	10.97	35.13	38.54	9.71	29.69	43.78	47.44
SA 04-409				40.84	34.16	-16.36	27.45	36.47	32.86	48.60	46.09	-5.16	38.96	38.91	-0.15
AS 04-1689				31.27	23.66	-24.34	23.79	21.51	-9.58	38.95	35.05	-10.01	31.34	26.74	-14.67
AS 04-245				-	-	-	27.08	34.63	27.88	33.26	42.90	28.98	30.17	38.76	28.49
AS 04-2097				31.31	42.79	36.67	33.78	28.06	-16.93	36.59	42.40	15.88	33.89	37.75	11.38
AS 04-635				33.58	38.44	14.47	19.27	37.32	93.67	38.73	39.15	1.08	30.53	38.30	25.47
AS 04-1687				32.20	32.38	0.56	19.17	24.78	29.26	44.11	37.79	-14.33	31.83	31.65	-0.56
MA 5/51				46.23	37.56	-18.75	26.94	31.95	18.60	56.21	53.32	-5.14	43.13	40.94	-5.06
MA 5/5				22.54	36.89	63.66	35.78	31.41	-12.21	48.37	45.41	-6.12	35.56	37.90	6.58
MA 5/37				36.47	43.11	18.21	31.43	33.65	7.06	50.92	51.48	1.10	39.61	42.75	7.93
MA 5/99				49.77	64.88	30.36	24.78	28.95	16.83	31.34	42.83	36.66	35.30	45.55	29.06
MA 5/22				56.50	63.34	12.11	38.12	39.70	4.14	51.51	46.14	-10.43	48.71	49.73	2.09
GU 07-3849				31.42	37.65	19.83	22.73	23.65	4.05	31.86	33.68	5.71	28.67	31.66	10.43
GU 07-3774				21.33	32.70	53.31	18.66	16.42	-12.00	39.12	22.30	-43.00	26.37	23.81	-9.72
GU 07-2276				12.30	31.13	153.09	25.19	26.27	4.29	47.38	42.26	-10.81	28.29	33.22	17.43
CYM 07-986				18.12	35.90	98.12	30.72	29.90	-2.67	31.64	20.70	-34.58	26.83	28.83	7.48
Standards															
Check1				42.61	41.33	-3.00	21.37	22.92	7.25	45.75	35.72	-21.92	36.58	33.32	-8.89
Check2				47.08	24.67	-47.60	17.54	17.53	-0.06	46.67	36.72	-21.32	37.10	26.31	-29.09
Check3				39.51	31.65	-19.89	28.08	23.68	-15.67	48.39	30.22	-37.55	38.66	28.52	-26.24
GM				32.43	43.03		26.37	27.96		44.07	40.96		34.29	37.32	8.84
CD				10.86	7.98		NS	NS		9.15	0.00				
CV				16.46	9.11		26.17	21.49		10.20	15.60				
CD GxE				6.33			NS			NS					

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Table 26: Leaf area (m²) before imposition of drought

Entry	Anakapalle		
	Normal	Drought	% change
BM 1003143	0.83	0.73	-12.05
BM 1005149	2.06	1.82	-11.65
BM 1009163	0.86	0.81	-5.81
BM 1010168	1.42	1.30	-8.45
BM 1022173	1.26	1.13	-10.32
PG 9869137	2.15	1.96	-8.84
SA 98-13	1.13	1.10	-2.65
SA 04-454	1.26	1.14	-9.52
SA 04-472	1.95	1.90	-2.56
SA 04-458	0.95	0.90	-5.26
SA 04-390	2.52	2.45	-2.78
SA 04-496	2.46	2.35	-4.47
SA 04-409	2.04	1.83	-10.29
AS 04-1689	1.12	1.03	-8.04
AS 04-245	0.82	0.76	-7.32
AS 04-2097	1.00	0.91	-9.00
AS 04-635	0.99	0.92	-7.07
AS 04-1687	0.85	0.89	4.71
MA 5/51	1.35	1.21	-10.37
MA 5/5	1.19	1.17	-1.68
MA 5/37	1.67	1.50	-10.18
MA 5/99	0.82	0.82	0.00
MA 5/22	2.10	2.10	0.00
GU 07-3849	0.85	0.80	-5.88
GU 07-3774	0.59	0.61	3.39
GU 07-2276	1.87	1.70	-9.09
CYM 07-986	0.70	0.70	0.00
Standards			
Check1	2.49	2.40	-3.61
Check2	1.39	1.39	0.00
Check3	1.22	1.28	4.92
GM	1.40	1.32	-5.49
CD	0.20	0.19	
CV	6.88	7.16	
CD GxE	NS		

Table 27: Leaf area (m²) after withdrawing drought

Entry	Anakapalle		
	Normal	Drought	% change
BM 1003143	3.66	3.41	-6.83
BM 1005149	4.22	4.17	-1.18
BM 1009163	3.61	3.44	-4.71
BM 1010168	3.81	3.63	-4.72
BM 1022173	3.97	3.79	-4.53
PG 9869137	4.35	4.14	-4.83
SA 98-13	3.50	3.31	-5.43
SA 04-454	3.71	3.59	-3.23
SA 04-472	4.20	4.19	-0.24
SA 04-458	3.30	3.02	-8.48
SA 04-390	4.75	4.43	-6.74
SA 04-496	4.95	4.80	-3.03
SA 04-409	4.25	4.16	-2.12
AS 04-1689	3.46	3.35	-3.18
AS 04-245	3.20	3.19	-0.31
AS 04-2097	3.54	3.31	-6.50
AS 04-635	3.20	3.14	-1.88
AS 04-1687	2.82	2.68	-4.96
MA 5/51	3.50	3.38	-3.43
MA 5/5	3.17	3.32	4.73
MA 5/37	3.67	3.70	0.82
MA 5/99	3.12	2.82	-9.62
MA 5/22	4.57	4.29	-6.13
GU 07-3849	3.22	3.10	-3.73
GU 07-3774	2.80	2.71	-3.21
GU 07-2276	3.71	3.49	-5.93
CYM 07-986	2.86	2.60	-9.09
Standards			
Check1	4.97	4.70	-5.43
Check2	4.41	4.17	-5.44
Check3	4.18	4.20	0.48
GM	3.76	3.61	-3.95
CD	0.32	0.29	
CV	4.13	3.91	
CD GxE	NS		

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 Table 28: 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	
BM 1003143	91.78	87.93	-4.19				79.89	77.80	-2.62	83.00	66.84	-19.47	84.89	77.52	-8.68	
BM 1005149	87.50	86.89	-0.70				76.32	77.79	1.93	85.38	69.47	-18.63	83.07	78.05	-6.04	
BM 1009163	87.50	86.98	-0.59				83.42	83.18	-0.29	74.14	70.57	-4.82	81.69	80.24	-1.77	
BM 1010168	89.19	90.56	1.54				79.25	79.40	0.19	78.10	70.65	-9.54	82.18	80.20	-2.41	
BM 1022173	92.45	90.63	-1.97				80.98	81.94	1.19	85.62	69.16	-19.22	86.35	80.58	-6.69	
PG 9869137	89.61	87.59	-2.25				74.86	76.71	2.47	77.79	64.90	-16.57	80.75	76.40	-5.39	
SA 98-13	84.21	85.29	1.28				70.35	72.31	2.79	75.35	63.34	-15.94	76.64	73.65	-3.90	
SA 04-454	87.27	86.76	-0.58				78.89	78.38	-0.65	77.56	69.49	-10.40	81.24	78.21	-3.73	
SA 04-472	87.76	85.71	-2.34				77.47	78.94	1.90	84.88	62.12	-26.81	83.37	75.59	-9.33	
SA 04-458	88.64	89.39	0.85				80.34	79.26	-1.34	79.00	64.50	-18.35	82.66	77.72	-5.98	
SA 04-390	81.67	81.36	-0.38				83.29	81.39	-2.28	78.85	62.77	-20.39	81.27	75.17	-7.50	
SA 04-496	93.10	90.68	-2.60				74.44	75.67	1.65	78.87	71.50	-9.34	82.14	79.28	-3.47	
SA 04-409	90.48	94.74	4.71				81.28	83.31	2.50	85.26	71.74	-15.86	85.67	83.26	-2.81	
AS 04-1689	83.78	84.62	1.00				79.47	80.41	1.18	80.27	58.77	-26.78	81.17	74.60	-8.10	
AS 04-245	95.71	94.68	-1.08				76.70	77.46	0.99	73.94	58.66	-20.67	82.12	76.93	-6.31	
AS 04-2097	88.57	86.77	-2.03				72.08	73.61	2.12	69.80	58.87	-15.66	76.82	73.08	-4.86	
AS 04-635	83.33	81.82	-1.81				79.56	79.34	-0.28	78.02	57.59	-26.19	80.30	72.92	-9.20	
AS 04-1687	82.96	84.21	1.51				73.94	76.36	3.27	71.60	56.13	-21.61	76.17	72.23	-5.16	
MA 5/51	90.91	88.19	-2.99				80.47	79.49	-1.22	82.52	80.39	-2.58	84.63	82.69	-2.30	
MA 5/5	89.47	90.57	1.23				82.63	82.27	-0.44	80.11	72.47	-9.54	84.07	81.77	-2.74	
MA 5/37	88.24	88.46	0.25				80.89	85.45	5.64	84.71	69.91	-17.47	84.61	81.27	-3.95	
MA 5/99	89.06	87.84	-1.37				79.76	79.52	-0.30	82.85	69.41	-16.22	83.89	78.92	-5.92	
MA 5/22	85.71	87.50	2.09				76.37	79.34	3.89	80.07	70.90	-11.45	80.72	79.25	-1.82	
GU 07-3849	86.15	85.94	-0.24				84.21	85.43	1.45	85.53	74.45	-12.95	85.30	81.94	-3.94	
GU 07-3774	90.63	89.78	-0.94				81.91	81.10	-0.99	81.69	67.63	-17.21	84.74	79.50	-6.18	
GU 07-2276	86.67	86.15	-0.60				73.43	80.59	9.75	75.00	69.61	-7.19	78.37	78.78	0.53	
CYM 07-986	92.16	89.39	-3.01				83.30	82.43	-1.04	82.28	70.48	-14.34	85.91	80.77	-5.99	
Standards																
Check1	84.38	86.96	3.06				76.27	78.70	3.19	72.98	70.36	-3.59	77.88	78.67	1.02	
Check2	93.64	93.58	-0.06				83.34	81.52	-2.18	81.87	69.99	-14.51	86.28	81.70	-5.32	
Check3	86.89	88.38	1.71				80.36	82.36	2.49	79.37	61.74	-22.21	82.21	77.49	-5.73	
GM	88.31	87.98					78.85	79.72		79.55	67.15		82.24	78.28	-4.81	
CD	1.28	1.25					4.90	3.32		6.96	0.00					
CV	0.71	0.70					3.05	2.05		4.30	5.21					
CD GxE	0.88						NS				4.90					

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Table 29: Relative Water Content during drought period

Entry	Karnal			Faridkot			Anakapalle			Padegaon			Mean		
	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change
BM 1003143	77.97	76.47	-1.92	80.86	98.12	21.35							79.42	87.30	9.92
BM 1005149	72.58	72.22	-0.50	74.64	75.39	1.00							73.61	73.81	0.26
BM 1009163	83.33	82.35	-1.18	69.84	68.72	-1.60							76.59	75.54	-1.37
BM 1010168	79.07	78.95	-0.15	81.25	92.27	13.56							80.16	85.61	6.80
BM 1022173	79.55	78.91	-0.80	70.88	80.84	14.05							75.22	79.88	6.20
PG 9869137	86.96	84.72	-2.58	72.95	84.52	15.86							79.96	84.62	5.83
SA 98-13	81.40	80.30	-1.35	75.97	79.67	4.87							78.69	79.99	1.65
SA 04-454	82.76	82.05	-0.86	36.98	76.39	106.57							59.87	79.22	32.32
SA 04-472	84.71	82.86	-2.18	64.99	68.88	5.99							74.85	75.87	1.36
SA 04-458	82.00	79.35	-3.23	79.59	88.92	11.72							80.80	84.14	4.13
SA 04-390	79.39	78.68	-0.89	81.09	82.94	2.28							80.24	80.81	0.71
SA 04-496	84.26	85.44	1.40	66.95	69.06	3.15							75.61	77.25	2.18
SA 04-409	76.00	80.00	5.26	78.22	86.63	10.75							77.11	83.32	8.05
AS 04-1689	80.00	83.33	4.16	77.12	82.73	7.27							78.56	83.03	5.69
AS 04-245	81.82	83.72	2.32	70.86	70.91	0.07							76.34	77.32	1.28
AS 04-2097	70.83	72.68	2.61	86.92	71.14	-18.15							78.88	71.91	-8.83
AS 04-635	64.44	65.87	2.22	82.42	76.94	-6.65							73.43	71.41	-2.76
AS 04-1687	66.67	63.29	-5.07	81.59	86.47	5.98							74.13	74.88	1.01
MA 5/51	78.95	77.96	-1.25	94.68	81.57	-13.85							86.82	79.77	-8.12
MA 5/5	75.86	76.86	1.32	94.84	79.97	-15.68							85.35	78.42	-8.13
MA 5/37	83.02	82.68	-0.41	93.23	83.84	-10.07							88.13	83.26	-5.52
MA 5/99	74.15	71.43	-3.67	89.06	65.66	-26.27							81.61	68.55	-16.00
MA 5/22	78.72	74.07	-5.91	85.18	53.68	-36.98							81.95	63.88	-22.06
GU 07-3849	77.38	76.35	-1.33	90.34	81.61	-9.66							83.86	78.98	-5.82
GU 07-3774	78.00	79.17	1.50	89.04	75.99	-14.66							83.52	77.58	-7.11
GU 07-2276	81.71	78.79	-3.57	88.82	82.58	-7.03							85.27	80.69	-5.37
CYM 07-986	87.23	86.36	-1.00	92.66	81.89	-11.62							89.95	84.13	-6.47
Standards															
Check1	74.38	73.68	-0.94	79.75	82.88	3.92							77.07	78.28	1.58
Check2	78.72	68.97	-12.39	80.51	76.61	-4.84							79.62	72.79	-8.57
Check3	78.38	79.03	0.83	83.04	77.08	-7.18							80.71	78.06	-3.29
GM	78.67	77.88		79.81	78.80								79.24	78.34	-1.14
CD	1.78	1.64		1.32	0.84										
CV	1.11	1.04		0.81	0.52										
CD GxE	1.18			0.79											

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 Table 30: Relative Water Content after withdrawing drought

Entry	Karnal			Faridkot			Anakapalle			Padegaon			Mean		
	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change
BM 1003143	90.82	88.68	-2.36	84.88	97.22	14.54	81.95	71.56	-12.68	82.60	78.26	-5.25	85.06	83.93	-1.33
BM 1005149	86.58	85.59	-1.14	85.87	85.92	0.06	82.72	73.46	-11.19	79.26	77.64	-2.04	83.61	80.65	-3.53
BM 1009163	86.98	86.34	-0.74	84.83	79.64	-6.12	85.89	73.65	-14.25	80.81	78.04	-3.43	84.63	79.42	-6.16
BM 1010168	88.68	89.68	1.13	88.86	81.91	-7.82	82.90	70.88	-14.50	72.99	80.79	10.69	83.36	80.82	-3.05
BM 1022173	90.54	90.36	-0.20	75.82	73.54	-3.01	83.44	73.35	-12.09	76.11	76.82	0.93	81.48	78.52	-3.63
PG 9869137	88.78	86.64	-2.41	92.89	85.94	-7.48	79.89	70.46	-11.80	76.14	82.47	8.31	84.43	81.38	-3.61
SA 98-13	83.68	84.96	1.53	84.73	85.23	0.59	76.86	67.02	-12.80	73.14	84.70	15.81	79.60	80.48	1.10
SA 04-454	86.68	86.69	0.01	84.05	74.20	-11.72	81.02	70.25	-13.29	74.87	79.58	6.29	81.66	77.68	-4.87
SA 04-472	86.35	84.65	-1.97	87.98	77.74	-11.64	83.39	70.85	-15.04	83.54	82.24	-1.56	85.32	78.87	-7.55
SA 04-458	88.78	87.98	-0.90	88.14	87.53	-0.69	83.31	71.31	-14.40	80.41	80.12	-0.36	85.16	81.74	-4.02
SA 04-390	80.69	81.45	0.94	82.35	84.93	3.13	85.44	71.52	-16.29	78.27	79.64	1.75	81.69	79.39	-2.82
SA 04-496	92.08	89.36	-2.95	83.07	75.09	-9.61	80.29	67.37	-16.09	87.58	81.17	-7.32	85.76	78.25	-8.75
SA 04-409	88.96	89.47	0.57	90.52	85.89	-5.11	84.08	73.43	-12.67	81.50	81.72	0.27	86.27	82.63	-4.22
AS 04-1689	82.87	83.26	0.47	81.29	77.83	-4.26	83.36	72.93	-12.51	79.60	73.42	-7.76	81.78	76.86	-6.02
AS 04-245	94.68	93.68	-1.06	78.16	75.99	-2.78	82.34	69.46	-15.64	76.19	78.00	2.38	82.84	79.28	-4.30
AS 04-2097	87.64	87.68	0.05	76.51	76.89	0.50	80.58	64.21	-20.32	68.83	75.02	8.99	78.39	75.95	-3.11
AS 04-635	82.36	81.28	-1.31	83.77	73.31	-12.49	83.00	73.13	-11.89	77.12	66.71	-13.50	81.56	73.61	-9.75
AS 04-1687	81.96	82.64	0.83	87.04	89.97	3.37	76.78	68.43	-10.88	77.64	68.58	-11.67	80.86	77.41	-4.27
MA 5/51	89.68	87.89	-2.00	90.86	83.84	-7.73	84.12	70.87	-15.75	81.33	68.31	-16.01	86.50	77.73	-10.14
MA 5/5	89.74	89.75	0.01	94.78	84.76	-10.57	85.04	74.26	-12.68	77.77	82.05	5.50	86.83	82.71	-4.75
MA 5/37	87.82	87.64	-0.20	83.49	86.18	3.22	85.43	75.85	-11.21	83.56	81.00	-3.06	85.08	82.67	-2.83
MA 5/99	88.62	87.68	-1.06	82.27	83.11	1.02	84.23	71.56	-15.04	75.98	82.93	9.15	82.78	81.32	-1.76
MA 5/22	84.17	86.15	2.35	84.94	80.61	-5.10	83.14	72.99	-12.21	78.33	79.64	1.67	82.65	79.85	-3.38
GU 07-3849	85.68	84.95	-0.85	92.78	83.73	-9.75	84.48	78.96	-6.53	83.06	81.87	-1.43	86.50	82.38	-4.77
GU 07-3774	88.68	87.96	-0.81	85.04	77.84	-8.47	85.28	71.82	-15.78	79.11	79.48	0.47	84.53	79.28	-6.21
GU 07-2276	85.76	85.51	-0.29	88.68	84.29	-4.95	80.35	73.05	-9.09	71.33	75.86	6.35	81.53	79.68	-2.27
CYM 07-986	90.61	89.93	-0.75	82.73	87.21	5.42	84.43	71.45	-15.37	83.14	81.33	-2.18	85.23	82.48	-3.22
Standards															
Check1	84.68	86.84	2.55	81.30	77.32	-4.90	85.42	70.78	-17.14	82.53	71.65	-13.18	83.48	76.65	-8.19
Check2	92.53	93.47	1.02	86.06	81.07	-5.80	80.96	73.46	-9.26	82.48	74.81	-9.30	85.51	80.70	-5.62
Check3	85.68	86.86	1.38	83.84	75.51	-9.94	85.23	72.85	-14.53	80.75	76.46	-5.31	83.88	77.92	-7.10
GM	87.43	87.17		85.25	81.81		82.85	71.71		78.87	78.01		83.60	79.67	-4.69
CD	1.75	1.82		1.28	1.08		3.70	3.27		NS	0.00				
CV	0.98	1.03		0.74	0.65		2.19	2.24		6.08	4.40				
CD GxE	1.25			0.81			2.38			5.58					

Table 31: 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/ha)	3	PG 9869137, SA 98-13, AS 04-2097
Tillers at 120 days (‘000/ha)	1	SA 04-458
Shoots at 150 days (‘000/ha)	2	SA 04-458, GU 07-2276
Shoots at 180 days (‘000/ha)	2	SA 04-458, CYM 07-986
Number of Millable Canes at 240 days (‘000/ha)	3	SA 04-458, GU 07-2276, CYM 07-986
Number of Millable Canes at harvest (‘000/ha)	1	SA 04-458
Juice Brix % at 300 days	22	BM 1003143, BM 1005149, BM 1009163, BM 1010168, BM 1022173, PG 9869137, SA 98-13, SA 04-454, SA 04-472, SA 04-458, SA 04-390, SA 04-409, AS 04-1689, AS 04-2097, AS 04-635, AS 04-1687, MA 5/51, MA 5/5, MA 5/99, MA 5/22, GU 07-3849, CYM 07-986
Single cane weight (Kg) at 300 days	13	BM 1010168, PG 9869137, SA 98-13, SA 04-454, SA 04-458, AS 04-245, AS 04-2097, AS 04-635, AS 04-1687, MA 5/22, GU 07-3849, GU 07-3774, GU 07-2276
Juice sucrose % at 300 days	24	BM 1003143, BM 1005149, BM 1009163, BM 1010168, PG 9869137, SA 98-13, SA 04-454, SA 04-472, SA 04-458, SA 04-390, 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 5/99, MA 5/22, GU 07-3849, GU 07-3774, GU 07-2276, CYM 07-986
Juice extraction % at 300 days	14	BM 1009163, BM 1010168, SA 04-472, SA 04-390, SA 04-409, AS 04-1689, AS 04-245, AS 04-2097, AS 04-1687, MA 5/51, MA 5/5, MA 5/37, GU 07-3849, GU 07-3774
Cane length (cm) at 300 days	6	BM 1010168, PG 9869137, SA 98-13, AS 04-2097, AS 04-1687, GU 07-3849
Cane diameter (cm) at 300 days	18	BM 1003143, BM 1009163, BM 1010168, BM 1022173, PG 9869137, SA 98-13, SA 04-454, SA 04-472, SA 04-458, AS 04-245, AS 04-2097, AS 04-1687, MA 5/51, MA 5/5, MA 5/99, GU 07-3849, GU 07-3774, GU 07-2276
Number of internodes at 300 days	13	BM 1003143, BM 1005149, BM 1010168, PG 9869137, SA 98-13, SA 04-472, SA 04-390, SA 04-496, AS 04-635, AS 04-1687, MA 5/5, MA 5/99, GU 07-2276
Cane fibre % at 300 days	27	BM 1003143, BM 1005149, BM 1009163, BM 1010168, BM 1022173, PG 9869137, SA 98-13, SA 04-454, SA 04-472, 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 5/7, MA 5/99, MA 5/22, GU 07-3849, GU 07-3774, GU 07-2276, CYM 07-986
Single cane weight (Kg) at harvest	Nil	

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Cane length (cm) at harvest	Nil	
Cane diameter (cm) at harvest	7	BM 1003143, BM 1005149, BM 1009163, PG 9869137, SA 04-409, AS 04-1687, GU 07-3849
Number of internodes at harvest	4	SA 98-13, AS 04-1689, MA 5/99, MA 5/22
Juice Brix % at harvest	25	BM 1003143, BM 1005149, BM 1009163, BM 1010168, BM 1022173, PG 9869137, SA 98-13, SA 04-454, SA 04-472, 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, GU 07-3774, GU 07-2276, CYM 07-986
Juice sucrose % at harvest	25	BM 1003143, BM 1005149, BM 1009163, BM 1010168, BM 1022173, PG 9869137, SA 98-13, SA 04-454, SA 04-472, 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, GU 07-3849, GU 07-3774, CYM 07-986
Juice extraction % at harvest	15	BM 1005149, BM 1009163, BM 1022173, PG 9869137, SA 04-409, AS 04-1689, AS 04-245, AS 04-2097, AS 04-635, MA 5/5, AS 04-1687, MA 5/51, MA 5/99, GU 07-3849, GU 07-3774
Cane fibre % at harvest	26	BM 1003143, BM 1005149, BM 1009163, BM 1010168, BM 1022173, PG 9869137, SA 98-13, SA 04-454, SA 04-472, SA 04-458, SA 04-390, 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, CYM 07-986
Cane yield (t/ha) at harvest*	3	BM 1010168, GU 07-2276, SA 04-458,
Tiller mortality	3	SA 04-409, AS 04-1687, SA 04-472, AS 04-245
Leaf area before imposition of drought	10	SA 98-13, SA 04-472, SA 04-390, SA 04-496, AS 04-1687, MA 5/5, MA 5/99, MA 5/22, GU 07-3774, CYM 07-986
Leaf area after withdrawing the drought	18	BM 1005149, BM 1009163, BM 1010168, BM 1022173, PG 9869137, SA 04-454, SA 04-472, SA 04-496, SA 04-409, AS 04-1689, AS 04-245, AS 04-635, AS 04-1687, MA 5/51, MA 5/5, MA 5/37, GU 07-3849, GU 07-3774
Relative water content before imposition of drought	14	BM 1009163, BM 1010168, SA 98-13, SA 04-454, SA 04-496, SA 04-409, AS 04-2097, MA 5/51, MA 5/5, MA 5/37, MA 5/22, GU 07-3849, GU 07-2276, CYM 07-986
Relative water content during drought period	12	BM 1003143, BM 1005149, BM 1009163, SA 98-13, SA 04-472, SA 04-458, SA 04-390, SA 04-496, AS 04-1689, AS 04-245, AS 04-635, AS 04-1687
Relative water content after withdrawing drought	20	BM 1003143, BM 1005149, BM 1010168, BM 1022173, PG 9869137, SA 98-13, SA 04-472, SA 04-458, SA 04-390, SA 04-409, AS 04-245, AS 04-2097, AS 04-1687, MA 5/5, MA 5/37, MA 5/99, MA 5/22, GU 07-3849, GU 07-2276, CYM 07-986

*Less than 20% reduction

B. III Evaluation and identification of climate resilient ISH and IGH genetic stocks (2016-17)

(i) Evaluation for drought tolerance (Ratoon)

Locations (4)	Tropical: Padegaon and Anakapalle Subtropical: Karnal and Faridkot
Entries (15)	AS 04-245, MA 5/5, MA 5/37, GU 07-3774, CYM 07-986, GU 07-3849, GU 07-2276, AS 04-635, AS 04-1687, AS 04-2097, SA 04-472, AS 04-1689, BM 1022173, SA 04-496, SA 04-409
Standards (2 for each region)	Padegaon : CoM 88121 and CoM 0265 Anakapalle : 83 R 23 and CoA 06231 Faridkot : CoJ 88 and Co 98014 Karnal : CoJ 88 and Co 98014
Design	Split plot Main plot treatments: I. Drought II. Control (Recommended practices) Sub plot treatments : test entries
Replications	Two
Plot size	6m x 2R x 0.90m
Seed rate	Ratoon
Year of start	2015-16
Crop duration	11 months

Results of the previous year:

Juice and cane quality parameters were less affected by drought and number of tillers at 90 days (‘000/ha), number of shoots at 150 days (‘000/ha), cane yield (t/ha) at harvest and leaf area (m²) after drought period (150 days) were more sensitive to drought. Considering cane yield, juice quality and other physiological parameters, four entries viz., SA 04-409, AS 04-2097, GU 07-2276 and SA 04-472 were found to be tolerant to drought.

Results of the current year:

Fifteen ISH/IGH clones were evaluated under drought condition by withdrawing irrigation during 60 and 150 days of ratooning, at four centers. Data on cane yield, juice quality parameters, physiological and agronomical traits contributing to drought tolerance

were recorded. Percentage change due to imposition of drought for the characters was worked out (Table 1 to Table 25).

Response of traits to drought:

Six traits viz., single cane weight at harvest, cane length at harvest, cane fibre % at harvest, leaf area (m²) after withdrawing drought, relative water content during drought and relative water content after drought showed significant difference between drought and normal conditions at Karnal. Similarly at Faridkot, traits viz., number of tillers at 90 days ('000/ha), number of Shoots 180 days ('000/ha), number of millable canes (NMC) at 240 days ('000/ha), single cane weight at harvest, cane diameter at harvest, cane length at harvest, number of internodes at harvest, juice Brix % at harvest, cane yield (t/ha) at harvest and relative water content after drought showed significant difference between drought and normal. At Anakapalle only two traits, single cane weight at harvest and leaf area after withdrawing drought showed significant difference among drought and normal. Whereas in Padegaon number of tillers ('000/ha) at 120 and 150, number of shoots ('000/ha) at 150 and 180, NMC at 240 and harvest, single cane weight at harvest, cane length at harvest, number of internodes at harvest and cane yield (t/ha) at harvest showed significant differences between drought and normal conditions.

Four traits viz., juice Brix % at harvest, juice sucrose % at harvest, cane fibre % at harvest and juice extraction % at harvest recorded less than 5% change, hence less sensitive to the drought. The most sensitive traits to drought were number of tillers at 90 days ('000/ha), number of shoots at 150 days ('000/ha), NMC at 240 ('000/ha), NMC at harvest ('000/ha), cane yield (t/ha) at harvest and leaf area (m²) after drought period (150 days), tillers mortality (%) and relative water content during drought as they recorded more than 15% difference between grand mean of the entries under normal and drought plots.

Response of entries to drought:

Fifteen entries were analyzed for different traits like cane yield, juice quality parameters and drought related traits for their response to drought (Table 25). The entries which showed less than 5% reduction under drought were identified as tolerant clones. In general, juice quality traits viz., juice Brix % at harvest, juice sucrose % at harvest and cane fibre % at harvest were less influenced by drought stress as more than 10 clones recorded less reduction (<5%). In addition, all the entries showed <7% reduction for relative water

content after drought period (150 days). Analysis of yield contributing traits indicated that GU 07- 3849 and AS 04-1689 for single cane weight (Kg) at harvest, AS 04-2097 for number of shoots at 150 days ('000/ha), BM 1022173, GU 07-2276 and AS 04-1689 for tillers mortality (%), AS 04-1689, AS 04-245, AS 04-2097, AS 04-635 and GU 07-3774 for number of internodes at harvest and BM 1022173 for number of millable canes ('000/ha) at harvest recorded <5% reduction. The complex character cane yield showed considerable reduction under drought however the entries viz., AS 04-1689 (-10.83%), AS 04-2097 (-12.52%) BM 1022173 (-17.50%) and AS 04-635(18.91%) recorded <20% reduction.

Tillers at 90 days, tillers at 120 days, number of millable canes at 240 days, number of millable canes at harvest, cane yield at harvest and CCS t/ha recorded more than 15% difference between grand means of normal and drought conditions. The entries AS 04-1689, AS 04-635 and AS 04-245 had better grand means for tillers at 90 days, tillers at 120 days, number of millable canes at 240 days, number of millable canes at harvest under drought at all four centers, whereas AS 04-635, AS 04-1689 had higher grand means under drought for cane yield at harvest and CCS t/ha.

Juice quality parameters were less affected by drought and number of tillers at 90 days ('000/ha), number of shoots at 150 days ('000/ha), cane yield (t/ha) at harvest and relative water content were more sensitive to drought. Considering cane yield, juice quality parameters and other physiological parameters, four entries viz., AS 04-1689, AS 04-2097, BM 1022173 and AS 04-635 were found to be tolerant to drought. The Entry AS 04-2097 consistently showed drought tolerance in plant as well as ratoon.

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Table 1: Number of 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
BM 1022173	137.96	95.83	-30.54	94.44	91.67	-2.93	75.46	85.18	12.88	196.30	137.04	-30.19	126.04	102.43	-18.73
SA 04-472	200.00	123.15	-38.43	98.15	94.44	-3.78	71.29	81.02	13.65	204.63	172.22	-15.84	143.52	117.71	-17.98
SA 04-496	125.00	203.70	62.96	201.85	172.69	-14.45	80.09	79.63	-0.57	214.81	176.85	-17.67	155.44	158.22	1.79
SA 04-409	149.07	70.37	-52.79	167.59	110.65	-33.98	93.52	87.96	-5.95	184.26	153.70	-16.58	148.61	105.67	-28.89
AS 04-1689	370.37	363.43	-1.87	316.20	290.28	-8.20	138.89	140.28	1.00	319.44	250.00	-21.74	286.23	261.00	-8.81
AS 04-245	416.67	355.09	-14.78	260.19	240.28	-7.65	143.52	145.37	1.29	310.19	256.48	-17.31	282.64	249.31	-11.79
AS 04-2097	202.31	280.09	38.45	208.33	107.87	-48.22	138.43	139.82	1.00	326.39	204.63	-37.30	218.86	183.10	-16.34
AS 04-635	444.44	400.46	-9.90	394.44	314.81	-20.19	150.93	128.71	-14.72	335.19	183.33	-45.30	331.25	256.83	-22.47
AS 04-1687	302.31	298.61	-1.22	319.44	269.44	-15.65	104.64	84.72	-19.04	340.28	178.24	-47.62	266.67	207.75	-22.09
MA 5/5	149.07	196.76	31.99	60.19	49.07	-18.47	93.06	56.95	-38.80	159.26	128.70	-19.19	115.39	107.87	-6.52
MA 5/37	97.22	48.15	-50.47	47.22	39.35	-16.67	58.79	71.76	22.06	201.85	166.67	-17.43	101.27	81.48	-19.54
GU 07-3849	214.81	187.50	-12.71	165.74	148.61	-10.34	122.23	89.82	-26.52	304.63	183.33	-39.82	201.85	152.32	-24.54
GU 07-3774	349.54	305.56	-12.58	204.17	184.26	-9.75	155.09	132.87	-14.33	261.57	207.87	-20.53	242.59	207.64	-14.41
GU 07-2276	201.39	182.87	-9.20	229.63	165.28	-28.02	142.13	114.82	-19.21	226.85	175.46	-22.65	200.00	159.61	-20.20
CYM 07-986	226.85	226.85	0.00	202.78	111.11	-45.21	125.46	136.57	8.86	180.56	131.94	-26.92	183.91	151.62	-17.56
Standards															
Check1	163.43	147.22	-9.92	124.07	107.41	-13.43	103.24	105.09	1.79	225.93	172.22	-23.77	164.12	141.20	-13.96
Check2	151.85	117.13	-22.86	163.89	140.28	-14.41	81.48	78.71	-3.40	287.04	206.48	-28.06	161.11	127.43	-20.90
GM	229.55	211.93		191.67	155.15		110.49	103.49		251.72	181.48		195.85	163.01	-16.77
	Main	Sub		Main	Sub		Main	Sub		Main	Sub				
CV	22.53	8.23		0.19	8.05		8.92	17.86		11.77	6.50				
CD	NS	26.18		1.04	20.11		NS	27.53		NS	20.28				
	37.03 ^a	116.20 ^b		28.44 ^a	27.60 ^b		NS ^a	NS ^b		28.68 ^a	57.73 ^b				

a : Sub plot treatment means at same level of main plot treatment

b : Main plot treatment means at same or different level of sub plot treatment

Table 2: Number of 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
BM 1022173	132.00	104.70	-20.68				83.80	93.98	12.15	235.19	187.50	-20.28	150.33	128.73	-14.37
SA 04-472	242.00	131.50	-45.66				89.35	92.59	3.63	229.17	188.89	-17.58	186.84	137.66	-26.32
SA 04-496	142.00	129.60	-8.73				88.88	89.36	0.54	235.19	181.48	-22.83	155.36	133.48	-14.08
SA 04-409	136.00	75.83	-44.24				99.54	97.69	-1.86	194.91	157.41	-19.24	143.48	110.31	-23.12
AS 04-1689	333.00	292.60	-12.13				137.50	142.14	3.37	341.20	257.41	-24.56	270.57	230.72	-14.73
AS 04-245	316.00	290.30	-8.13				152.32	150.93	-0.91	384.72	289.35	-24.79	284.35	243.53	-14.36
AS 04-2097	180.00	265.70	47.61				143.52	142.59	-0.65	350.00	231.02	-33.99	224.51	213.10	-5.08
AS 04-635	400.00	388.30	-2.93				154.17	135.65	-12.01	332.87	290.28	-12.80	295.68	271.41	-8.21
AS 04-1687	288.00	242.20	-15.90				117.13	93.52	-20.16	343.06	225.00	-34.41	249.40	186.91	-25.06
MA 5/5	125.00	131.90	5.52				100.93	73.62	-27.06	185.19	132.41	-28.50	137.04	112.64	-17.80
MA 5/37	111.00	51.39	-53.70				75.46	78.71	4.31	205.09	169.44	-17.38	130.52	99.85	-23.50
GU 07-3849	351.00	231.50	-34.05				130.09	100.93	-22.42	311.11	221.76	-28.72	264.07	184.73	-30.04
GU 07-3774	316.00	305.10	-3.45				158.80	139.82	-11.95	312.96	217.13	-30.62	262.59	220.68	-15.96
GU 07-2276	248.00	208.00	-16.13				148.62	120.37	-19.01	251.85	205.56	-18.38	216.16	177.98	-17.66
CYM 07-986	215.00	147.20	-31.53				132.87	139.36	4.88	226.39	204.17	-9.82	191.42	163.58	-14.55
Standards															
Check1	148.00	112.20	-24.19				114.36	112.96	-1.22	277.31	220.37	-20.53	179.89	148.51	-17.44
Check2	108.00	85.78	-20.57				90.27	86.11	-4.61	296.76	213.89	-27.93	165.01	128.59	-22.07
GM	223.00	187.87					118.68	111.20		277.23	211.36		206.31	170.14	-17.53
	Main	Sub					Main	Sub		Main	Sub				
CV	5.53	9.21					8.11	14.14		1.06	5.47				
CD	NS	27.39					NS	23.42		7.96	19.26				
	38.74 ^a	42.4 ^b					NS ^a	NS ^b		27.23 ^a	26.77 ^b				

a : Sub plot treatment means at same level of main plot treatment

b : Main plot treatment means at same or different level of sub plot treatment

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Table 3: Number of 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
BM 1022173	131.95	119.00	-9.81				74.54	85.65	14.90	168.52	108.33	-35.71	125.00	104.33	-16.54
SA 04-472	221.20	155.50	-29.70				82.41	85.65	3.93	173.15	150.46	-13.10	158.92	130.54	-17.86
SA 04-496	134.05	134.20	0.11				81.48	77.78	-4.54	152.31	131.02	-13.98	122.61	114.33	-6.75
SA 04-409	115.70	81.70	-29.39				90.75	89.82	-1.02	133.33	115.74	-13.19	113.26	95.75	-15.46
AS 04-1689	328.70	299.90	-8.76				125.46	132.41	5.54	256.02	214.81	-16.09	236.73	215.71	-8.88
AS 04-245	314.45	307.40	-2.24				143.06	140.74	-1.62	312.96	243.52	-22.19	256.82	230.55	-10.23
AS 04-2097	183.45	206.50	12.56				132.87	134.26	1.05	186.57	166.67	-10.67	167.63	169.14	0.90
AS 04-635	391.95	391.50	-0.11				143.98	124.54	-13.50	288.89	277.78	-3.85	274.94	264.61	-3.76
AS 04-1687	291.00	253.50	-12.89				110.19	86.57	-21.44	275.46	212.96	-22.69	225.55	184.34	-18.27
MA 5/5	121.95	123.00	0.86				94.45	66.66	-29.42	184.72	151.85	-17.79	133.71	113.84	-14.86
MA 5/37	109.10	104.40	-4.31				66.20	70.84	7.01	150.93	123.61	-18.10	108.74	99.62	-8.39
GU 07-3849	333.60	234.70	-29.65				121.76	92.59	-23.96	233.80	203.24	-13.07	229.72	176.84	-23.02
GU 07-3774	314.70	309.50	-1.65				143.98	128.25	-10.93	168.52	124.54	-26.10	209.07	187.43	-10.35
GU 07-2276	229.05	193.60	-15.48				138.89	112.96	-18.67	162.50	135.19	-16.81	176.81	147.25	-16.72
CYM 07-986	196.55	178.50	-9.18				123.61	128.24	3.75	212.04	181.48	-14.41	177.40	162.74	-8.26
Standards															
Check1	161.00	147.80	-8.20				106.03	104.63	-1.32	139.81	112.96	-19.21	135.61	121.80	-10.19
Check2	111.75	108.10	-3.27				81.95	79.63	-2.83	120.37	102.31	-15.00	104.69	96.68	-7.65
GM	217.07	196.99					109.51	102.42		195.29	162.15		173.95	153.85	-11.56
	Main	Sub					Main	Sub		Main	Sub				
CV	4.73	7.16					8.06	14.01		4.34	7.24				
CD	NS	21.36					NS	21.38		23.88	18.63				
	30.21 ^a	33.82 ^b					NS ^a	NS ^b		NS ^a	NS ^b				

a : Sub plot treatment means at same level of main plot treatment

b : Main plot treatment means at same or different level of sub plot treatment

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Table 4: 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
BM 1022173	131.50	99.80	-24.11	99.54	82.87	-16.75	70.37	79.16	12.49	135.19	93.52	-30.82	109.15	88.84	-18.61
SA 04-472	189.40	85.74	-54.73	95.37	71.30	-25.24	80.09	82.41	2.90	140.74	120.37	-14.47	126.40	89.96	-28.83
SA 04-496	134.30	139.40	3.80	140.28	127.31	-9.25	78.71	75.93	-3.53	142.59	120.83	-15.26	123.97	115.87	-6.54
SA 04-409	110.00	62.72	-42.98	156.02	92.59	-40.66	87.04	89.82	3.19	102.31	92.59	-9.50	113.84	84.43	-25.84
AS 04-1689	327.30	299.80	-8.40	278.24	244.91	-11.98	118.52	125.46	5.86	181.48	160.65	-11.48	226.39	207.70	-8.25
AS 04-245	307.00	325.00	5.86	234.72	226.39	-3.55	133.33	132.41	-0.69	216.67	186.11	-14.10	222.93	217.48	-2.45
AS 04-2097	190.30	226.90	19.23	167.13	132.41	-20.77	122.22	124.07	1.51	149.54	125.46	-16.10	157.30	152.21	-3.23
AS 04-635	372.20	377.30	1.37	347.69	315.28	-9.32	135.65	115.74	-14.68	194.91	169.91	-12.83	262.61	244.56	-6.88
AS 04-1687	294.40	254.40	-13.59	306.02	215.74	-29.50	100.46	80.09	-20.28	211.57	182.41	-13.79	228.11	183.16	-19.71
MA 5/5	119.00	115.70	-2.77	62.50	45.83	-26.67	86.11	61.57	-28.50	150.93	112.96	-25.15	104.63	84.02	-19.71
MA 5/37	108.30	89.17	-17.66	41.20	33.33	-19.10	61.58	67.59	9.76	123.15	100.00	-18.80	83.56	72.52	-13.21
GU 07-3849	314.90	238.00	-24.42	176.39	150.93	-14.43	116.21	87.04	-25.10	187.04	165.28	-11.63	198.63	160.31	-19.29
GU 07-3774	315.60	305.10	-3.33	204.17	193.06	-5.44	136.57	121.29	-11.19	135.65	117.13	-13.65	198.00	184.14	-7.00
GU 07-2276	214.80	173.00	-19.46	154.17	116.67	-24.32	132.87	107.41	-19.16	133.80	114.35	-14.53	158.91	127.86	-19.54
CYM 07-986	195.80	136.70	-30.18	209.72	118.98	-43.27	116.67	118.98	1.98	161.57	97.22	-39.83	170.94	117.97	-30.99
Standards															
Check1	167.60	108.70	-35.14	125.46	86.11	-31.36	102.77	100.46	-2.25	123.61	103.24	-16.48	140.63	109.47	-22.16
Check2	110.50	98.08	-11.24	168.52	125.46	-25.55	81.02	79.17	-2.28	95.37	81.02	-15.05	103.09	86.09	-16.48
GM	211.94	184.44		174.54	139.95		103.54	96.98		152.12	126.06		160.53	136.86	-14.75
	Main	Sub		Main	Sub		Main	Sub		Main	Sub				
CV	7.59	7.58		5.42	4.09		7.73	13.93		2.34	9.40				
CD	NS	21.63		26.29	9.27		NS	20.12		10.03	18.83				
	30.59 ^a	40.05 ^b		13.11 ^a	20.34 ^b		NS ^a	NS ^b		NS ^a	NS ^b				

a : Sub plot treatment means at same level of main plot treatment

b : Main plot treatment means at same or different level of sub plot treatment

Table 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
BM 1022173	91.20	75.46	-17.26	83.80	72.69	-13.26	68.52	76.39	11.49	106.02	85.65	-19.21	87.38	77.55	-11.26
SA 04-472	100.00	57.87	-42.13	83.80	37.50	-55.25	77.32	79.64	3.00	127.78	93.98	-26.45	97.22	67.25	-30.83
SA 04-496	79.20	55.73	-29.63	191.20	122.22	-36.08	77.32	74.07	-4.20	106.02	79.17	-25.33	113.43	82.80	-27.01
SA 04-409	89.90	35.74	-60.25	79.17	56.02	-29.24	83.80	86.57	3.31	92.59	80.56	-13.00	86.37	64.72	-25.06
AS 04-1689	241.00	222.69	-7.60	264.81	238.89	-9.79	111.12	114.82	3.33	150.46	138.43	-8.00	191.85	178.71	-6.85
AS 04-245	267.00	235.19	-11.92	237.04	218.52	-7.81	125.93	124.07	-1.48	189.35	169.44	-10.51	204.83	186.80	-8.80
AS 04-2097	144.00	178.24	23.78	210.19	136.11	-35.24	116.21	116.67	0.40	122.69	106.02	-13.58	148.27	134.26	-9.45
AS 04-635	314.00	305.09	-2.84	357.41	295.37	-17.36	124.54	107.87	-13.39	160.19	132.41	-17.34	239.03	210.18	-12.07
AS 04-1687	237.00	230.07	-2.92	287.04	208.80	-27.26	95.37	77.32	-18.93	151.85	134.26	-11.59	192.82	162.61	-15.66
MA 5/5	96.10	87.50	-8.95	64.81	41.20	-36.43	79.17	60.65	-23.39	90.74	80.09	-11.73	82.71	67.36	-18.55
MA 5/37	62.00	47.40	-23.54	44.44	30.56	-31.23	57.87	65.75	13.62	84.72	72.69	-14.21	62.26	54.10	-13.10
GU 07-3849	275.00	229.17	-16.67	176.85	145.37	-17.80	109.72	82.41	-24.89	161.11	135.65	-15.80	180.67	148.15	-18.00
GU 07-3774	304.00	263.67	-13.27	223.15	192.59	-13.69	128.70	114.82	-10.78	123.61	104.17	-15.73	194.87	168.81	-13.37
GU 07-2276	98.60	92.05	-6.64	163.43	89.35	-45.33	124.07	101.86	-17.90	112.50	99.07	-11.93	124.65	95.58	-23.32
CYM 07-986	141.00	103.70	-26.45	157.41	109.72	-30.30	107.87	111.58	3.44	110.65	93.98	-15.06	129.23	104.75	-18.95
Standards															
Check1	126.00	97.96	-22.25	125.46	76.39	-39.11	100.93	98.63	-2.28	97.22	75.93	-21.90	111.83	90.58	-19.00
Check2	94.00	62.32	-33.70	123.15	89.81	-27.07	80.09	77.78	-2.88	82.87	72.69	-12.29	95.61	72.29	-24.38
GM	162.35	139.99		169.01	127.12		98.15	92.41		121.79	103.19		137.82	115.68	-16.07
	Main	Sub		Main	Sub		Main	Sub		Main	Sub				
CV	7.68	9.82		0.76	5.70		7.90	12.94		3.89	8.36				
CD	NS	21.38		3.45	12.16		NS	17.76		13.5	13.55				
	NS ^a	NS ^b		17.19 ^a	16.78 ^b		NS ^a	NS ^b		NS ^a	NS ^b				

a : Sub plot treatment means at same level of main plot treatment

b : Main plot treatment means at same or different level of sub plot treatment

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Table 6: Number of millable canes at harvest ('000/ha)

Entry	Karnal			Faridkot			Anakapalle			Padegaon			Mean		
	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change
BM 1022173				74.07	69.91	-5.62	66.21	74.08	11.89	81.48	72.69	-10.80	73.92	72.23	-2.29
SA 04-472				72.69	39.35	-45.87	75.46	76.39	1.23	103.70	68.52	-33.93	83.95	61.42	-26.84
SA 04-496				145.83	110.65	-24.12	75.46	72.22	-4.29	87.04	82.41	-5.32	102.78	88.43	-13.96
SA 04-409				64.35	41.67	-35.24	79.17	81.03	2.35	79.17	69.91	-11.70	74.23	64.20	-13.51
AS 04-1689				252.78	210.19	-16.85	102.32	108.33	5.87	141.20	126.85	-10.16	165.43	148.46	-10.26
AS 04-245				219.44	165.74	-24.47	111.57	109.26	-2.07	167.59	135.19	-19.34	166.20	136.73	-17.73
AS 04-2097				127.31	59.72	-53.09	106.95	110.65	3.46	99.54	91.67	-7.91	111.27	87.35	-21.50
AS 04-635				271.76	236.11	-13.12	114.35	101.86	-10.92	143.52	117.13	-18.39	176.54	151.70	-14.07
AS 04-1687				209.72	167.59	-20.09	91.21	75.93	-16.75	133.80	120.83	-9.69	144.91	121.45	-16.19
MA 5/5				41.20	29.17	-29.20	76.85	58.79	-23.50	75.46	67.13	-11.04	64.50	51.70	-19.86
MA 5/37				44.91	31.48	-29.90	56.48	63.89	13.12	81.02	63.89	-21.14	60.80	53.09	-12.69
GU 07-3849				121.76	78.70	-35.36	105.09	81.02	-22.90	142.59	123.15	-13.64	123.15	94.29	-23.43
GU 07-3774				191.20	115.74	-39.47	116.21	106.48	-8.37	115.28	96.30	-16.47	140.90	106.17	-24.65
GU 07-2276				114.81	69.91	-39.11	116.21	95.37	-17.93	101.39	90.28	-10.96	110.80	85.19	-23.12
CYM 07-986				130.56	83.33	-36.17	104.17	106.95	2.67	105.09	92.59	-11.89	113.27	94.29	-16.76
Standards															
Check1				85.19	67.59	-20.66	91.66	93.06	1.53	78.24	67.59	-13.61	92.13	75.31	-18.25
Check2				106.48	65.28	-38.69	76.39	72.68	-4.86	71.76	62.50	-12.90	77.78	67.59	-13.10
GM				133.77	96.60		92.10	87.53		106.35	91.09		110.74	91.74	-17.16
				Main	Sub		Main	Sub		Main	Sub				
CV				14.91	7.06		4.51	11.41		2.96	10.13				
CD				NS	11.71		NS	14.77		9	14.41				
				16.56 ^a	38.93 ^b		NS ^a	NS ^b		NS ^a	NS ^b				

a : Sub plot treatment means at same level of main plot treatment

b : Main plot treatment means at same or different level of sub plot treatment

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Table 7: 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
BM 1022173	1.05	0.95	-9.52	1.18	0.97	-17.80	1.02	0.96	-5.88	1.09	0.92	-15.47	1.08	0.95	-12.41
SA 04-472	0.80	0.76	-5.00	0.94	0.94	0.00	0.99	0.86	-13.13	0.87	0.70	-19.45	0.90	0.82	-9.43
SA 04-496	0.83	0.69	-16.87	0.97	0.69	-28.87	0.80	0.82	2.50	0.96	0.73	-24.14	0.89	0.73	-17.74
SA 04-409	0.87	0.79	-9.20	1.13	0.98	-13.27	0.95	0.90	-5.26	1.20	1.04	-13.48	1.04	0.93	-10.65
AS 04-1689	0.64	0.56	-12.50	0.58	0.63	8.62	0.76	0.81	6.58	0.63	0.46	-26.58	0.65	0.62	-5.67
AS 04-245	0.34	0.34	0.00	0.60	0.49	-18.33	0.59	0.52	-11.86	0.37	0.27	-26.76	0.48	0.41	-14.68
AS 04-2097	0.80	0.72	-10.00	0.99	0.91	-8.08	0.82	0.80	-2.44	0.69	0.65	-5.69	0.82	0.77	-6.64
AS 04-635	0.51	0.46	-9.80	0.72	0.59	-18.06	0.70	0.78	11.43	0.60	0.54	-10.10	0.63	0.59	-6.35
AS 04-1687	0.53	0.39	-26.42	0.61	0.45	-26.23	0.75	0.85	13.33	0.45	0.37	-17.84	0.59	0.52	-11.99
MA 5/5	1.17	1.07	-8.55	1.23	0.91	-26.02	0.95	0.82	-13.68	1.10	1.05	-4.63	1.11	0.96	-13.50
MA 5/37	1.08	0.98	-9.26	0.80	0.58	-27.50	1.04	0.92	-11.54	1.07	0.95	-11.73	1.00	0.86	-14.17
GU 07-3849	0.53	0.43	-18.87	0.63	0.61	-3.17	0.73	0.79	8.22	0.46	0.40	-13.61	0.59	0.56	-5.23
GU 07-3774	0.49	0.44	-10.20	0.48	0.38	-20.83	0.52	0.58	11.54	0.39	0.36	-7.69	0.47	0.44	-6.38
GU 07-2276	0.74	0.67	-9.46	1.04	0.68	-34.62	0.62	0.74	19.35	0.86	0.64	-24.94	0.81	0.68	-16.08
CYM 07-986	0.82	0.71	-13.41	0.80	0.59	-26.25	0.68	0.70	2.94	0.59	0.36	-38.98	0.72	0.59	-18.34
Standards															
Check1	0.97	0.94	-3.09	0.91	0.76	-16.48	1.06	0.98	-7.55	1.14	0.952	-16.49	1.03	0.93	-10.15
Check2	0.76	0.68	-10.44	0.95	0.83	-12.63	1	1	0.00	1.34	1.15	-14.75	1.00	0.90	-10.66
GM	0.76	0.68		0.86	0.71		0.82	0.81		0.81	0.68		0.81	0.72	-11.43
	Main	Sub		Main	Sub		Main	Sub		Main	Sub				
CV	3.45	6.94		3.72	10.60		13.50	12.59		3.64	4.62				
CD	0.07	0.07		0.09	0.12		NS	0.15		0.08	0.05				
	NS ^a	NS ^b		NS ^a	NS ^b		NS ^a	NS ^b		0.07 ^a	0.08 ^b				

a : Sub plot treatment means at same level of main plot treatment

b : Main plot treatment means at same or different level of sub plot treatment

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Table 8: 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
BM 1022173	280.00	245.00	-12.50	254.16	217.67	-14.36	269.72	265.82	-1.45	195.00	167.50	-14.10	249.72	224.00	-10.30
SA 04-472	255.00	220.00	-13.73	201.67	198.33	-1.66	236.58	231.85	-2.00	177.50	117.50	-33.80	217.69	191.92	-11.84
SA 04-496	250.00	235.00	-6.00	230.00	226.67	-1.45	238.33	236.80	-0.64	177.50	147.50	-16.90	223.96	211.49	-5.57
SA 04-409	286.00	277.50	-2.97	247.50	239.50	-3.23	229.09	224.76	-1.89	200.00	175.00	-12.50	240.65	229.19	-4.76
AS 04-1689	290.00	255.00	-12.07	255.83	287.50	12.38	223.13	220.35	-1.25	280.00	252.50	-9.82	262.24	253.84	-3.20
AS 04-245	315.00	285.00	-9.52	306.74	298.50	-2.69	238.46	232.23	-2.61	267.50	250.00	-6.54	281.93	266.43	-5.50
AS 04-2097	290.00	255.00	-12.07	287.50	264.83	-7.89	199.90	191.78	-4.06	275.00	247.50	-10.00	263.10	239.78	-8.86
AS 04-635	295.00	290.00	-1.69	268.33	251.67	-6.21	210.38	197.25	-6.24	287.50	222.50	-22.61	265.30	240.36	-9.40
AS 04-1687	297.50	277.50	-6.72	277.50	242.67	-12.55	242.16	233.13	-3.73	197.50	167.50	-15.19	253.67	230.20	-9.25
MA 5/5	290.00	260.00	-10.34	222.50	239.50	7.64	230.31	229.13	-0.51	200.00	170.00	-15.00	235.70	224.66	-4.69
MA 5/37	290.00	255.00	-12.07	209.17	240.66	15.05	231.49	221.70	-4.23	180.00	155.00	-13.89	227.67	218.09	-4.21
GU 07-3849	270.00	210.00	-22.22	240.00	261.67	9.03	227.44	220.79	-2.92	157.50	135.00	-14.29	223.74	206.87	-7.54
GU 07-3774	237.50	215.00	-9.47	242.50	193.33	-20.28	241.84	233.60	-3.41	260.00	150.00	-42.31	245.46	197.98	-19.34
GU 07-2276	275.00	225.00	-18.18	258.33	221.50	-14.26	261.55	248.16	-5.12	187.50	160.00	-14.67	245.60	213.67	-13.00
CYM 07-986	292.50	290.00	-0.85	237.83	251.66	5.82	278.99	264.46	-5.21	220.00	182.50	-17.05	257.33	247.16	-3.95
Standards															
Check1	295.00	265.00	-10.17	246.83	232.17	-5.94	230.38	228.36	-0.88	200.00	147.50	-26.25	241.14	215.01	-10.84
Check2	185.00	170.00	-8.11	239.17	219.17	-8.36	218.88	216.87	-0.92	197.50	167.50	-15.19	212.05	196.64	-7.27
GM	276.09	248.82		248.56	240.41		235.80	229.24		215.29	177.35		243.94	223.96	-8.19
	Main	Sub		Main	Sub		Main	Sub		Main	Sub				
CV	0.79	5.47		0.16	1.91		3.53	3.26		4.94	3.81				
CD	6.35	20.69		1.17	6.71		NS	10.91		29.9	10.76				
	NS ^a	NS ^b		9.5 ^a	9.23 ^b		NS ^a	NS ^b		15.22 ^a	23.27 ^b				

a : Sub plot treatment means at same level of main plot treatment

b : Main plot treatment means at same or different level of sub plot treatment

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Table 9: 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
BM 1022173	2.48	2.30	-7.26	2.78	2.58	-7.19	2.33	2.13	-8.58	2.45	2.15	-12.24	2.51	2.29	-8.76
SA 04-472	2.35	2.28	-2.98	2.43	2.45	0.82	2.19	2.15	-1.83	1.65	1.55	-6.06	2.16	2.11	-2.20
SA 04-496	2.10	2.07	-1.43	2.58	2.05	-20.54	1.80	1.77	-1.67	2.15	1.85	-13.95	2.16	1.94	-10.31
SA 04-409	2.22	2.32	4.50	2.27	2.25	-0.88	2.10	1.99	-5.24	2.05	1.75	-14.63	2.16	2.08	-3.82
AS 04-1689	1.75	1.67	-4.57	1.67	1.65	-1.20	1.96	1.89	-3.57	1.70	1.65	-2.94	1.77	1.72	-3.11
AS 04-245	1.60	1.40	-12.50	1.63	1.31	-19.63	2.14	1.99	-7.01	1.55	1.45	-6.45	1.73	1.54	-11.13
AS 04-2097	2.28	2.16	-5.26	2.41	2.40	-0.41	1.73	1.61	-6.94	1.60	1.45	-9.38	2.01	1.91	-4.99
AS 04-635	1.78	1.72	-3.37	1.98	2.03	2.53	1.77	1.75	-1.13	1.65	1.45	-12.12	1.80	1.74	-3.20
AS 04-1687	1.53	1.50	-1.96	1.87	1.25	-33.16	1.61	1.59	-1.24	2.05	1.65	-19.51	1.77	1.50	-15.16
MA 5/5	2.43	2.40	-1.23	2.57	2.55	-0.78	1.70	1.58	-7.06	2.55	2.30	-9.80	2.31	2.21	-4.54
MA 5/37	2.45	2.42	-1.22	2.35	2.10	-10.64	1.82	1.70	-6.59	2.35	2.05	-12.77	2.24	2.07	-7.80
GU 07-3849	1.90	1.85	-2.63	2.05	2.12	3.41	1.58	1.52	-3.80	1.55	0.95	-38.71	1.77	1.61	-9.04
GU 07-3774	1.59	1.47	-7.55	1.73	1.92	10.98	1.78	1.64	-7.87	1.35	1.15	-14.81	1.61	1.55	-4.19
GU 07-2276	2.35	2.45	4.26	2.43	2.15	-11.52	1.90	1.82	-4.21	1.75	1.65	-5.71	2.11	2.02	-4.27
CYM 07-986	1.87	1.94	3.74	2.18	1.86	-14.68	2.00	1.88	-6.00	1.65	1.45	-12.12	1.93	1.78	-7.40
Standards															
Check1	2.23	2.09	-6.28	2.21	2.07	-6.33	2.16	2.06	-4.63	2.75	2.40	-12.73	2.40	2.19	-8.84
Check2	2.22	1.98	-10.81	2.47	2.21	-10.53	2.08	2.00	-3.85	3.20	2.70	-15.63	2.43	2.19	-9.89
GM	2.07	2.00		2.21	2.06		1.92	1.83		2.00	1.74		2.05	1.91	-6.99
	Main	Sub		Main	Sub		Main	Sub		Main	Sub				
CV	12.48	6.57		4.09	3.51		2.52	5.36		7.78	8.15				
CD	NS	0.19		NS	0.11		NS	0.14		NS	0.22				
	NS ^a	NS ^b		0.15 ^a	0.22 ^b		NS ^a	NS ^b		NS ^a	NS ^b				

a : Sub plot treatment means at same level of main plot treatment

b : Main plot treatment means at same or different level of sub plot treatment

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Table 10: 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
BM 1022173	23.0	21.0	-8.7	21.4	19.3	-9.4	21.0	19.0	-9.5	16.5	13.5	-18.2	20.5	18.2	-11.0
SA 04-472	26.5	25.0	-5.7	20.0	14.2	-29.2	20.5	20.0	-2.4	18.5	14.5	-21.6	21.4	18.4	-13.8
SA 04-496	24.0	23.5	-2.1	24.7	20.3	-17.6	17.5	18.5	5.7	18.0	15.5	-13.9	21.0	19.5	-7.5
SA 04-409	23.5	19.5	-17.0	21.5	22.7	5.5	22.0	22.5	2.3	19.0	15.0	-21.1	21.5	19.9	-7.3
AS 04-1689	20.0	22.0	10.0	14.8	18.2	22.4	20.5	20.5	0.0	17.0	14.5	-14.7	18.1	18.8	3.9
AS 04-245	22.5	27.0	20.0	23.2	26.7	15.2	20.0	19.0	-5.0	19.5	14.5	-25.6	21.3	21.8	2.4
AS 04-2097	20.0	25.0	25.0	19.3	18.2	-6.0	19.5	18.5	-5.1	17.0	14.0	-17.6	19.0	18.9	-0.2
AS 04-635	20.0	25.0	25.0	22.7	18.5	-18.3	20.0	19.5	-2.5	18.0	15.0	-16.7	20.2	19.5	-3.3
AS 04-1687	23.5	20.0	-14.9	24.8	19.7	-20.8	19.0	20.0	5.3	16.5	14.5	-12.1	21.0	18.5	-11.5
MA 5/5	22.5	20.0	-11.1	23.5	23.5	0.0	21.0	19.5	-7.1	17.0	14.5	-14.7	21.0	19.4	-7.7
MA 5/37	22.0	20.0	-9.1	16.2	19.7	21.6	18.5	19.0	2.7	17.0	15.0	-11.8	18.4	18.4	0.0
GU 07-3849	28.0	21.5	-23.2	25.2	19.8	-21.2	20.5	19.5	-4.9	14.5	12.5	-13.8	22.0	18.3	-16.8
GU 07-3774	22.0	25.0	13.6	19.7	19.7	0.1	18.5	18.5	0.0	15.0	12.5	-16.7	18.8	18.9	0.7
GU 07-2276	19.5	17.0	-12.8	20.3	19.3	-4.9	21.0	20.5	-2.4	17.0	14.5	-14.7	19.5	17.8	-8.4
CYM 07-986	29.0	23.0	-20.7	19.9	19.7	-0.9	18.0	18.5	2.8	15.5	13.0	-16.1	20.6	18.5	-9.9
Standards															
Check1	24.5	25.0	2.0	20.0	18.8	-5.9	19.0	18.5	-2.6	18.0	15.0	-16.7	19.6	19.1	-2.7
Check2	17.5	17.0	-2.9	17.0	17.8	5.1	20.5	19.5	-4.9	20.5	17.0	-17.1	19.6	18.1	-7.9
GM	22.8	22.1		20.8	19.8		19.8	19.5		17.3	14.4		20.2	18.9	-6.2
	Main	Sub		Main	Sub		Main	Sub		Main	Sub				
CV	10.25	19.03		0.76	5.47		3.70	7.39		3.82	5.08				
CD	NS	NS		0.47	1.6		NS	2.09		1.87	1.16				
	NS ^a	NS ^b		2.26 ^a	2.21 ^b		NS ^a	NS ^b		NS ^a	NS ^b				

a : Sub plot treatment means at same level of main plot treatment

b : Main plot treatment means at same or different level of sub plot treatment

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Table 11: 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
BM 1022173	14.95	15.20	1.67	13.65	14.55	6.59	17.01	16.26	-4.41	19.10	19.10	0.00	16.18	16.28	0.62
SA 04-472	19.10	19.90	4.19	15.25	12.35	-19.02	18.95	18.02	-4.91	20.85	21.35	2.40	18.54	17.91	-3.41
SA 04-496	19.80	19.85	0.25	18.20	17.70	-2.75	20.01	19.09	-4.60	22.35	20.85	-6.71	20.09	19.37	-3.57
SA 04-409	19.80	20.20	2.02	19.90	17.70	-11.06	20.06	19.23	-4.14	23.10	22.10	-4.33	20.72	19.81	-4.38
AS 04-1689	13.05	13.90	6.51	11.05	13.45	21.72	13.94	13.96	0.14	13.10	16.10	22.90	12.79	14.35	12.26
AS 04-245	14.90	13.50	-9.40	12.10	13.95	15.29	15.22	15.63	2.69	15.60	15.60	0.00	14.46	14.67	1.49
AS 04-2097	14.00	13.10	-6.43	12.65	11.05	-12.65	13.98	14.95	6.94	15.35	14.85	-3.26	14.00	13.49	-3.63
AS 04-635	15.25	15.05	-1.31	14.10	13.25	-6.03	15.20	14.96	-1.58	15.85	16.60	4.73	15.10	14.97	-0.89
AS 04-1687	12.80	13.20	3.12	12.40	11.95	-3.63	14.74	15.01	1.83	15.60	15.60	0.00	13.89	13.94	0.40
MA 5/5	18.40	17.75	-3.53	15.95	15.45	-3.13	17.95	17.89	-0.33	19.60	18.60	-5.10	17.98	17.42	-3.07
MA 5/37	16.90	17.00	0.59	16.40	12.25	-25.30	19.00	18.21	-4.15	20.10	16.35	-18.66	18.10	15.95	-11.86
GU 07-3849	16.60	14.95	-9.94	16.10	12.80	-20.50	18.07	18.20	0.72	18.60	17.35	-6.72	17.34	15.83	-8.75
GU 07-3774	13.55	14.95	10.33	12.05	14.20	17.84	14.89	15.34	3.02	15.10	17.10	13.25	13.90	15.40	10.79
GU 07-2276	14.55	14.55	0.00	14.00	13.25	-5.36	16.96	17.95	5.84	17.60	16.60	-5.68	15.78	15.59	-1.20
CYM 07-986	13.10	14.40	9.92	11.75	12.90	9.79	16.94	16.25	-4.07	16.10	15.85	-1.55	14.47	14.85	2.61
Standards															
Check1	19.60	19.75	0.77	19.20	19.15	-0.26	19.52	19.57	0.26	22.10	21.35	-3.39	20.11	19.96	-0.75
Check2	20.35	20.80	2.21	17.70	16.65	-5.93	19.99	20.15	0.80	20.85	19.85	-4.80	19.72	19.36	-1.83
GM	16.28	16.36		14.85	14.27		17.20	17.10		18.29	17.95		16.65	16.42	-1.41
	Main	Sub		Main	Sub		Main	Sub		Main	Sub				
CV	4.24	3.12		0.58	4.61		4.85	4.33		15.73	5.04				
CD	NS	0.73		0.26	0.97		NS	1.07		NS	1.32				
	1.04 ^a	1.64 ^b		1.37 ^a	1.33 ^b		NS ^a	NS ^b		1.86 ^a	6.83 ^b				

a : Sub plot treatment means at same level of main plot treatment

b : Main plot treatment means at same or different level of sub plot treatment

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Table 12: 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
BM 1022173	12.39	12.86	3.79	11.26	13.05	15.90	14.23	12.38	-13.00	16.53	17.35	4.93	13.60	13.91	2.25
SA 04-472	17.34	18.36	5.88	13.76	10.31	-25.07	15.82	15.01	-5.12	18.09	18.60	2.82	16.25	15.57	-4.20
SA 04-496	18.25	17.89	-1.97	16.34	14.92	-8.69	17.21	16.41	-4.65	19.68	18.41	-6.43	17.87	16.91	-5.38
SA 04-409	18.13	18.35	1.21	17.54	15.79	-9.98	16.78	16.28	-2.98	20.98	20.25	-3.50	18.36	17.67	-3.77
AS 04-1689	10.02	11.21	11.88	9.95	11.62	16.78	10.78	11.23	4.17	9.10	12.69	39.47	9.96	11.69	17.32
AS 04-245	12.51	11.10	-11.27	10.55	11.78	11.66	12.22	13.05	6.79	13.11	12.81	-2.25	12.10	12.19	0.73
AS 04-2097	11.57	10.14	-12.36	10.67	9.95	-6.75	11.06	11.99	8.41	12.64	11.44	-9.53	11.49	10.88	-5.28
AS 04-635	12.62	12.50	-0.95	12.38	11.25	-9.13	12.01	12.01	0.00	12.09	12.97	7.24	12.28	12.18	-0.76
AS 04-1687	9.66	10.26	6.21	11.55	9.95	-13.85	12.01	12.09	0.67	12.40	12.46	0.48	11.40	11.19	-1.89
MA 5/5	16.20	15.51	-4.26	14.01	13.36	-4.64	15.16	15.32	1.06	17.59	16.59	-5.69	15.74	15.19	-3.46
MA 5/37	14.47	14.83	2.49	13.64	10.07	-26.17	16.55	14.93	-9.79	17.97	14.04	-21.87	15.66	13.47	-13.99
GU 07-3849	13.89	12.39	-10.80	14.93	10.74	-28.06	15.07	15.36	1.92	15.12	14.67	-2.94	14.75	13.29	-9.91
GU 07-3774	10.73	12.15	13.23	10.98	13.11	19.40	12.16	12.10	-0.49	12.10	13.15	8.72	11.49	12.63	9.89
GU 07-2276	12.16	12.88	5.92	11.23	11.21	-0.18	13.71	14.75	7.59	13.51	13.21	-2.22	12.65	13.01	2.85
CYM 07-986	10.02	11.44	14.17	9.95	10.67	7.24	14.02	13.23	-5.63	14.18	12.41	-12.49	12.04	11.94	-0.87
Standards															
Check1	17.67	18.14	2.66	17.35	17.39	0.23	17.21	16.79	-2.44	19.90	19.86	-0.20	18.03	18.05	0.07
Check2	18.92	19.49	3.01	16.14	15.35	-4.89	17.40	17.96	3.22	19.36	18.71	-3.36	17.95	17.88	-0.43
GM	13.91	14.09		13.07	12.38		14.32	14.17		15.55	15.27		14.21	13.98	-1.66
	Main	Sub		Main	Sub		Main	Sub		Main	Sub				
CV	4.91	3.73		1.76	4.89		5.98	4.10		12.55	5.72				
CD	NS	0.75		NS	0.90		NS	0.84		NS	1.27				
	1.07 ^a	1.64 ^b		1.27 ^a	1.29 ^b		1.19 ^a	1.98 ^b		1.79 ^a	4.39 ^b				

a : Sub plot treatment means at same level of main plot treatment

b : Main plot treatment means at same or different level of sub plot treatment

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Table 13: 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
BM 1022173	48.39	47.61	-1.61	50.44	51.76	2.62	45.74	46.05	0.68				48.19	48.47	0.59
SA 04-472	41.70	37.29	-10.58	49.50	49.46	-0.08	49.25	48.00	-2.54				46.82	44.92	-4.06
SA 04-496	43.37	42.83	-1.25	47.67	41.14	-13.70	45.39	44.38	-2.23				45.48	42.78	-5.92
SA 04-409	41.10	40.78	-0.78	45.76	41.33	-9.68	45.78	47.76	4.33				44.21	43.29	-2.09
AS 04-1689	33.01	28.46	-13.78	41.00	38.94	-5.02	42.60	44.76	5.07				38.87	37.39	-3.82
AS 04-245	16.40	15.58	-5.00	33.07	28.85	-12.76	45.29	46.75	3.22				31.59	30.39	-3.78
AS 04-2097	37.90	36.43	-3.88	41.94	43.92	4.72	46.57	47.70	2.43				42.14	42.68	1.30
AS 04-635	28.52	23.86	-16.34	42.91	34.18	-20.34	49.98	46.82	-6.32				40.47	34.95	-13.63
AS 04-1687	28.32	20.65	-27.08	40.44	35.27	-12.78	46.47	43.93	-5.47				38.41	33.28	-13.35
MA 5/5	46.36	43.81	-5.50	39.28	39.94	1.68	44.98	44.04	-2.09				43.54	42.60	-2.17
MA 5/37	51.84	50.70	-2.20	54.81	40.03	-26.97	44.21	44.32	0.25				50.29	45.02	-10.48
GU 07-3849	32.46	31.39	-3.30	47.76	41.38	-13.36	49.91	47.83	-4.17				43.38	40.20	-7.32
GU 07-3774	46.25	31.86	-31.11	40.84	35.79	-12.37	46.96	46.93	-0.06				44.68	38.19	-14.52
GU 07-2276	42.61	36.42	-14.53	45.47	46.66	2.62	49.83	46.82	-6.04				45.97	43.30	-5.81
CYM 07-986	39.15	31.67	-19.11	43.42	40.51	-6.70	41.84	42.83	2.37				41.47	38.34	-7.56
Standards															
Check1	50.85	44.24	-13.00	49.70	46.92	-5.59	50.45	48.06	-4.74				50.33	46.41	-7.80
Check2	45.55	37.69	-17.26	50.45	40.07	-20.57	48.43	47.78	-1.34				48.14	41.85	-13.08
GM	39.63	35.37		44.97	40.95		46.69	46.16					43.76	40.83	-6.71
	Main	Sub		Main	Sub		Main	Sub							
CV	8.35	11.16		5.73	4.63		3.35	4.00							
CD	NS	6.03		NS	2.86		NS	2.68							
	NS ^a	NS ^b		4.05 ^a	6 ^b		NS ^a	NS ^b							

a : Sub plot treatment means at same level of main plot treatment

b : Main plot treatment means at same or different level of sub plot treatment

Table 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
BM 1022173	11.53	12.63	9.54				16.91	17.08	1.01	20.00	20.38	1.88	14.22	16.70	17.42
SA 04-472	11.17	12.07	8.06				18.92	18.84	-0.42	20.01	20.35	1.72	15.05	17.09	13.57
SA 04-496	12.19	12.81	5.09				18.84	18.69	-0.80	19.63	19.57	-0.30	15.52	17.02	9.73
SA 04-409	11.63	12.28	5.59				16.98	18.01	6.07	18.68	19.37	3.68	14.31	16.55	15.72
AS 04-1689	17.28	18.53	7.23				17.35	17.91	3.23	20.25	20.29	0.21	17.32	18.91	9.22
AS 04-245	24.12	25.42	5.39				17.05	17.08	0.18	20.44	20.91	2.27	20.59	21.14	2.67
AS 04-2097	12.61	14.01	11.10				18.78	19.72	5.01	20.76	20.43	-1.62	15.70	18.05	15.02
AS 04-635	17.54	16.99	-3.14				20.61	19.66	-4.61	20.84	20.59	-1.22	19.08	19.08	0.02
AS 04-1687	19.55	21.60	10.49				19.49	19.87	1.95	20.31	20.35	0.22	19.52	20.61	5.57
MA 5/5	12.30	12.47	1.38				18.51	18.60	0.49	20.45	20.53	0.41	15.41	17.20	11.66
MA 5/37	9.55	9.99	4.61				18.78	18.95	0.91	16.89	17.21	1.88	14.17	15.38	8.59
GU 07-3849	16.24	17.48	7.64				19.87	19.91	0.20	20.27	20.09	-0.88	18.06	19.16	6.12
GU 07-3774	18.24	17.43	-4.44				18.73	19.39	3.52	19.97	20.41	2.20	18.49	19.08	3.21
GU 07-2276	14.81	15.29	3.24				19.34	19.43	0.47	20.58	20.28	-1.47	17.08	18.33	7.37
CYM 07-986	16.31	17.40	6.68				19.09	19.88	4.14	20.20	20.42	1.06	17.70	19.23	8.66
Standards															
Check1	16.26	16.45	1.17				16.55	16.31	-1.45	15.27	15.31	0.26	16.41	16.02	-2.33
Check2	13.34	12.50	-6.30				18.32	17.82	-2.73	15.29	15.35	0.43	15.83	15.22	-3.83
GM	14.98	15.61					18.48	18.66		19.40	19.52		16.73	17.93	7.17
	Main	Sub					Main	Sub		Main	Sub				
CV	0.38	4.05					1.95	2.63		0.38	1.56				
CD	0.18	0.89					NS	0.7		NS	0.44				
	NS ^a	NS ^b					NS ^a	NS ^b		NS ^a	NS ^b				

a : Sub plot treatment means at same level of main plot treatment

b : Main plot treatment means at same or different level of sub plot treatment

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Table 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
BM 1022173	95.14	71.20	-25.16	57.41	45.37	-20.97	67.05	70.94	5.81	88.35	66.53	-24.69	76.99	63.51	-17.50
SA 04-472	79.83	43.90	-45.01	46.76	12.96	-72.28	74.82	65.48	-12.48	90.76	48.81	-46.22	73.04	42.79	-41.42
SA 04-496	65.71	38.10	-42.02	100.46	55.56	-44.69	60.25	58.81	-2.39	83.33	59.94	-28.07	77.44	53.10	-31.42
SA 04-409	77.73	28.10	-63.85	43.52	36.57	-15.97	74.67	72.48	-2.93	95.25	72.82	-23.54	72.79	52.49	-27.89
AS 04-1689	153.10	124.00	-19.01	131.02	132.41	1.06	78.54	87.69	11.65	89.32	58.93	-34.03	113.00	100.76	-10.83
AS 04-245	89.24	79.70	-10.69	107.87	81.02	-24.89	65.54	56.77	-13.38	62.18	36.74	-40.91	81.21	63.56	-21.73
AS 04-2097	114.70	128.00	11.60	81.48	32.41	-60.22	87.74	88.42	0.78	68.16	59.18	-13.17	88.02	77.00	-12.52
AS 04-635	159.70	140.00	-12.34	186.11	132.41	-28.85	80.02	79.63	-0.49	86.86	63.71	-26.66	128.17	103.94	-18.91
AS 04-1687	124.80	88.60	-29.01	122.69	74.07	-39.63	66.66	65.28	-2.07	60.63	44.99	-25.80	93.70	68.24	-27.17
MA 5/5	112.10	93.30	-16.77	48.15	25.93	-46.15	74.31	48.38	-34.89	82.95	70.29	-15.26	79.38	59.48	-25.07
MA 5/37	67.40	46.50	-31.01	26.39	14.35	-45.62	58.54	58.84	0.51	86.90	60.43	-30.46	59.81	45.03	-24.71
GU 07-3849	143.20	98.20	-31.42	70.37	39.35	-44.08	77.02	65.07	-15.52	65.83	49.07	-25.45	89.10	62.92	-29.38
GU 07-3774	149.40	114.00	-23.69	70.37	41.20	-41.45	59.69	61.94	3.77	44.61	34.46	-22.75	81.02	62.90	-22.36
GU 07-2276	73.11	61.70	-15.61	90.28	46.76	-48.21	71.91	69.55	-3.28	87.06	58.05	-33.33	80.59	59.01	-26.77
CYM 07-986	115.70	73.80	-36.21	98.61	39.81	-59.63	71.25	74.85	5.05	62.10	33.43	-46.18	86.92	55.47	-36.18
Standards															
Check1	122.60	92.20	-24.80	87.50	39.81	-54.50	96.21	92.85	-3.49	89.07	64.58	-27.50	98.85	72.36	-26.79
Check2	42.77	26.60	-37.81	52.78	38.89	-26.32	76.38	76.33	-0.07	96.86	71.97	-25.70	67.20	53.45	-20.46
GM	105.07	79.29		83.63	52.29		72.98	70.19		78.84	56.11		85.13	64.47	-24.27
	Main	Sub		Main	Sub		Main	Sub		Main	Sub				
CV	9.32	11.07		6.11	8.96		14.43	17.09		1.8	12.05				
CD	NS	14.71		12.79	8.77		NS	17.63		3.74	11.71				
	20.8 ^a	25.21 ^b		12.4 ^a	14.01 ^b		NS ^a	NS ^b		NS ^a	NS ^b				

a : Sub plot treatment means at same level of main plot treatment

b : Main plot treatment means at same or different level of sub plot treatment

Table 16: Tillers mortality (%)

Entry	Karnal			Faridkot			Anakapalle			Padegaon			Mean		
	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change
BM 1022173	33.89	36.59	7.97	25.54	23.70	-7.20	11.19	13.50	20.64	65.35	61.23	-6.30	33.99	33.76	-0.70
SA 04-472	58.69	62.77	6.95	27.23	58.21	113.77	7.52	9.62	27.93	54.75	63.73	16.40	37.05	48.58	31.13
SA 04-496	44.30	72.64	63.97	27.80	35.86	28.99	6.65	7.13	7.22	62.99	54.59	-13.34	35.44	42.56	20.09
SA 04-409	39.69	76.03	91.56	61.33	62.29	1.57	12.76	9.32	-26.96	59.38	55.59	-6.39	43.29	50.81	17.36
AS 04-1689	35.00	38.73	10.66	19.70	27.53	39.75	17.98	18.16	1.00	58.62	50.72	-13.47	32.82	33.78	2.93
AS 04-245	35.82	33.77	-5.72	15.13	31.01	104.96	22.15	22.35	0.90	56.44	53.28	-5.60	32.38	35.10	8.39
AS 04-2097	28.83	36.36	26.12	39.91	55.91	40.09	19.46	17.39	-10.64	71.56	60.32	-15.71	39.94	42.50	6.40
AS 04-635	29.42	23.82	-19.03	31.07	25.54	-17.80	20.52	17.97	-12.43	56.88	59.65	4.86	34.47	31.74	-7.92
AS 04-1687	21.75	22.95	5.52	34.38	37.55	9.22	16.83	11.68	-30.60	61.00	46.30	-24.10	33.49	29.62	-11.56
MA 5/5	35.53	55.53	56.29	36.88	38.86	5.37	18.51	11.88	-35.82	59.25	49.30	-16.79	37.54	38.89	3.60
MA 5/37	43.93	54.59	24.27	4.90	20.02	308.57	14.61	9.83	-32.72	60.50	62.30	2.97	30.98	36.68	18.40
GU 07-3849	21.87	3.70	-83.08	31.37	48.66	55.12	13.65	12.30	-9.89	54.17	44.47	-17.91	30.26	27.28	-9.85
GU 07-3774	13.09	14.81	13.14	13.97	40.01	186.40	19.27	16.87	-12.45	63.17	55.65	-11.90	27.37	31.84	16.30
GU 07-2276	60.17	55.74	-7.36	49.23	57.71	17.23	16.20	15.40	-4.94	59.74	56.08	-6.13	46.34	46.23	-0.22
CYM 07-986	37.76	54.29	43.78	38.29	29.99	-21.68	15.69	16.60	5.80	53.58	54.65	2.00	36.33	38.88	7.03
Standards															
Check1	24.59	33.72	37.13	37.55	53.59	42.72	12.59	10.73	-14.77	71.79	69.33	-3.42	37.64	41.84	11.17
Check2	38.11	26.76	-29.78	33.07	36.68	10.92	6.77	4.19	-38.11	75.82	70.78	-6.65	34.85	34.60	-0.72
GM	35.44	41.34		31.02	40.18		14.84	13.23		61.47	56.94		35.54	37.92	6.70
	Main	Sub		Main	Sub		Main	Sub		Main	Sub				
CV	8.80	22.56		33.00	20.22		14.15	28.99		4.45	6.70				
CD	NS	9.57		NS	10.37		NS	5.86		NS	5.71				
	13.53 ^a	13.84 ^b		14.66 ^a	26.85 ^b		NS ^a	NS ^b		8.07 ^a	9.06 ^b				

a : Sub plot treatment means at same level of main plot treatment

b : Main plot treatment means at same or different level of sub plot treatment

Table 17: Commercial Cane Sugar % at harvest

Entry	Karnal			Faridkot			Anakapalle			Padegaon			Mean		
	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change
BM 1022173				7.52	9.09	20.88				11.32	12.16	7.42	9.42	10.62	12.80
SA 04-472				9.60	6.93	-27.81				12.40	12.77	3.03	11.00	9.85	-10.43
SA 04-496				11.39	10.08	-11.50				13.58	12.74	-6.22	12.49	11.41	-8.63
SA 04-409				12.12	10.97	-9.49				14.70	14.24	-3.13	13.41	12.60	-6.00
AS 04-1689				6.94	7.95	14.55				5.47	8.27	51.10	6.21	8.11	30.66
AS 04-245				7.25	7.97	9.93				8.84	8.54	-3.45	8.05	8.25	2.58
AS 04-2097				7.21	6.94	-3.74				8.44	7.35	-12.86	7.82	7.15	-8.66
AS 04-635				8.53	7.63	-10.55				7.73	8.40	8.74	8.13	8.02	-1.38
AS 04-1687				8.18	6.68	-18.34				8.11	8.18	0.80	8.15	7.43	-8.81
MA 5/5				9.66	9.14	-5.38				12.25	11.52	-5.96	10.96	10.33	-5.71
MA 5/37				9.15	6.71	-26.67				12.50	9.58	-23.37	10.82	8.14	-24.76
GU 07-3849				10.55	7.24	-31.37				10.02	9.93	-0.90	10.28	8.58	-16.53
GU 07-3774				7.70	9.25	20.13				7.96	8.45	6.22	7.83	8.85	13.06
GU 07-2276				7.38	7.59	2.85				8.67	8.66	-0.12	8.02	8.12	1.25
CYM 07-986				6.74	7.14	5.93				9.79	8.06	-17.72	8.27	7.60	-8.08
Standards															
Check1				12.12	12.18	0.50				13.89	14.07	-2.74	13.00	13.12	0.92
Check2				11.32	10.83	-4.33				13.70	13.32	-1.75	12.51	12.08	-3.46
GM				9.02	8.49					10.55	10.36		9.78	9.43	-3.66
				Main	Sub					Main	Sub				
CV				2.95	5.5					10.97	6.82				
CD				NS	0.69					NS	1.03				
				0.98 ^a	1.05 ^b					1.45 ^a	2.63 ^b				

a : Sub plot treatment means at same level of main plot treatment

b : Main plot treatment means at same or different level of sub plot treatment

Table 18: Commercial Cane Sugar (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
BM 1022173				4.32	4.14	-4.17				9.97	8.09	-18.90	7.15	6.11	-14.45
SA 04-472				4.48	0.89	-80.13				11.28	6.23	-44.78	7.88	3.56	-54.83
SA 04-496				11.47	5.60	-51.18				11.34	7.66	-32.45	11.40	6.63	-41.87
SA 04-409				5.27	4.01	-23.91				14.00	10.34	-26.16	9.64	7.18	-25.54
AS 04-1689				9.09	10.53	15.84				4.81	4.87	1.38	6.95	7.70	10.84
AS 04-245				7.81	6.44	-17.54				5.51	3.12	-43.25	6.66	4.78	-28.17
AS 04-2097				5.89	2.25	-61.80				5.76	4.36	-24.16	5.82	3.31	-43.20
AS 04-635				15.87	10.09	-36.42				6.73	5.34	-20.62	11.30	7.72	-31.72
AS 04-1687				10.05	4.95	-50.75				4.91	3.68	-25.11	7.48	4.31	-42.33
MA 5/5				4.66	2.38	-48.93				10.13	8.04	-20.65	7.39	5.21	-29.56
MA 5/37				2.42	0.96	-60.33				10.88	5.79	-46.77	6.65	3.37	-49.24
GU 07-3849				7.44	2.82	-62.10				6.59	4.87	-26.10	7.02	3.85	-45.19
GU 07-3774				5.42	3.81	-29.70				3.55	2.91	-18.06	4.49	3.36	-25.09
GU 07-2276				6.67	3.55	-46.78				7.49	5.03	-32.92	7.08	4.29	-39.45
CYM 07-986				6.65	2.83	-57.44				6.15	2.70	-56.03	6.40	2.77	-56.77
Standards															
Check1				10.60	4.85	-54.25				12.37	9.15	-28.15	11.48	7.00	-39.03
Check2				6.02	4.21	-30.07				13.26	9.53	-29.72	9.64	6.87	-28.75
GM				7.30	4.37					8.51	5.98		7.91	5.18	-34.53
				Main	Sub					Main	Sub				
CV				1.43	11.57					14.41	14.72				
CD				0.26	0.97					NS	1.54				
				1.38 ^a	1.34 ^b					NS ^a	NS ^b				

a : Sub plot treatment means at same level of main plot treatment

b : Main plot treatment means at same or different level of sub plot treatment

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Table 19: Leaf area (m²) 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
BM 1022173	2.52	2.20	-12.70				1.04	0.90	-13.46				1.78	1.55	-12.92
SA 04-472	2.94	2.79	-5.10				1.36	1.28	-5.88				2.15	2.04	-5.35
SA 04-496	1.73	1.17	-32.37				2.03	1.86	-8.37				1.88	1.52	-19.41
SA 04-409	1.09	1.06	-2.75				1.78	1.75	-1.69				1.44	1.41	-2.09
AS 04-1689	2.30	2.19	-4.78				1.18	0.97	-17.80				1.74	1.58	-9.20
AS 04-245	2.39	2.36	-1.26				0.58	0.70	20.69				1.49	1.53	3.03
AS 04-2097	2.37	2.81	18.57				0.78	0.76	-2.56				1.58	1.79	13.33
AS 04-635	2.55	2.85	11.76				0.71	0.73	2.82				1.63	1.79	9.82
AS 04-1687	3.13	2.90	-7.35				0.61	0.65	6.56				1.87	1.78	-5.08
MA 5/5	2.32	2.35	1.29				0.93	0.86	-7.53				1.63	1.61	-1.23
MA 5/37	2.57	2.42	-5.84				1.35	1.22	-9.63				1.96	1.82	-7.14
GU 07-3849	2.43	2.32	-4.53				0.71	0.70	-1.41				1.57	1.51	-3.82
GU 07-3774	3.23	3.06	-5.26				0.56	0.56	0.00				1.90	1.81	-4.49
GU 07-2276	3.08	3.54	14.94				1.58	1.45	-8.23				2.33	2.50	7.08
CYM 07-986	2.17	2.20	1.38				0.61	0.56	-8.20				1.39	1.38	-0.72
Standards															
Check1	1.78	1.91	7.30				2.23	2.16	-3.14				2.01	2.04	1.50
Check2	1.62	1.57	-3.09				1.15	1.15	0.00				1.39	1.36	-1.81
GM	2.37	2.34					1.13	1.07					1.75	1.70	-2.44
	Main	Sub					Main	Sub							
CV	17.54	10.87					12.87	10.91							
CD	NS	0.37					NS	0.17							
	NS ^a	NS ^b					NS ^a	NS ^b							

a : Sub plot treatment means at same level of main plot treatment

b : Main plot treatment means at same or different level of sub plot treatment

Table 20: Leaf area (m²) after withdrawing drought

Entry	Karnal			Faridkot			Anakapalle			Padegaon			Mean		
	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change
BM 1022173	5.37	4.89	-8.94				3.21	2.96	-7.79				4.29	3.93	-8.51
SA 04-472	3.80	3.58	-5.79				3.52	3.26	-7.39				3.66	3.42	-6.56
SA 04-496	2.97	2.64	-11.11				4.22	3.99	-5.45				3.60	3.32	-7.79
SA 04-409	2.68	2.46	-8.21				3.82	3.56	-6.81				3.25	3.01	-7.38
AS 04-1689	4.88	3.98	-18.44				3.29	3.01	-8.51				4.09	3.50	-14.44
AS 04-245	4.68	4.38	-6.41				2.55	2.19	-14.12				3.62	3.29	-9.13
AS 04-2097	4.16	2.97	-28.61				2.73	2.49	-8.79				3.45	2.73	-20.75
AS 04-635	4.48	4.23	-5.58				2.66	2.50	-6.02				3.57	3.37	-5.74
AS 04-1687	3.82	3.12	-18.32				2.37	2.21	-6.75				3.10	2.67	-13.89
MA 5/5	4.38	3.64	-16.89				3.12	2.81	-9.94				3.75	3.23	-14.00
MA 5/37	3.51	2.98	-15.10				3.43	3.27	-4.66				3.47	3.13	-9.94
GU 07-3849	5.38	3.64	-32.34				2.61	2.38	-8.81				4.00	3.01	-24.66
GU 07-3774	4.38	3.65	-16.67				2.41	2.25	-6.64				3.40	2.95	-13.11
GU 07-2276	3.84	3.24	-15.63				3.37	3.16	-6.23				3.61	3.20	-11.23
CYM 07-986	3.84	3.74	-2.60				2.67	2.42	-9.36				3.26	3.08	-5.38
Standards															
Check1	4.46	3.99	-10.54				4.46	4.26	-4.48				4.46	4.13	-7.51
Check2	2.58	2.46	-4.65				3.56	3.38	-5.06				3.07	2.92	-4.89
GM	4.07	3.51					3.18	2.95					3.62	3.23	-10.97
	Main	Sub					Main	Sub							
CV	1.21	4.36					0.63	4.75							
CD	0.14	0.24					0.06	0.21							
	0.34 ^a	0.34 ^b					NS ^a	NS ^b							

a : Sub plot treatment means at same level of main plot treatment

b : Main plot treatment means at same or different level of sub plot treatment

Table 21: 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
BM 1022173	90.54	90.36	-0.20				79.26	76.77	-3.14	82.70	71.47	-13.58	84.17	79.53	-5.51
SA 04-472	87.67	85.17	-2.85				76.36	76.44	0.10	82.75	61.68	-25.46	82.26	74.43	-9.52
SA 04-496	93.08	90.86	-2.39				75.39	74.52	-1.15	77.65	72.18	-7.04	82.04	79.19	-3.48
SA 04-409	90.84	92.47	1.79				82.81	81.14	-2.02	80.25	72.93	-9.12	84.63	82.18	-2.90
AS 04-1689	83.87	84.26	0.47				81.34	79.42	-2.36	81.03	64.28	-20.68	82.08	75.99	-7.43
AS 04-245	95.17	94.86	-0.33				74.16	74.92	1.02	76.32	61.19	-19.82	81.88	76.99	-5.98
AS 04-2097	86.75	86.84	0.10				70.36	72.11	2.49	68.07	61.73	-9.32	75.06	73.56	-2.00
AS 04-635	83.64	82.82	-0.98				79.42	77.74	-2.12	80.98	60.23	-25.62	81.35	73.60	-9.53
AS 04-1687	83.52	84.38	1.03				73.99	71.61	-3.22	70.07	62.69	-10.52	75.86	72.89	-3.91
MA 5/5	90.54	90.24	-0.33				80.53	75.27	-6.53	80.00	78.26	-2.17	83.69	81.26	-2.91
MA 5/37	88.42	87.64	-0.88				83.36	80.96	-2.88	77.93	64.68	-17.01	83.24	77.76	-6.58
GU 07-3849	86.54	95.48	10.33				85.42	80.54	-5.71	89.54	68.14	-23.89	87.17	81.39	-6.63
GU 07-3774	90.68	90.64	-0.04				81.26	79.48	-2.19	77.30	63.61	-17.71	83.08	77.91	-6.22
GU 07-2276	86.76	86.52	-0.28				76.63	73.89	-3.58	78.49	65.82	-16.14	80.63	75.41	-6.47
CYM 07-986	90.28	90.58	0.33				83.82	81.41	-2.88	89.02	71.32	-19.88	87.71	81.10	-7.53
Standards															
Check1	88.98	89.68	0.79				76.41	77.61	1.57	71.39	70.99	-0.56	78.93	79.43	0.63
Check2	94.53	95.84	1.39				79.86	75.49	-5.47	89.49	68.92	-22.99	87.96	80.08	-8.96
GM	88.93	89.33					78.85	77.02		79.59	67.07		82.45	77.81	-5.64
	Main	Sub					Main	Sub		Main	Sub				
CV	0.57	0.48					1.35	2.58		7.36	5.72				
CD	NS	0.62					NS	2.9		NS	6.04				
	0.88 ^a	1.27 ^b					NS ^a	NS ^b		8.54 ^a	12.98 ^b				

a : Sub plot treatment means at same level of main plot treatment

b : Main plot treatment means at same or different level of sub plot treatment

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 Table 22: Relative water content after withdrawing drought

Entry	Karnal			Faridkot			Anakapalle			Padegaon			Mean		
	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change	Normal	Drought	% change
BM 1022173	91.45	90.26	-1.30	88.80	91.36	2.88	80.82	70.04	-13.34	86.11	73.31	-14.87	86.80	81.24	-6.40
SA 04-472	88.53	84.56	-4.48	86.91	89.06	2.47	80.45	67.32	-16.32	81.92	74.38	-9.21	84.45	78.83	-6.66
SA 04-496	92.12	90.63	-1.62	88.06	91.74	4.18	81.21	68.52	-15.63	83.92	80.04	-4.62	86.33	82.73	-4.16
SA 04-409	89.69	88.74	-1.06	85.04	89.91	5.73	86.81	72.99	-15.92	79.91	80.61	0.88	85.36	83.06	-2.69
AS 04-1689	82.98	82.64	-0.41	79.73	87.69	9.98	87.94	70.51	-19.82	75.73	70.58	-6.79	81.59	77.86	-4.58
AS 04-245	94.86	93.86	-1.05	91.77	87.78	-4.35	87.65	67.58	-22.90	75.00	73.26	-2.31	87.32	80.62	-7.67
AS 04-2097	86.98	86.86	-0.14	85.87	88.61	3.19	83.34	67.06	-19.53	67.99	69.07	1.59	81.04	77.90	-3.88
AS 04-635	82.32	81.82	-0.61	82.79	87.75	5.99	82.26	68.96	-16.17	73.57	65.28	-11.28	80.24	75.95	-5.34
AS 04-1687	82.94	81.68	-1.52	85.89	84.68	-1.41	83.45	64.82	-22.32	70.68	66.27	-6.24	80.74	74.36	-7.90
MA 5/5	90.96	90.47	-0.54	82.04	85.04	3.66	87.48	70.09	-19.88	77.23	78.61	1.79	84.43	81.05	-4.00
MA 5/37	88.46	87.38	-1.22	89.91	93.03	3.47	78.35	71.91	-8.22	78.45	77.80	-0.83	83.79	82.53	-1.51
GU 07-3849	86.86	85.96	-1.04	88.51	91.16	2.99	86.75	72.83	-16.05	77.71	78.93	1.56	84.96	82.22	-3.22
GU 07-3774	88.86	87.84	-1.15	84.90	87.70	3.30	82.77	73.66	-11.01	83.18	76.73	-7.75	84.93	81.48	-4.06
GU 07-2276	85.68	84.62	-1.24	91.96	91.00	-1.04	85.79	66.26	-22.76	70.85	68.04	-3.96	83.57	77.48	-7.29
CYM 07-986	93.84	90.86	-3.18	89.16	84.92	-4.76	85.22	73.65	-13.58	78.57	74.55	-5.12	86.70	80.99	-6.58
Standards															
Check1	86.84	87.56	0.83	87.17	93.76	7.56	87.29	70.72	-18.98	77.70	71.88	-7.50	84.75	80.98	-4.45
Check2	86.87	86.26	-0.70	90.05	93.94	4.32	85.82	70.61	-17.72	78.26	75.12	-4.01	85.25	81.48	-4.42
GM	88.25	87.18		86.97	89.36		84.32	69.85		77.46	73.79		84.25	80.05	-4.99
	Main	Sub		Main	Sub		Main	Sub		Main	Sub				
CV	0.27	0.88		0.51	1.74		9.76	2.98		8.67	8.31				
CD	0.73	1.12		1.38	2.21		NS	3.32		NS	NS				
	NS ^a	NS ^b		3.13 ^a	3.13 ^b		4.69 ^a	18.2 ^b		NS ^a	NS ^b				

a : Sub plot treatment means at same level of main plot treatment

b : Main plot treatment means at same or different level of sub plot treatment

Table 23: Relative water content during drought

Entry	Karnal		
	Normal	Drought	% change
BM 1022173	90.65	80.68	11.00
SA 04-472	88.17	82.68	6.23
SA 04-496	93.62	82.48	11.90
SA 04-409	86.24	80.20	7.00
AS 04-1689	82.25	80.36	2.30
AS 04-245	91.28	83.27	8.78
AS 04-2097	84.68	72.86	13.96
AS 04-635	83.86	65.78	21.56
AS 04-1687	82.98	67.56	18.58
MA 5/5	88.28	76.28	13.59
MA 5/37	88.98	82.46	7.33
GU 07-3849	87.68	75.53	13.86
GU 07-3774	88.12	79.34	9.96
GU 07-2276	85.74	80.57	6.03
CYM 07-986	94.36	87.68	7.08
Standards			
Check1	88.56	80.34	9.28
Check2	80.84	72.84	9.90
GM	87.43	78.29	-10.45
	Main	Sub	
CV	0.34	3.13	
CD	0.89	3.74	
	5.29 ^a	5.16 ^b	

a : Sub plot treatment means at same level of main plot treatment
 b : Main plot treatment means at same or different level of sub plot treatment

Table 24: Leaf rolling at sunrise during water stress

Entry	Pedegaon	
	Normal	Drought
BM 1022173	No	No
SA 04-472	No	Yes
SA 04-496	No	No
SA 04-409	No	No
AS 04-1689	Yes	Yes
AS 04-245	No	Yes
AS 04-2097	No	Yes
AS 04-635	Yes	No
AS 04-1687	Yes	Yes
MA 5/5	No	No
MA 5/37	No	No
GU 07-3849	No	Yes
GU 07-3774	Yes	Yes
GU 07-2276	No	No
CYM 07-986	Yes	No
Standards		
Check1	No	No
Check2	No	No

Table 25: List of clones in each traits showing less than five percent reduction under drought condition

Trait	Number of entries	Clones with less than 5% reduction due to drought
Number of tillers at 90 days (1'000/ha)	1	SA-04-496
Number of tillers at 120 days ('000/ha)	1	AS 04-2097
Number of shoots at 150 days ('000/ha)	2	AS 04-2097, AS 04-635
Number of shoots at 180 days ('000/ha)	2	AS 04-245, AS 04-2097
Number of shoots at 240 days ('000/ha)	Nil	-
Number of shoots at Harvest ('000/ha)	1	BM 1022173
Single cane weight (kg) at harvest	2	GU 07-3849, AS 04-1689
Cane length (cm) at harvest	5	SA 04-409,AS 04-1689, MA 5/5, MA 5/37, CYM 07-986
Cane diameter (cm) at harvest	8	SA 04-472, SA 04-409,AS 04-1689, AS 04-2097, AS 04-635, MA 5/5, GU 07-3774, GU 07-2276
Number of internodes at harvest	5	AS 04-1689, AS 04-245, AS 04-2097, AS 04-635, GU 07-3774
Juice Brix % at harvest	11	BM 1022173, SA 04-472, SA 04-496, SA 04-409, AS 04-245, AS 04-2097, AS 04-635, AS 04-1687, MA 5/5, GU 07-2276, CYM 07-986

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Juice sucrose % at harvest	10	BM 1022173, SA 04-472, SA 04-409, AS 04-245, AS 04-635, AS 04-1687, MA 5/5, GU 07-3774, GU 07-2276, CYM 07-986
Extraction % at harvest	7	BM 1022173, SA 04-472, SA 04-409, AS 04-1689, AS 04-245, AS 04-2097, MA 5/5
Cane fibre % at harvest	15	BM 1022173, SA 04-472, SA 04-496, SA 04-409, AS 04-1689, AS 04-245, AS 04-2097, AS 04-635, AS 04-1687, MA 5/5, MA 5/37, GU 07-3849, GU 07-3774, GU 07-2276, CYM 07-986
Cane yield (t/ha) at harvest*	4	AS 04-1689, AS 04-2097, BM 1022173, AS 04-635
Tillers mortality (%)	3	BM 1022173, GU 07-2276, AS 04-1689
Leaf area (m ²) before imposition of drought	9	SA 04-409, AS 04-245, AS 04-209, AS 04-635, MA 5/5, GU 07-3849, GU 07-3774, GU 07-2276, CYM 07-986
Leaf area after (m ²) withdrawing drought	2	CYM 07-986, AS 04-635
Relative water content before of imposition drought	5	SA 04-496, SA 04-409, AS 04-2097, AS 04-1687, MA 5/5
Relative water content during drought	1	AS 04-1689
Relative water content after withdrawing drought	8	SA 04-496, SA 04-409, AS 04-1689, AS 04-2097, MA 5/5, MA 5/37, GU 07-3849, GU 07-3774

*Less than 20% reduction

B. III Evaluation and identification of climate resilient ISH and IGH genetic stocks (2016-17)

(iii) Evaluation for water logging tolerance (I Plant)

Locations (4)	Tropical: Kolhapur and Vuyyuru Subtropical: Pusa and 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 92005, CoM 0265 and Co 86032 Vuyyuru : CoV 94101, CoV 92102 and CoV 09356 Pusa : BO91, BO154 and BO145 Motipur : CoLk 94184, Co 0232 and Co 0233
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 is given in Annexure I

Results of the previous year: Entries were under multiplication during the year 2015-16

Results of the current year:

Twenty seven ISH/IGH clones were evaluated under water logging condition under during the grand growth phase (150 – 210 days after planting) at four centers. Data on cane yield, juice quality parameters, physiological and agronomical traits contributing to water logging tolerance were recorded. Percentage change due to imposition of water logging for the characters was worked out (Table 1 to Table 28).

Response of traits to water logging:

At Kolhapur, shoot count at 180 days ('000/ha), single cane weight (Kg) at 300 days, cane length (cm) 300 days, cane length (cm) 300 days, number of millable canes ('000/ha) at 300 days, Brix % at 300 days, cane length (cm) at 360 days, single cane weight at 360 days, number of millable canes ('000/ha) at 360 days, cane yield (t/ha) at 360 days, CCS t/ha, leaf area (m²) at 180 days, leaf area (m²) at 210 days, single cane weight (Kg) at 180 days, single cane weight (Kg) at 210 days, cane length (cm) at 180 days, cane length (cm) at 210 days, cane diameter (cm) at 180 days, cane diameter (cm) at 210 days showed significant GxE interaction. The traits cane length (cm) 300 days, cane diameter (cm) 300 days, Brix % at 300 days, sucrose % at 300 days, purity % at 300 days, single cane weight at 360 days, cane length (cm) at 360 days, cane diameter (cm) 360 days, number of millable canes ('000/ha) at 360 days, Juice Brix % at 360 days, juice sucrose % at 360 days, juice purity % at 360 days, cane fibre % at 360 days and CCS t/ha recorded significant GxE interaction at Vuyyuru. Whereas at Pusa, Brix % at 300 days, purity % at 300 days, sucrose % at 300 days, single cane weight at 360 days, juice Brix % at 360 days, juice sucrose % at 360 days, juice purity % at 360 days and CCS t/ha exhibited significant GxE interaction. Significant GxE interactions indicated that, the entries behaved differentially under normal and water logged conditions.

The most sensitive traits to water logging were number of shoots at 180 days, number shoots at 210 days, number of millable canes at 300 and 360 days, juice Brix % at 360 days, juice sucrose % at 360 days, CCS% at harvest, CCS (t/ha), leaf area (m²) at 180 days, leaf area (m²) at 210 days, single cane weight (Kg) at 180 days, single cane weight (Kg) at 210 days, cane length (cm) at 180 days, Cane length (cm) at 210 days, inter node length (cm) at 180 days, inter node length (cm) at 210 days and cane yield at 360 days as these traits recorded more than 15% difference between grand means under normal and water logged conditions. The traits *viz.*, cane diameter (cm) 300 days, purity % at 300 days, fibre % at 300 days, single cane weight at 360 days, cane diameter (cm) at 360 days, juice purity % at 360 days, cane fibre % at 360 days, cane diameter (cm) at 180 days and cane diameter (cm) at 210 days recorded less than 5% change under water logging and hence concluded to be less sensitive to water logging.

Response of entries to water logging:

Twenty seven entries were analyzed for different traits like cane yield and juice quality parameters under water logging condition to study their response to water logging

(Table 29). The entries which showed less than 5% reduction under water logged condition were identified as tolerant clones.

Analysis of yield contributing traits indicated that, SA 04-496, SA 04-409 and MA 5/5 for shoot count at 180 days (‘000/ha), MA 5/5 for shoot count at 210 days (‘000/ha), SA 04-496, AS 04-635, GU 07-3849 and GU 07-3774 for number of millable canes (‘000/ha) at 300 days, BM 1003143, AS 04-1689, AS 04-635, AS 04-1687, GU 07-3849, GU 07-3774 and CYM 07-986 for number of millable canes (‘000/ha) at 360 days, BM 1022173, SA 98-13, AS 04-1689, AS 04-2097, MA 5/99 and GU 07-3849 for juice Brix % at 360 days, BM 1009163, BM 1022173, SA 98-13, SA 04-409, AS 04-1689, AS 04-1687, MA 5/37, MA 5/99 and GU 07-3849 for juice sucrose % at 360 days, AS 04-635 and GU 07-3774 for leaf area (m²) at 180 days, SA 04-454, SA 04-409, AS 04-635, AS 04-1687, MA 5/5, MA 5/99 for leaf area (m²) at 210 days, AS 04-1689, MA 5/51, MA 5/5, GU 07-3849, GU 07-3774 for single cane weight (Kg) at 180 days, SA 04-409, AS 04-1689, MA 5/51, MA 5/5, MA 5/22, GU 07-3849 and GU 07-3774 single cane weight (Kg) at 210 days, AS 04-1689 for cane length (cm) 180 days and cane length (cm) 210 days, BM 1005149, SA 04-496 and AS 04-2097 for internode length at 180 days, BM 1005149, AS 04-245, AS 04-2097 and AS 04-635 for internode length at 210 days were less influenced by water logging stress as they recorded <5% reduction in grand means of these traits under water logging condition. The complex character cane yield recorded considerable reduction under water logging however the entries *viz.*, AS 04-245, AS 04-635 and MA 5/22 recorded <10% reduction.

Traits *viz.*, Shoot count at 180 days (‘000/ha), Shoot count at 210 days (‘000/ha), number of millable canes (‘000/ha) at 300 days, cane yield (t/ha) at 360 days showed more than 15% difference between the grand means of normal and waterlogged conditions. The entries AS-04-1689, AS-04-1687 and AS-04-635 have performed relatively better under water logged condition for all the above mentioned traits as these clones ranked consistently in top three for the above characters.

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

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Table 1: Germination %

Entry	Kolhapur			Vuyyuru			Pusa			Mean		
	Normal	Water logging	% change	Normal	Water logging	% change	Normal	Water logging	% change	Normal	Water logging	% change
BM 1003143	37.86	36.43	-3.78	62.85	47.23	-24.85	23.75	32.05	34.95	41.49	38.57	-7.03
BM 1005149	39.29	35.72	-9.09	51.74	47.57	-8.06	27.10	35.00	29.15	39.38	39.43	0.14
BM 1009163	41.07	48.22	17.41	59.38	38.89	-34.51	34.20	30.85	-9.80	44.88	39.32	-12.40
BM 1010168	43.93	38.22	-13.00	53.82	31.95	-40.64	38.30	43.75	14.23	45.35	37.97	-16.27
BM 1022173	36.43	52.50	44.11	57.29	35.77	-37.56	23.30	35.85	53.86	39.01	41.37	6.07
PG 9869137	26.08	33.93	30.10	-	-	-	27.05	27.05	0.00	26.57	30.49	14.78
SA 98-13	32.86	21.79	-33.69	42.71	34.38	-19.50	15.95	23.35	46.39	30.51	26.51	-13.11
SA 04-454	27.15	34.65	27.62	51.39	36.46	-29.05	18.75	28.35	51.20	32.43	33.15	2.23
SA 04-472	41.43	56.43	36.21	-	-	-	22.20	22.50	1.35	31.82	39.47	24.05
SA 04-458	37.14	50.36	35.60	43.06	42.71	-0.81	13.15	11.70	-11.03	31.12	34.92	12.23
SA 04-390	28.22	24.64	-12.69	-	-	-	18.75	10.00	-46.67	23.49	17.32	-26.25
SA 04-496	27.86	20.00	-28.21	48.27	43.41	-10.07	20.40	28.35	38.97	32.18	30.59	-4.94
SA 04-409	49.29	41.79	-15.22	46.88	36.46	-22.23	17.50	29.20	66.86	37.89	35.82	-5.47
AS 04-1689	47.86	54.29	13.44	56.95	53.13	-6.71	30.85	50.85	64.83	45.22	52.76	16.67
AS 04-245	46.08	50.00	8.51	67.36	36.11	-46.39	24.15	34.55	43.06	45.86	40.22	-12.30
AS 04-2097	50.00	60.36	20.72	53.13	42.36	-20.27	36.65	37.90	3.41	46.59	46.87	0.60
AS 04-635	46.79	56.79	21.37	59.38	43.41	-26.89	44.49	52.10	17.10	50.22	50.77	1.09
AS 04-1687	58.58	46.07	-21.36	53.13	51.39	-3.27	57.50	52.50	-8.70	56.40	49.99	-11.38
MA 5/51	49.64	42.50	-14.38	46.53	36.46	-21.64	15.10	20.00	32.45	37.09	32.99	-11.06
MA 5/5	40.36	34.29	-15.04	64.59	41.67	-35.49	31.65	36.25	14.53	45.53	37.40	-17.86
MA 5/37	35.36	35.36	0.00	54.52	42.71	-21.66	14.15	63.30	347.35	34.68	47.12	35.89
MA 5/99	48.22	43.93	-8.90	51.04	50.35	-1.35	25.40	20.40	-19.69	41.55	38.23	-8.01
MA 5/22	42.50	50.00	17.65	55.90	43.75	-21.74	24.15	28.35	17.39	40.85	40.70	-0.37
GU 07-3849	37.14	40.36	8.67	57.64	47.22	-18.08	30.00	55.00	83.33	41.59	47.53	14.27
GU 07-3774	42.15	47.86	13.55	54.17	47.92	-11.54	34.55	56.65	63.97	43.62	50.81	16.47
GU 07-2276	46.07	53.93	17.06	61.81	52.43	-15.18	32.10	45.25	40.97	46.66	50.54	8.31
CYM 07-986	43.58	42.15	-3.28	48.96	32.99	-32.62	25.00	30.40	21.60	39.18	35.18	-10.21
Standards												
Check1	38.93	31.07	-20.19	45.14	51.39	13.85	44.15	45.85	3.85	42.74	42.77	0.07
Check2	30.00	34.65	15.50	57.29	49.66	-13.32	42.50	40.00	-5.88	43.26	41.44	-4.22
Check3	58.22	61.07	4.90	51.74	46.88	-9.39	17.10	29.10	70.18	42.35	45.68	7.86
GM	41.00	42.65		53.95	43.14		27.66	35.22		39.98	39.86	-0.30
CD	16.41	20.42		10.77	NS		18.62	13.37				
CV	19.65	23.52		9.66	17.21		33.05	18.65				
CD GxE	NS			8.93			11.19					

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Table 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
BM 1003143	122.57	73.96	-39.66	150.46	68.52	-54.46	63.86	63.77	-0.14	112.30	68.75	-38.78
BM 1005149	120.14	140.97	17.34	158.33	76.85	-51.46	61.68	61.28	-0.65	113.38	93.03	-17.95
BM 1009163	104.16	111.81	7.34	167.13	60.65	-63.71	85.16	80.53	-5.44	118.82	84.33	-29.03
BM 1010168	145.83	161.81	10.96	173.15	62.50	-63.90	62.04	58.53	-5.66	127.01	94.28	-25.77
BM 1022173	79.51	99.65	25.33	159.72	52.31	-67.25	110.11	100.29	-8.92	116.45	84.08	-27.79
PG 9869137	84.37	67.02	-20.56	-	-	-	91.91	88.23	-4.00	88.14	77.63	-11.93
SA 98-13	61.11	45.14	-26.13	103.70	57.41	-44.64	41.73	41.67	-0.14	68.85	48.07	-30.17
SA 04-454	111.11	117.71	5.94	152.78	33.80	-77.88	50.17	48.52	-3.29	104.69	66.68	-36.31
SA 04-472	101.04	122.57	21.31	-	-	-	51.54	48.47	-5.96	76.29	85.52	12.10
SA 04-458	145.14	119.79	-17.47	124.07	69.91	-43.65	70.43	58.24	-17.31	113.21	82.65	-27.00
SA 04-390	78.82	58.68	-25.55	-	-	-	27.85	28.23	1.36	53.34	43.46	-18.52
SA 04-496	84.37	75.35	-10.69	124.54	81.02	-34.94	69.43	66.28	-4.54	92.78	74.22	-20.01
SA 04-409	86.11	90.97	5.64	113.43	63.43	-44.08	63.59	59.66	-6.18	87.71	71.35	-18.65
AS 04-1689	168.40	165.50	-1.72	185.65	119.91	-35.41	162.30	139.20	-14.23	172.12	141.54	-17.77
AS 04-245	129.16	80.21	-37.90	184.72	67.59	-63.41	116.19	105.32	-9.36	143.36	84.37	-41.14
AS 04-2097	160.07	133.68	-16.49	131.94	85.65	-35.08	97.40	93.38	-4.13	129.80	104.24	-19.70
AS 04-635	144.79	118.41	-18.22	205.56	72.69	-64.64	156.37	139.52	-10.78	168.91	110.21	-34.75
AS 04-1687	149.65	145.14	-3.01	203.24	133.80	-34.17	132.12	123.57	-6.47	161.67	134.17	-17.01
MA 5/51	123.96	91.67	-26.05	116.67	61.57	-47.23	50.04	52.71	5.34	96.89	68.65	-29.15
MA 5/5	129.16	113.89	-11.82	142.59	83.80	-41.23	74.52	71.67	-3.82	115.42	89.79	-22.21
MA 5/37	114.24	103.82	-9.12	160.19	50.93	-68.21	64.74	56.87	-12.16	113.06	70.54	-37.61
MA 5/99	130.21	125.35	-3.73	157.87	68.98	-56.31	26.16	26.94	2.98	104.75	73.76	-29.59
MA 5/22	125.35	118.75	-5.27	134.26	64.35	-52.07	57.48	56.29	-2.07	105.70	79.80	-24.50
GU 07-3849	131.95	105.90	-19.74	181.48	94.91	-47.70	109.56	100.31	-8.44	141.00	100.37	-28.81
GU 07-3774	154.52	162.85	5.39	188.43	119.91	-36.36	158.07	135.72	-14.14	167.01	139.49	-16.47
GU 07-2276	160.77	142.36	-11.45	163.89	118.06	-27.96	93.24	91.91	-1.43	139.30	117.44	-15.69
CYM 07-986	113.54	111.81	-1.52	129.63	62.04	-52.14	102.90	97.36	-5.38	115.36	90.40	-21.63
Standards												
Check1	89.93	93.75	4.25	110.19	59.72	-45.80	86.96	83.31	-4.20	95.69	78.93	-17.52
Check2	130.55	114.93	-11.96	136.57	90.74	-33.56	98.82	97.61	-1.22	121.98	101.09	-17.12
Check3	138.54	123.26	-11.03	127.78	73.61	-42.39	64.32	60.80	-5.47	110.21	85.89	-22.07
GM	120.64	111.22		151.41	76.10		83.36	77.87		115.84	88.16	-23.90
CD	32.43	29.76		29.28	40.69		20.81	23.24				
CV	13.20	13.14		9.47	26.60		12.26	14.66				
CD GxE	NS			NS			NS					

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 Table 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
BM 1003143	84.21	68.71	-18.41	143.06	112.04	-21.68	72.08	71.98	-0.14	99.78	84.24	-15.57
BM 1005149	136.57	123.17	-9.81	149.07	89.81	-39.75	69.00	66.98	-2.93	118.21	93.32	-21.06
BM 1009163	117.89	106.17	-9.94	151.85	128.70	-15.25	95.93	87.81	-8.46	121.89	107.56	-11.76
BM 1010168	136.12	142.03	4.34	172.69	105.56	-38.87	68.82	66.57	-3.27	125.88	104.72	-16.81
BM 1022173	76.66	85.95	12.12	132.87	94.44	-28.92	118.06	114.74	-2.81	109.20	98.38	-9.91
PG 9869137	82.35	66.36	-19.42	-	-	-	99.10	92.71	-6.45	90.73	79.54	-12.33
SA 98-13	63.80	38.46	-39.72	99.54	67.13	-32.56	49.94	45.58	-8.73	71.09	50.39	-29.12
SA 04-454	106.48	98.52	-7.48	119.91	57.87	-51.74	59.56	55.11	-7.47	95.32	70.50	-26.04
SA 04-472	97.63	110.69	13.38	-	-	-	63.03	54.13	-14.12	80.33	82.41	2.59
SA 04-458	137.93	102.43	-25.74	133.33	101.39	-23.96	81.93	62.46	-23.76	117.73	88.76	-24.61
SA 04-390	76.88	43.05	-44.00	-	-	-	37.79	32.28	-14.58	57.34	37.67	-34.31
SA 04-496	82.18	66.28	-19.35	118.06	109.72	-7.06	78.67	70.79	-10.02	92.97	82.26	-11.52
SA 04-409	81.26	65.49	-19.41	95.37	110.19	15.54	72.46	65.27	-9.92	83.03	80.32	-3.27
AS 04-1689	156.32	136.96	-12.38	192.13	180.56	-6.02	180.74	160.36	-11.28	176.40	159.29	-9.70
AS 04-245	125.71	76.81	-38.90	196.30	120.83	-38.45	125.28	113.95	-9.04	149.10	103.86	-30.34
AS 04-2097	156.47	127.19	-18.71	135.65	125.00	-7.85	110.96	101.39	-8.62	134.36	117.86	-12.28
AS 04-635	138.52	115.27	-16.78	232.41	129.63	-44.22	169.40	150.69	-11.04	180.11	131.86	-26.79
AS 04-1687	143.19	123.47	-13.77	215.74	198.15	-8.15	145.29	130.74	-10.01	168.07	150.79	-10.29
MA 5/51	117.63	77.36	-34.23	123.15	92.59	-24.82	55.51	59.38	6.97	98.76	76.44	-22.60
MA 5/5	123.88	98.21	-20.72	116.67	114.82	-1.59	87.06	80.43	-7.62	109.20	97.82	-10.42
MA 5/37	107.12	78.63	-26.60	136.57	78.70	-42.37	72.08	62.63	-13.11	105.26	73.32	-30.34
MA 5/99	125.52	113.07	-9.92	140.74	116.67	-17.10	33.26	32.49	-2.32	99.84	87.41	-12.45
MA 5/22	117.92	106.45	-9.73	112.96	81.48	-27.87	70.43	61.43	-12.78	100.44	83.12	-17.24
GU 07-3849	126.48	87.90	-30.50	157.87	158.33	0.29	119.32	108.76	-8.85	134.56	118.33	-12.06
GU 07-3774	148.16	141.49	-4.50	188.89	227.31	20.34	172.55	149.26	-13.50	169.87	172.69	1.66
GU 07-2276	153.37	128.16	-16.44	139.82	127.78	-8.61	105.90	96.25	-9.11	133.03	117.40	-11.75
CYM 07-986	109.58	96.11	-12.29	162.04	108.33	-33.15	112.44	105.57	-6.11	128.02	103.34	-19.28
Standards												
Check1	87.19	82.23	-5.69	104.17	81.48	-21.78	94.75	90.69	-4.28	95.37	84.80	-11.08
Check2	127.36	108.19	-15.05	116.20	105.56	-9.16	114.22	106.50	-6.76	119.26	106.75	-10.49
Check3	136.42	115.48	-15.35	125.46	104.17	-16.97	67.83	65.90	-2.85	109.90	95.18	-13.39
GM	116.03	97.68		144.91	115.86		93.45	85.43		115.83	98.01	-15.39
CD	14.71	16.23		29.36	31.44		19.62	23.82				
CV	6.23	8.16		10.03	13.43		10.31	13.70				
CD GxE		10.20			27.38			NS				

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Table 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
BM 1003143	74.89	62.12	-17.05	122.69	103.24	-15.85	72.47	68.26	-5.81	90.02	77.87	-13.49
BM 1005149	55.78	28.26	-49.34	116.20	87.96	-24.30	68.38	59.94	-12.34	80.12	58.72	-26.71
BM 1009163	88.93	73.21	-17.68	125.46	115.28	-8.11	100.47	78.97	-21.40	104.95	89.15	-15.05
BM 1010168	67.47	49.45	-26.71	122.69	91.67	-25.28	68.60	63.51	-7.42	86.25	68.21	-20.92
BM 1022173	72.63	46.81	-35.55	100.46	77.32	-23.03	125.65	108.84	-13.38	99.58	77.66	-22.02
PG 9869137	79.58	64.56	-18.87	-	-	-	101.66	84.59	-16.79	90.62	74.58	-17.71
SA 98-13	56.36	28.67	-49.13	89.81	66.67	-25.77	45.99	41.15	-10.52	64.05	45.50	-28.97
SA 04-454	55.14	43.96	-20.28	101.85	58.80	-42.27	58.33	45.31	-22.32	71.77	49.36	-31.23
SA 04-472	49.62	48.17	-2.92	-	-	-	62.96	49.47	-21.43	56.29	48.82	-13.27
SA 04-458	77.56	68.86	-11.22	93.06	82.87	-10.95	78.75	51.80	-34.22	83.12	67.84	-18.38
SA 04-390	47.26	37.83	-19.95	-	-	-	36.33	27.61	-24.00	41.80	32.72	-21.71
SA 04-496	72.36	64.15	-11.35	97.22	101.39	4.29	73.67	65.03	-11.73	81.08	76.86	-5.21
SA 04-409	51.41	35.18	-31.57	87.96	109.26	24.22	71.96	58.73	-18.39	70.44	67.72	-3.86
AS 04-1689	136.50	98.56	-27.79	178.24	168.06	-5.71	191.91	151.04	-21.30	168.88	139.22	-17.56
AS 04-245	95.37	74.37	-22.02	162.04	105.09	-35.15	133.35	107.35	-19.50	130.25	95.60	-26.60
AS 04-2097	150.28	119.23	-20.66	126.85	113.89	-10.22	126.96	98.32	-22.56	134.70	110.48	-17.98
AS 04-635	129.42	111.95	-13.50	177.31	122.69	-30.80	175.00	145.80	-16.69	160.58	126.81	-21.03
AS 04-1687	113.56	92.33	-18.69	170.83	175.46	2.71	158.54	128.87	-18.71	147.64	132.22	-10.45
MA 5/51	56.36	41.57	-26.24	102.78	86.11	-16.22	54.54	51.77	-5.08	71.23	59.82	-16.02
MA 5/5	71.81	53.09	-26.07	106.94	137.96	29.01	74.45	66.89	-10.15	84.40	85.98	1.87
MA 5/37	31.19	16.22	-48.00	110.19	71.30	-35.29	67.66	55.13	-18.52	69.68	47.55	-31.76
MA 5/99	117.48	111.72	-4.90	121.76	94.91	-22.05	30.84	27.30	-11.48	90.03	77.98	-13.38
MA 5/22	51.96	40.36	-22.32	101.39	82.41	-18.72	66.60	50.29	-24.49	73.32	57.69	-21.32
GU 07-3849	58.35	53.28	-8.69	146.76	131.02	-10.72	124.08	101.92	-17.86	109.73	95.41	-13.05
GU 07-3774	61.11	55.91	-8.51	152.32	136.57	-10.34	180.92	143.83	-20.50	131.45	112.10	-14.72
GU 07-2276	94.68	82.68	-12.67	136.57	121.76	-10.84	102.47	92.21	-10.01	111.24	98.88	-11.11
CYM 07-986	102.42	90.42	-11.72	137.50	117.59	-14.48	116.93	99.96	-14.51	118.95	102.66	-13.70
Standards												
Check1	36.96	14.68	-60.28	95.37	76.85	-19.42	102.24	87.36	-14.55	78.19	59.63	-23.74
Check2	84.27	63.11	-25.11	107.87	100.93	-6.43	127.25	102.80	-19.21	106.46	88.95	-16.45
Check3	55.21	29.41	-46.73	108.80	92.13	-15.32	67.66	48.36	-28.52	77.22	56.63	-26.66
GM	76.53	60.00		122.26	104.78		95.55	78.75		96.14	79.42	-17.39
CD	12.51	11.97		28.02	36.16		17.72	22.78				
CV	8.03	9.80		11.35	17.04		9.11	14.21				
CD GxE		8.76			NS			NS				

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Table 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
BM 1003143	73.63	58.13	-21.05	109.72	87.50	-20.25	72.32	65.48	-9.46	85.22	70.37	-17.43
BM 1005149	52.52	25.11	-52.19	107.41	80.09	-25.44	69.81	52.59	-24.67	76.58	52.60	-31.32
BM 1009163	84.12	72.70	-13.58	118.52	93.98	-20.71	99.31	74.32	-25.16	100.65	80.33	-20.19
BM 1010168	61.48	46.67	-24.09	117.59	75.93	-35.43	70.75	60.72	-14.18	83.27	61.11	-26.62
BM 1022173	69.37	42.42	-38.85	94.44	65.28	-30.88	125.54	105.36	-16.07	96.45	71.02	-26.37
PG 9869137	77.14	62.37	-19.15	-	-	-	98.24	73.88	-24.80	87.69	68.13	-22.31
SA 98-13	49.21	27.11	-44.91	84.72	53.24	-37.16	45.19	37.78	-16.40	59.71	39.38	-34.05
SA 04-454	53.50	41.96	-21.57	89.81	51.39	-42.78	59.55	41.30	-30.65	67.62	44.88	-33.62
SA 04-472	49.36	42.35	-14.20	-	-	-	63.94	43.97	-31.23	56.65	43.16	-23.81
SA 04-458	75.81	65.76	-13.26	83.80	66.20	-21.00	76.14	42.77	-43.83	78.58	58.24	-25.88
SA 04-390	44.96	35.82	-20.33	-	-	-	34.51	24.21	-29.85	39.74	30.02	-24.46
SA 04-496	69.88	62.96	-9.90	90.28	80.09	-11.29	72.43	58.22	-19.62	77.53	67.09	-13.47
SA 04-409	47.12	32.18	-31.71	78.24	72.22	-7.69	72.38	54.46	-24.76	65.91	52.95	-19.66
AS 04-1689	132.47	94.36	-28.77	157.87	142.13	-9.97	182.17	143.37	-21.30	157.50	126.62	-19.61
AS 04-245	93.66	74.12	-20.86	147.69	88.89	-39.81	136.83	102.06	-25.41	126.06	88.36	-29.91
AS 04-2097	145.12	118.56	-18.30	118.98	98.61	-17.12	132.99	91.56	-31.15	132.36	102.91	-22.25
AS 04-635	127.47	110.51	-13.31	175.00	105.56	-39.68	178.94	139.08	-22.28	160.47	118.38	-26.23
AS 04-1687	109.68	91.37	-16.69	165.74	132.41	-20.11	156.24	124.95	-20.03	143.89	116.24	-19.21
MA 5/51	55.41	37.18	-32.90	100.93	66.67	-33.94	52.36	46.09	-11.97	69.57	49.98	-28.16
MA 5/5	68.21	51.87	-23.96	103.24	114.82	11.22	65.54	58.25	-11.12	79.00	74.98	-5.08
MA 5/37	29.96	12.86	-57.08	101.85	60.19	-40.90	74.91	51.60	-31.12	68.91	41.55	-39.70
MA 5/99	115.35	110.56	-4.15	106.94	65.28	-38.96	32.53	25.19	-22.56	84.94	67.01	-21.11
MA 5/22	49.14	38.51	-21.63	92.13	64.82	-29.64	65.74	45.24	-31.18	69.00	49.52	-28.23
GU 07-3849	57.96	50.12	-13.53	132.87	108.80	-18.12	124.58	97.01	-22.13	105.14	85.31	-18.86
GU 07-3774	55.21	51.36	-6.97	147.22	120.37	-18.24	175.84	140.58	-20.05	126.09	104.10	-17.44
GU 07-2276	93.57	78.34	-16.28	120.37	93.52	-22.31	97.30	84.62	-13.03	103.75	85.49	-17.59
CYM 07-986	98.86	88.47	-10.51	126.39	87.96	-30.41	121.28	94.81	-21.83	115.51	90.41	-21.73
Standards												
Check1	31.68	13.50	-57.39	85.65	64.82	-24.32	106.71	83.56	-21.69	74.68	53.96	-27.75
Check2	82.26	62.75	-23.72	101.39	80.09	-21.01	134.17	99.66	-25.72	105.94	80.83	-23.70
Check3	53.92	28.00	-48.07	101.39	83.80	-17.35	63.27	39.92	-36.91	72.86	50.57	-30.59
GM	73.60	57.60		113.34	85.36		95.38	73.42		92.38	70.85	-23.30
CD	12.72	11.23		26.30	29.68		18.85	21.05				
CV	8.49	9.58		11.46	17.34		9.71	14.08				
CD GxE		NS			NS			NS				

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Table 6: Single cane 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
BM 1003143	0.83	0.52	-37.35	1.10	1.35	22.73				0.97	0.94	-3.11
BM 1005149	0.41	0.31	-24.39	1.01	0.98	-2.97				0.71	0.65	-9.15
BM 1009163	1.02	0.78	-23.53	0.87	1.12	28.74				0.95	0.95	0.53
BM 1010168	0.32	0.25	-21.88	0.58	0.59	1.72				0.45	0.42	-6.67
BM 1022173	0.63	0.53	-15.87	1.05	1.41	34.29				0.84	0.97	15.48
PG 9869137	1.07	0.88	-17.76	-	-	-				1.07	0.88	-17.76
SA 98-13	0.53	0.32	-39.62	1.21	1.06	-12.40				0.87	0.69	-20.69
SA 04-454	0.56	0.45	-19.64	1.33	1.25	-6.02				0.95	0.85	-10.05
SA 04-472	1.21	1.05	-13.22	-	-	-				1.21	1.05	-13.22
SA 04-458	0.42	0.32	-23.81	1.14	1.12	-1.75				0.78	0.72	-7.69
SA 04-390	0.48	0.38	-20.83	-	-	-				0.48	0.38	-20.83
SA 04-496	0.55	0.45	-18.18	0.79	0.89	12.66				0.67	0.67	0.00
SA 04-409	1.28	1.18	-7.81	0.93	1.09	17.20				1.11	1.14	2.71
AS 04-1689	0.41	0.42	2.44	0.55	0.72	30.91				0.48	0.57	18.75
AS 04-245	0.42	0.28	-33.33	0.38	0.54	42.11				0.40	0.41	2.50
AS 04-2097	0.36	0.20	-44.44	1.06	0.89	-16.04				0.71	0.55	-23.24
AS 04-635	0.31	0.48	54.84	0.39	0.39	0.00				0.35	0.44	24.29
AS 04-1687	0.87	0.76	-12.64	0.52	0.64	23.08				0.70	0.70	0.72
MA 5/51	0.57	0.55	-3.51	1.09	1.22	11.93				0.83	0.89	6.63
MA 5/5	0.42	0.42	0.00	0.70	1.36	94.29				0.56	0.89	58.93
MA 5/37	0.31	0.28	-9.68	0.94	1.09	15.96				0.63	0.69	9.60
MA 5/99	0.58	0.51	-12.07	0.73	0.95	30.14				0.66	0.73	11.45
MA 5/22	0.55	0.55	0.00	1.52	1.65	8.55				1.04	1.10	6.28
GU 07-3849	0.55	0.52	-5.45	0.43	0.88	104.65				0.49	0.70	42.86
GU 07-3774	0.32	0.28	-12.50	0.37	0.54	45.95				0.35	0.41	18.84
GU 07-2276	0.54	0.43	-20.37	0.91	1.06	16.48				0.73	0.75	2.76
CYM 07-986	0.41	0.22	-46.34	0.43	0.48	11.63				0.42	0.35	-16.67
Standards												
Check1	0.93	0.38	-59.14	1.38	1.14	-17.39				1.16	0.76	-34.20
Check2	1.01	0.36	-64.36	1.09	1.18	8.26				1.05	0.77	-26.67
Check3	0.95	0.52	-45.26	1.19	1.40	17.65				1.07	0.96	-10.28
GM	0.63	0.49		0.88	1.00					0.75	0.74	-1.27
CD	0.11	0.17		0.37	0.14							
CV	8.78	17.40		21.12	6.94							
CD GxE	0.09			0.19								

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Table 7: 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
BM 1003143	151.50	122.50	-19.14	298.90	279.15	-6.61				225.20	200.83	-10.82
BM 1005149	86.00	75.50	-12.21	233.65	270.30	15.69				159.83	172.90	8.18
BM 1009163	215.75	194.50	-9.85	266.90	372.70	39.64				241.33	283.60	17.52
BM 1010168	71.00	92.00	29.58	270.65	197.50	-27.03				170.83	144.75	-15.26
BM 1022173	153.50	119.50	-22.15	296.65	301.20	1.53				225.08	210.35	-6.54
PG 9869137	173.00	130.00	-24.86	-	-	-				173.00	130.00	-24.86
SA 98-13	138.00	75.50	-45.29	295.30	224.15	-24.09				216.65	149.83	-30.84
SA 04-454	124.25	98.50	-20.72	311.80	299.70	-3.88				218.03	199.10	-8.68
SA 04-472	135.00	80.00	-40.74	-	-	-				135.00	80.00	-40.74
SA 04-458	119.00	100.50	-15.55	244.30	278.50	14.00				181.65	189.50	4.32
SA 04-390	123.50	98.50	-20.24	-	-	-				123.50	98.50	-20.24
SA 04-496	138.00	117.00	-15.22	214.30	263.80	23.10				176.15	190.40	8.09
SA 04-409	236.00	202.50	-14.19	284.15	183.90	-35.28				260.08	193.20	-25.71
AS 04-1689	201.50	136.50	-32.26	250.65	275.20	9.79				226.08	205.85	-8.95
AS 04-245	221.00	202.50	-8.37	258.90	329.00	27.08				239.95	265.75	10.75
AS 04-2097	194.00	155.00	-20.10	336.40	237.15	-29.50				265.20	196.08	-26.07
AS 04-635	192.50	175.50	-8.83	250.05	258.00	3.18				221.28	216.75	-2.04
AS 04-1687	241.00	225.50	-6.43	260.15	264.50	1.67				250.58	245.00	-2.22
MA 5/51	148.00	127.00	-14.19	229.15	317.50	38.56				188.58	222.25	17.86
MA 5/5	176.00	92.75	-47.30	245.80	291.85	18.73				210.90	192.30	-8.82
MA 5/37	101.25	68.00	-32.84	251.90	308.65	22.53				176.58	188.33	6.65
MA 5/99	131.00	107.00	-18.32	251.15	302.65	20.51				191.08	204.83	7.20
MA 5/22	141.00	101.00	-28.37	282.30	352.15	24.74				211.65	226.58	7.05
GU 07-3849	153.75	102.00	-33.66	225.55	264.30	17.18				189.65	183.15	-3.43
GU 07-3774	94.00	63.00	-32.98	213.65	251.85	17.88				153.83	157.43	2.34
GU 07-2276	178.00	147.00	-17.42	274.75	291.20	5.99				226.38	219.10	-3.21
CYM 07-986	173.00	152.00	-12.14	232.15	246.20	6.05				202.58	199.10	-1.72
Standards												
Check1	128.00	66.00	-48.44	247.30	258.85	4.67				187.65	162.43	-13.44
Check2	148.50	70.00	-52.86	290.15	283.80	-2.19				219.33	176.90	-19.34
Check3	153.00	102.00	-33.33	241.15	307.15	27.37				197.08	204.58	3.81
GM	154.67	119.98		261.40	278.18					208.03	199.08	-4.30
CD	27.41	41.02		44.08	NS							
CV	8.70	16.79		8.33	-							
CD GxE	23.27			NS								

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Table 8: 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
BM 1003143	2.83	2.71	-4.24	2.29	2.42	5.68				2.56	2.57	0.20
BM 1005149	2.40	2.35	-2.08	2.34	2.35	0.43				2.37	2.35	-0.84
BM 1009163	2.46	2.32	-5.69	2.20	2.04	-7.27				2.33	2.18	-6.44
BM 1010168	2.44	2.35	-3.69	1.92	1.90	-1.04				2.18	2.13	-2.52
BM 1022173	3.14	3.04	-3.18	2.48	2.33	-6.05				2.81	2.69	-4.45
PG 9869137	3.22	3.28	1.86	-	-	-				3.22	3.28	1.86
SA 98-13	2.85	2.78	-2.46	2.42	2.50	3.31				2.64	2.64	0.19
SA 04-454	2.81	2.82	0.36	2.60	2.43	-6.54				2.71	2.63	-2.96
SA 04-472	2.52	2.46	-2.38	-	-	-				2.52	2.46	-2.38
SA 04-458	2.15	2.20	2.33	2.48	2.12	-14.52				2.32	2.16	-6.70
SA 04-390	2.55	2.51	-1.57	-	-	-				2.55	2.51	-1.57
SA 04-496	2.30	2.23	-3.04	2.14	2.07	-3.27				2.22	2.15	-3.15
SA 04-409	2.51	2.48	-1.20	2.27	2.40	5.73				2.39	2.44	2.09
AS 04-1689	1.65	1.68	1.82	1.75	1.71	-2.29				1.70	1.70	-0.29
AS 04-245	1.77	1.75	-1.13	2.68	1.62	-39.55				2.23	1.69	-24.27
AS 04-2097	1.62	1.60	-1.23	2.30	2.14	-6.96				1.96	1.87	-4.59
AS 04-635	1.68	1.62	-3.57	1.66	1.66	0.00				1.67	1.64	-1.80
AS 04-1687	2.01	2.00	-0.50	1.84	1.80	-2.17				1.93	1.90	-1.30
MA 5/51	2.75	2.72	-1.09	2.47	2.32	-6.07				2.61	2.52	-3.45
MA 5/5	2.23	2.20	-1.35	2.33	2.34	0.43				2.28	2.27	-0.44
MA 5/37	2.98	3.00	0.67	2.23	2.30	3.14				2.61	2.65	1.73
MA 5/99	2.71	2.67	-1.48	2.16	2.17	0.46				2.44	2.42	-0.62
MA 5/22	3.49	3.42	-2.01	2.76	2.83	2.54				3.13	3.13	0.00
GU 07-3849	1.80	1.75	-2.78	1.75	1.90	8.57				1.78	1.83	2.82
GU 07-3774	1.55	1.57	1.29	1.80	1.62	-10.00				1.68	1.60	-4.78
GU 07-2276	2.35	2.32	-1.28	2.12	2.25	6.13				2.24	2.29	2.24
CYM 07-986	1.81	1.62	-10.50	1.84	1.63	-11.41				1.83	1.63	-10.96
Standards												
Check1	2.34	2.32	-0.85	2.82	2.20	-21.99				2.58	2.26	-12.40
Check2	3.42	3.17	-7.31	2.42	2.45	1.24				2.92	2.81	-3.77
Check3	2.68	2.65	-1.12	2.52	2.50	-0.79				2.60	2.58	-0.96
GM	2.43	2.39		2.24	2.15					2.34	2.27	-3.07
CD	0.09	0.09		0.26	0.34							
CV	1.88	1.86		5.71	7.89							
CD GxE	0.04			0.22								

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Table 9: 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
BM 1003143	71.23	55.31	-22.35	76.85	77.32	0.61				74.04	66.32	-10.43
BM 1005149	48.65	19.45	-60.02	88.89	73.15	-17.71				68.77	46.30	-32.67
BM 1009163	82.40	68.25	-17.17	89.35	85.65	-4.14				85.88	76.95	-10.39
BM 1010168	56.21	38.15	-32.13	97.22	66.67	-31.42				76.72	52.41	-31.68
BM 1022173	65.17	38.45	-41.00	80.09	75.00	-6.36				72.63	56.73	-21.90
PG 9869137	75.93	58.70	-22.69	-	-	-				75.93	58.70	-22.69
SA 98-13	44.31	25.75	-41.89	74.07	51.39	-30.62				59.19	38.57	-34.84
SA 04-454	51.89	37.50	-27.73	67.59	45.83	-32.19				59.74	41.67	-30.26
SA 04-472	48.65	36.66	-24.65	-	-	-				48.65	36.66	-24.65
SA 04-458	67.14	57.15	-14.88	74.07	58.80	-20.62				70.61	57.98	-17.89
SA 04-390	42.10	33.45	-20.55	-	-	-				42.10	33.45	-20.55
SA 04-496	66.49	60.70	-8.71	68.52	70.37	2.70				67.51	65.54	-2.92
SA 04-409	44.56	31.90	-28.41	66.67	65.28	-2.08				55.62	48.59	-12.63
AS 04-1689	128.42	90.12	-29.82	116.20	132.41	13.95				122.31	111.27	-9.03
AS 04-245	88.73	71.50	-19.42	134.72	85.65	-36.42				111.73	78.58	-29.67
AS 04-2097	141.72	117.86	-16.84	88.89	89.35	0.52				115.31	103.61	-10.15
AS 04-635	121.19	108.12	-10.78	118.98	123.61	3.89				120.09	115.87	-3.51
AS 04-1687	105.38	90.52	-14.10	144.44	125.46	-13.14				124.91	107.99	-13.55
MA 5/51	53.02	35.11	-33.78	82.87	61.11	-26.26				67.95	48.11	-29.19
MA 5/5	66.91	47.74	-28.65	75.46	72.69	-3.67				71.19	60.22	-15.41
MA 5/37	28.67	12.30	-57.10	62.04	56.02	-9.70				45.36	34.16	-24.68
MA 5/99	112.37	105.55	-6.07	87.50	57.41	-34.39				99.94	81.48	-18.47
MA 5/22	46.29	37.12	-19.81	70.37	56.02	-20.39				58.33	46.57	-20.16
GU 07-3849	55.81	48.78	-12.60	78.24	99.54	27.22				67.03	74.16	10.65
GU 07-3774	52.11	49.23	-5.53	111.11	113.43	2.09				81.61	81.33	-0.34
GU 07-2276	88.24	76.15	-13.70	88.43	80.09	-9.43				88.34	78.12	-11.56
CYM 07-986	98.52	87.48	-11.21	89.35	86.57	-3.11				93.94	87.03	-7.36
Standards												
Check1	28.45	13.28	-53.32	63.43	60.19	-5.11				45.94	36.74	-20.04
Check2	79.52	62.19	-21.79	93.52	72.69	-22.27				86.52	67.44	-22.05
Check3	50.12	26.48	-47.17	69.91	76.85	9.93				60.02	51.67	-13.91
GM	70.34	54.70		87.36	78.46					78.85	66.58	-15.56
CD	8.41	8.79		18.15	18.78							
CV	5.87	7.89		10.23	11.88							
CD GxE	4.27			NS								

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Table 10: 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
BM 1003143	18.57	18.49	-0.43	18.90	17.80	-5.82	16.60	15.80	-4.82	18.02	17.36	-3.66
BM 1005149	16.07	15.49	-3.61	19.50	19.60	0.51	18.70	18.20	-2.67	18.09	17.76	-1.81
BM 1009163	20.57	19.99	-2.82	17.85	17.00	-4.76	17.20	18.30	6.40	18.54	18.43	-0.59
BM 1010168	15.57	15.24	-2.12	9.05	13.40	48.07	15.00	15.45	3.00	13.21	14.70	11.28
BM 1022173	18.57	17.56	-5.44	14.35	16.25	13.24	18.15	13.50	-25.62	17.02	15.77	-7.36
PG 9869137	17.82	16.99	-4.66	-	-	-	19.50	18.50	-5.13	18.66	17.75	-4.90
SA 98-13	20.82	20.49	-1.59	17.90	17.20	-3.91	20.90	17.10	-18.18	19.87	18.26	-8.10
SA 04-454	21.07	19.99	-5.13	14.85	14.05	-5.39	17.10	15.90	-7.02	17.67	16.65	-5.81
SA 04-472	21.82	20.99	-3.80	-	-	-	21.10	19.10	-9.48	21.46	20.05	-6.59
SA 04-458	20.32	18.99	-6.55	16.00	18.20	13.75	17.50	16.80	-4.00	17.94	18.00	0.32
SA 04-390	20.82	19.99	-3.99	-	-	-	18.55	17.40	-6.20	19.69	18.70	-5.03
SA 04-496	21.07	20.24	-3.94	19.25	19.40	0.78	21.70	18.50	-14.75	20.67	19.38	-6.26
SA 04-409	22.82	22.74	-0.35	18.70	18.70	0.00	20.30	18.50	-8.87	20.61	19.98	-3.04
AS 04-1689	15.57	14.49	-6.94	11.65	12.85	10.30	14.70	14.95	1.70	13.97	14.10	0.88
AS 04-245	17.07	16.49	-3.40	16.10	13.25	-17.70	17.05	15.90	-6.74	16.74	15.21	-9.12
AS 04-2097	17.57	16.49	-6.15	11.50	12.50	8.70	14.55	15.60	7.22	14.54	14.86	2.22
AS 04-635	16.32	14.49	-11.21	16.30	13.25	-18.71	15.90	16.45	3.46	16.17	14.73	-8.92
AS 04-1687	17.82	16.49	-7.46	14.25	13.15	-7.72	13.50	15.50	14.81	15.19	15.05	-0.94
MA 5/51	18.07	16.49	-8.74	17.60	16.00	-9.09	15.80	16.20	2.53	17.16	16.23	-5.40
MA 5/5	21.07	19.56	-7.17	16.10	15.90	-1.24	17.40	18.60	6.90	18.19	18.02	-0.93
MA 5/37	19.82	18.49	-6.71	17.10	16.55	-3.22	17.00	17.30	1.76	17.97	17.45	-2.93
MA 5/99	19.57	18.49	-5.52	15.00	17.00	13.33	17.00	16.85	-0.88	17.19	17.45	1.49
MA 5/22	19.82	18.46	-6.86	15.85	15.80	-0.32	17.10	18.00	5.26	17.59	17.42	-0.97
GU 07-3849	20.82	19.49	-6.39	15.25	16.75	9.84	17.40	17.10	-1.72	17.82	17.78	-0.24
GU 07-3774	18.82	17.49	-7.07	15.10	12.85	-14.90	16.20	14.50	-10.49	16.71	14.95	-10.53
GU 07-2276	15.82	13.99	-11.57	14.00	15.05	7.50	15.30	17.20	12.42	15.04	15.41	2.48
CYM 07-986	18.82	17.99	-4.41	15.60	12.40	-20.51	16.05	15.05	-6.23	16.82	15.15	-9.97
Standards												
Check1	22.32	21.49	-3.72	19.55	21.30	8.95	18.90	17.55	-7.14	20.26	20.11	-0.71
Check2	20.32	19.49	-4.08	19.90	18.45	-7.29	17.90	18.35	2.51	19.37	18.76	-3.15
Check3	20.32	20.24	-0.39	20.50	19.65	-4.15	19.25	17.75	-7.79	20.02	19.21	-4.05
GM	19.20	18.24		16.21	16.09		17.44	16.86		17.62	17.06	-3.14
CD	0.78	0.53		1.23	1.31		2.35	2.34				
CV	2.00	1.42		3.69	3.95		6.61	6.81				
CD GxE	0.36			0.83			1.62					

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Table 11: 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
BM 1003143	17.53	17.49	-0.23	17.62	15.80	-10.33	14.34	13.34	-6.97	16.50	15.54	-5.78
BM 1005149	15.26	14.76	-3.28	17.10	17.47	2.16	16.38	15.99	-2.38	16.25	16.07	-1.07
BM 1009163	19.33	18.76	-2.95	15.61	15.15	-2.95	14.51	16.15	11.30	16.48	16.69	1.23
BM 1010168	14.44	14.09	-2.42	5.40	10.17	88.33	12.72	13.12	3.14	10.85	12.46	14.80
BM 1022173	17.58	16.58	-5.69	11.19	13.81	23.41	15.76	10.49	-33.44	14.84	13.63	-8.20
PG 9869137	17.16	16.16	-5.83	-	-	-	17.28	16.31	-5.61	17.22	16.24	-5.72
SA 98-13	19.48	19.23	-1.28	14.95	15.10	1.00	18.22	14.73	-19.15	17.55	16.35	-6.82
SA 04-454	19.70	18.53	-5.94	12.76	11.88	-6.90	15.04	13.67	-9.11	15.83	14.69	-7.20
SA 04-472	20.35	19.65	-3.44	-	-	-	18.15	16.72	-7.88	19.25	18.19	-5.53
SA 04-458	19.01	17.99	-5.37	13.97	16.15	15.60	15.39	14.13	-8.19	16.12	16.09	-0.21
SA 04-390	19.40	18.67	-3.76	-	-	-	16.31	15.02	-7.91	17.86	16.85	-5.66
SA 04-496	19.72	18.78	-4.77	16.49	17.32	5.03	18.28	16.31	-10.78	18.16	17.47	-3.82
SA 04-409	21.04	20.97	-0.33	15.72	16.12	2.54	17.66	16.10	-8.83	18.14	17.73	-2.26
AS 04-1689	14.79	13.94	-5.75	8.20	9.54	16.34	11.55	12.95	12.12	11.51	12.14	5.47
AS 04-245	16.22	15.83	-2.40	13.00	9.57	-26.38	14.66	13.33	-9.07	14.63	12.91	-11.74
AS 04-2097	16.66	15.84	-4.92	7.78	9.98	28.28	12.27	13.00	5.95	12.24	12.94	5.75
AS 04-635	15.29	13.80	-9.74	13.59	9.81	-27.81	13.01	14.09	8.30	13.96	12.57	-10.00
AS 04-1687	16.67	15.85	-4.92	9.98	9.85	-1.30	10.64	13.32	25.19	12.43	13.01	4.64
MA 5/51	17.12	15.84	-7.48	15.41	13.27	-13.89	15.08	13.90	-7.82	15.87	14.34	-9.66
MA 5/5	19.72	18.39	-6.74	13.43	13.17	-1.94	14.97	16.28	8.75	16.04	15.95	-0.58
MA 5/37	18.47	16.62	-10.02	14.65	14.00	-4.44	14.64	14.86	1.50	15.92	15.16	-4.77
MA 5/99	18.34	17.38	-5.23	11.62	14.01	20.57	14.84	14.63	-1.42	14.93	15.34	2.72
MA 5/22	18.48	17.49	-5.36	13.69	13.08	-4.46	14.60	15.88	8.77	15.59	15.48	-0.68
GU 07-3849	19.31	18.40	-4.71	13.60	13.93	2.43	15.00	14.90	-0.67	15.97	15.74	-1.42
GU 07-3774	17.53	16.65	-5.02	13.36	10.14	-24.10	14.20	11.90	-16.20	15.03	12.90	-14.19
GU 07-2276	14.83	13.33	-10.11	11.28	11.33	0.44	12.14	14.88	22.57	12.75	13.18	3.37
CYM 07-986	17.57	17.09	-2.73	12.78	9.12	-28.64	13.44	12.93	-3.79	14.60	13.05	-10.62
Standards												
Check1	20.62	19.99	-3.06	17.52	19.41	10.79	16.63	15.23	-8.42	18.26	18.21	-0.26
Check2	18.91	18.42	-2.59	18.59	16.69	-10.22	15.55	15.91	2.32	17.68	17.01	-3.83
Check3	19.34	18.71	-3.26	19.29	18.04	-6.48	16.95	15.41	-9.09	18.53	17.39	-6.15
GM	18.00	17.17		13.65	13.48		15.01	14.52		15.55	15.06	-3.18
CD	0.83	0.67		0.97	1.39		2.41	2.42				
CV	2.26	1.92		3.45	4.95		7.89	8.20				
CD GxE	NS			0.80			1.66					

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Table 12: 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
BM 1003143	94.40	94.61	0.22	93.46	88.75	-5.04	86.35	83.95	-2.78	91.40	89.10	-2.52
BM 1005149	94.91	95.29	0.40	87.76	89.14	1.57	86.45	83.55	-3.35	89.71	89.33	-0.42
BM 1009163	93.99	93.84	-0.16	87.50	89.08	1.81	84.00	88.10	4.88	88.50	90.34	2.08
BM 1010168	92.78	92.42	-0.39	59.67	75.86	27.13	84.65	84.30	-0.41	79.03	84.19	6.53
BM 1022173	94.66	94.44	-0.23	77.85	84.83	8.97	86.75	76.55	-11.76	86.42	85.27	-1.33
PG 9869137	96.30	95.12	-1.23	-	-	-	88.60	88.10	-0.56	92.45	91.61	-0.91
SA 98-13	93.54	93.86	0.34	83.54	87.77	5.06	87.10	86.15	-1.09	88.06	89.26	1.36
SA 04-454	93.49	92.67	-0.88	85.74	84.52	-1.42	88.00	86.00	-2.27	89.08	87.73	-1.51
SA 04-472	93.24	93.61	0.40	-	-	-	86.00	87.50	1.74	89.62	90.56	1.04
SA 04-458	93.55	94.70	1.23	87.32	88.72	1.60	87.95	85.65	-2.62	89.61	89.69	0.09
SA 04-390	93.18	93.36	0.19	-	-	-	87.85	86.35	-1.71	90.52	89.86	-0.73
SA 04-496	93.56	92.81	-0.80	85.68	89.47	4.42	84.20	88.15	4.69	87.81	90.14	2.65
SA 04-409	92.20	92.22	0.02	83.96	86.20	2.67	87.00	86.95	-0.06	87.72	88.46	0.84
AS 04-1689	95.02	96.24	1.28	70.56	74.19	5.14	80.95	88.20	8.96	82.18	86.21	4.91
AS 04-245	95.01	95.98	1.02	80.81	72.20	-10.65	85.95	83.80	-2.50	87.26	83.99	-3.74
AS 04-2097	94.81	96.07	1.33	67.99	79.87	17.47	84.15	83.35	-0.95	82.32	86.43	5.00
AS 04-635	93.67	95.23	1.67	83.16	74.06	-10.94	81.80	85.70	4.77	86.21	85.00	-1.41
AS 04-1687	93.52	96.14	2.80	70.15	74.86	6.71	78.80	86.00	9.14	80.82	85.67	5.99
MA 5/51	94.70	96.07	1.45	87.63	82.93	-5.36	87.45	85.75	-1.94	89.93	88.25	-1.86
MA 5/5	93.56	94.01	0.48	83.39	82.49	-1.08	85.60	87.50	2.22	87.52	88.00	0.55
MA 5/37	93.17	89.84	-3.57	85.64	84.57	-1.25	86.10	85.85	-0.29	88.30	86.75	-1.76
MA 5/99	93.70	94.02	0.34	77.41	82.38	6.42	87.25	83.80	-3.95	86.12	86.73	0.71
MA 5/22	93.22	94.74	1.63	86.45	82.80	-4.22	85.35	88.20	3.34	88.34	88.58	0.27
GU 07-3849	92.75	94.42	1.80	89.15	83.15	-6.73	86.20	87.10	1.04	89.37	88.22	-1.28
GU 07-3774	93.12	95.19	2.22	88.37	78.87	-10.75	86.65	81.45	-6.00	89.38	85.17	-4.71
GU 07-2276	93.71	95.23	1.62	80.57	75.25	-6.60	79.25	86.40	9.02	84.51	85.63	1.32
CYM 07-986	93.34	94.98	1.76	81.98	73.57	-10.26	83.35	86.00	3.18	86.22	84.85	-1.59
Standards												
Check1	92.36	93.01	0.70	89.76	91.13	1.53	88.00	86.80	-1.36	90.04	90.31	0.30
Check2	93.05	94.50	1.56	93.50	90.48	-3.23	86.85	86.70	-0.17	91.13	90.56	-0.63
Check3	95.16	92.42	-2.88	94.20	91.81	-2.54	87.95	86.75	-1.36	92.44	90.33	-2.28
GM	93.79	94.23		83.08	82.92		85.55	85.69		87.47	87.62	0.16
CD	NS	NS		4.00	4.94		4.50	NS				
CV	1.56	1.92		2.35	2.89		2.58	3.13				
CD GxE	NS			2.92			3.24					

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Table 13: 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
BM 1003143	0.86	0.58	-32.56	1.19	1.43	20.17	0.66	0.72	9.09	0.90	0.91	0.74
BM 1005149	0.46	0.29	-36.96	1.08	1.03	-4.63	0.74	0.74	0.00	0.76	0.69	-9.65
BM 1009163	1.09	0.83	-23.85	0.98	1.19	21.43	0.53	0.72	35.85	0.87	0.91	5.38
BM 1010168	0.38	0.26	-31.58	0.70	0.65	-7.14	0.62	0.72	16.13	0.57	0.54	-4.12
BM 1022173	0.68	0.58	-14.71	1.13	1.49	31.86	0.68	0.77	13.24	0.83	0.95	14.06
PG 9869137	1.13	0.99	-12.39	-	-	-	0.58	0.72	24.14	0.86	0.86	0.00
SA 98-13	0.56	0.35	-37.50	1.30	1.10	-15.38	0.71	0.70	-1.41	0.86	0.72	-16.34
SA 04-454	0.61	0.48	-21.31	1.36	1.33	-2.21	0.63	0.72	14.29	0.87	0.84	-2.69
SA 04-472	1.26	1.08	-14.29	-	-	-	0.75	0.75	0.00	1.01	0.92	-8.96
SA 04-458	0.46	0.39	-15.22	1.27	1.19	-6.30	0.69	0.72	4.35	0.81	0.77	-4.96
SA 04-390	0.50	0.42	-16.00	-	-	-	0.64	0.73	14.06	0.57	0.58	0.88
SA 04-496	0.57	0.49	-14.04	0.89	0.98	10.11	0.75	0.75	0.00	0.74	0.74	0.45
SA 04-409	1.36	1.26	-7.35	1.06	1.22	15.09	0.66	0.70	6.06	1.03	1.06	3.25
AS 04-1689	0.43	0.37	-13.95	0.61	0.77	26.23	0.68	0.69	1.47	0.57	0.61	6.40
AS 04-245	0.47	0.31	-34.04	0.49	0.63	28.57	0.62	0.71	14.52	0.53	0.55	4.43
AS 04-2097	0.39	0.21	-46.15	1.21	0.95	-21.49	0.65	0.71	9.23	0.75	0.62	-16.89
AS 04-635	0.36	0.32	-11.11	0.49	0.40	-18.37	0.55	0.59	7.27	0.47	0.44	-6.43
AS 04-1687	0.93	0.76	-18.28	0.62	0.71	14.52	0.66	0.66	0.00	0.74	0.71	-3.62
MA 5/51	0.59	0.56	-5.08	1.23	1.31	6.50	0.73	0.76	4.11	0.85	0.88	3.14
MA 5/5	0.46	0.40	-13.04	0.81	1.42	75.31	0.70	0.73	4.29	0.66	0.85	29.44
MA 5/37	0.37	0.34	-8.11	1.01	1.18	16.83	0.64	0.68	6.25	0.67	0.73	8.91
MA 5/99	0.61	0.53	-13.11	0.86	0.99	15.12	0.58	0.72	24.14	0.68	0.75	9.27
MA 5/22	0.63	0.58	-7.94	1.56	1.74	11.54	0.69	0.83	20.29	0.96	1.05	9.38
GU 07-3849	0.59	0.55	-6.78	0.53	0.97	83.02	0.73	0.70	-4.11	0.62	0.74	20.00
GU 07-3774	0.36	0.27	-25.00	0.49	0.58	18.37	0.67	0.66	-1.49	0.51	0.50	-0.66
GU 07-2276	0.56	0.48	-14.29	1.00	1.15	15.00	0.68	0.75	10.29	0.75	0.79	6.25
CYM 07-986	0.42	0.30	-28.57	0.48	0.53	10.42	0.69	0.69	0.00	0.53	0.51	-4.40
Standards												
Check1	0.98	0.43	-56.12	1.49	1.24	-16.78	0.73	0.71	-2.74	1.07	0.79	-25.63
Check2	1.10	0.43	-60.91	1.29	1.26	-2.33	0.58	0.74	27.59	0.99	0.81	-18.18
Check3	1.02	0.51	-50.00	1.36	1.48	8.82	0.73	0.77	5.48	1.04	0.92	-11.25
GM	0.67	0.51		0.98	1.07		0.67	0.72		0.77	0.77	-0.76
CD	0.09	0.11		0.32	0.16		0.08	0.07				
CV	6.41	10.51		16.32	7.59		6.17	4.69				
CD GxE	0.05			0.17			0.05					

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Table 14: 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
BM 1003143	158.00	127.50	-19.30	302.75	351.65	16.15	276.85	266.80	-3.63	245.87	248.65	1.13
BM 1005149	90.50	75.50	-16.57	242.90	280.15	15.34	285.25	279.30	-2.09	206.22	211.65	2.63
BM 1009163	231.25	205.00	-11.35	273.80	382.50	39.70	324.90	315.40	-2.92	276.65	300.97	8.79
BM 1010168	125.00	93.75	-25.00	280.55	205.00	-26.93	266.50	256.45	-3.77	224.02	185.07	-17.39
BM 1022173	159.75	121.00	-24.26	305.40	314.20	2.88	281.05	281.30	0.09	248.73	238.83	-3.98
PG 9869137	182.50	133.00	-27.12	-	-	-	228.85	218.40	-4.57	205.68	175.70	-14.57
SA 98-13	144.00	77.50	-46.18	303.30	235.00	-22.52	281.65	273.60	-2.86	242.98	195.37	-19.60
SA 04-454	127.00	100.75	-20.67	318.05	270.65	-14.90	251.60	236.15	-6.14	232.22	202.52	-12.79
SA 04-472	140.50	80.00	-43.06	-	-	-	234.60	224.65	-4.24	187.55	152.33	-18.78
SA 04-458	123.00	103.75	-15.65	252.65	267.85	6.02	234.05	222.80	-4.81	203.23	198.13	-2.51
SA 04-390	128.00	104.00	-18.75	-	-	-	191.40	161.40	-15.67	159.70	132.70	-16.91
SA 04-496	146.00	121.00	-17.12	221.05	277.50	25.54	280.35	263.25	-6.10	215.80	220.58	2.22
SA 04-409	252.00	212.75	-15.58	289.25	348.30	20.41	324.80	310.55	-4.39	288.68	290.53	0.64
AS 04-1689	219.00	192.25	-12.21	257.80	284.20	10.24	357.55	354.15	-0.95	278.12	276.87	-0.45
AS 04-245	238.00	215.00	-9.66	268.15	279.20	4.12	324.90	315.10	-3.02	277.02	269.77	-2.62
AS 04-2097	205.00	160.75	-21.59	343.15	254.15	-25.94	404.65	413.75	2.25	317.60	276.22	-13.03
AS 04-635	198.00	183.75	-7.20	257.55	270.00	4.83	385.90	388.75	0.74	280.48	280.83	0.12
AS 04-1687	258.00	231.25	-10.37	266.90	277.50	3.97	362.00	368.20	1.71	295.63	292.32	-1.12
MA 5/51	156.00	132.50	-15.06	237.15	340.00	43.37	266.60	246.95	-7.37	219.92	239.82	9.05
MA 5/5	183.00	158.75	-13.25	251.80	302.50	20.14	296.55	286.60	-3.36	243.78	249.28	2.26
MA 5/37	105.00	70.25	-33.10	261.15	315.85	20.95	290.45	286.35	-1.41	218.87	224.15	2.41
MA 5/99	136.00	115.50	-15.07	260.65	311.65	19.57	241.10	223.15	-7.45	212.58	216.77	1.97
MA 5/22	146.00	102.50	-29.79	289.55	402.50	39.01	290.35	282.90	-2.57	241.97	262.63	8.54
GU 07-3849	157.50	105.75	-32.86	236.80	246.50	4.10	311.60	290.15	-6.88	235.30	214.13	-9.00
GU 07-3774	97.25	64.25	-33.93	220.15	257.50	16.97	270.30	247.95	-8.27	195.90	189.90	-3.06
GU 07-2276	182.00	152.50	-16.21	281.80	330.00	17.10	341.60	336.50	-1.49	268.47	273.00	1.69
CYM 07-986	189.00	161.25	-14.68	239.90	255.85	6.65	333.90	327.85	-1.81	254.27	248.32	-2.34
Standards												
Check1	132.00	67.50	-48.86	254.15	267.50	5.25	263.90	250.95	-4.91	216.68	195.32	-9.86
Check2	155.75	69.50	-55.38	301.90	328.35	8.76	256.75	249.65	-2.77	238.13	215.83	-9.36
Check3	163.00	106.25	-34.82	252.80	315.85	24.94	246.90	241.30	-2.27	220.90	221.13	0.11
GM	164.27	128.17		269.30	295.26		290.23	280.68		241.26	234.70	-2.72
CD	15.79	11.89		44.16	25.12		14.87	14.77				
CV	4.72	4.56		8.09	4.19		2.52	2.58				
CD GxE	6.71			23.99			NS					

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Table 15: 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
BM 1003143	2.88	2.75	-4.51	2.37	2.48	4.64	2.50	2.36	-5.60	2.58	2.53	-2.06
BM 1005149	2.46	2.32	-5.69	2.42	2.44	0.83	2.16	2.11	-2.31	2.35	2.29	-2.41
BM 1009163	2.48	2.36	-4.84	2.27	2.11	-7.05	2.35	2.36	0.43	2.37	2.28	-3.80
BM 1010168	2.46	2.33	-5.28	2.01	1.96	-2.49	2.09	2.03	-2.87	2.19	2.11	-3.66
BM 1022173	3.15	3.01	-4.44	2.54	2.41	-5.12	2.14	1.98	-7.48	2.61	2.47	-5.49
PG 9869137	3.25	3.21	-1.23	-	-	-	2.24	2.22	-0.89	2.75	2.72	-1.09
SA 98-13	2.88	2.81	-2.43	2.44	2.60	6.56	2.57	2.62	1.95	2.63	2.68	1.77
SA 04-454	2.87	2.79	-2.79	2.67	2.54	-4.87	2.62	2.57	-1.91	2.72	2.63	-3.19
SA 04-472	2.56	2.48	-3.13	-	-	-	2.34	2.29	-2.14	2.45	2.39	-2.65
SA 04-458	2.17	2.14	-1.38	2.51	2.16	-13.94	2.85	2.78	-2.46	2.51	2.36	-5.98
SA 04-390	2.56	2.47	-3.52	-	-	-	2.92	2.91	-0.34	2.74	2.69	-1.82
SA 04-496	2.32	2.26	-2.59	2.23	2.18	-2.24	2.28	2.22	-2.63	2.28	2.22	-2.49
SA 04-409	2.56	2.43	-5.08	2.31	2.48	7.36	2.31	2.36	2.16	2.39	2.42	1.25
AS 04-1689	1.63	1.63	0.00	1.83	1.82	-0.55	1.94	1.86	-4.12	1.80	1.77	-1.67
AS 04-245	1.78	1.72	-3.37	2.74	1.71	-37.59	1.58	1.57	-0.63	2.03	1.67	-18.03
AS 04-2097	1.64	1.62	-1.22	2.36	2.20	-6.78	2.57	2.57	0.00	2.19	2.13	-2.74
AS 04-635	1.70	1.66	-2.35	1.79	1.73	-3.35	2.02	2.22	9.90	1.84	1.87	1.81
AS 04-1687	2.05	1.95	-4.88	1.93	1.85	-4.15	1.97	1.87	-5.08	1.98	1.89	-4.71
MA 5/51	2.79	2.68	-3.94	2.56	2.38	-7.03	2.31	2.27	-1.73	2.55	2.44	-4.31
MA 5/5	2.25	2.17	-3.56	2.42	2.41	-0.41	2.20	2.01	-8.64	2.29	2.20	-4.08
MA 5/37	3.02	2.95	-2.32	2.32	2.41	3.88	2.33	2.40	3.00	2.56	2.59	1.17
MA 5/99	2.78	2.63	-5.40	2.22	2.24	0.90	2.42	2.37	-2.07	2.47	2.41	-2.43
MA 5/22	3.56	3.47	-2.53	2.79	2.95	5.73	2.80	2.81	0.36	3.05	3.08	0.87
GU 07-3849	1.82	1.78	-2.20	1.86	1.94	4.30	1.89	1.83	-3.17	1.86	1.85	-0.36
GU 07-3774	1.58	1.54	-2.53	1.89	1.69	-10.58	1.35	1.27	-5.93	1.61	1.50	-6.64
GU 07-2276	2.36	2.29	-2.97	2.22	2.33	4.95	2.70	2.67	-1.11	2.43	2.43	0.14
CYM 07-986	1.89	1.65	-12.70	1.94	1.81	-6.70	2.09	2.17	3.83	1.97	1.88	-4.90
Standards												
Check1	2.35	2.29	-2.55	2.85	2.77	-2.81	2.21	2.12	-4.07	2.47	2.39	-3.10
Check2	3.46	3.21	-7.23	2.52	2.55	1.19	2.24	2.12	-5.36	2.74	2.63	-4.14
Check3	2.75	2.69	-2.18	2.58	2.67	3.49	2.25	2.38	5.78	2.53	2.58	2.11
GM	2.47	2.38		2.32	2.25		2.27	2.24		2.35	2.29	-2.65
CD	0.12	0.09		0.27	0.31		0.29	0.28				
CV	2.38	1.83		5.60	6.76		6.37	6.16				
CD GxE	NS			0.19			NS					

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Table 16: 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
BM 1003143	67.33	54.17	-19.55	65.28	67.13	2.83	53.12	58.14	9.45	61.91	59.81	-3.39
BM 1005149	35.67	19.10	-46.45	72.69	68.52	-5.74	51.40	48.25	-6.13	53.25	45.29	-14.95
BM 1009163	78.12	67.71	-13.33	82.87	82.41	-0.56	71.07	68.39	-3.77	77.35	72.84	-5.84
BM 1010168	55.84	37.85	-32.22	86.11	54.63	-36.56	51.70	47.37	-8.38	64.55	46.62	-27.78
BM 1022173	62.93	37.15	-40.97	76.85	69.91	-9.03	91.76	92.42	0.72	77.18	66.49	-13.85
PG 9869137	73.61	58.33	-20.76	-	-	-	76.41	67.13	-12.15	75.01	62.73	-16.37
SA 98-13	42.89	25.00	-41.71	68.06	39.35	-42.18	34.61	31.76	-8.23	48.52	32.04	-33.97
SA 04-454	45.99	36.46	-20.72	60.19	43.06	-28.46	41.81	37.15	-11.15	49.33	38.89	-21.16
SA 04-472	46.17	35.07	-24.04	-	-	-	42.95	39.21	-8.71	44.56	37.14	-16.65
SA 04-458	63.93	56.25	-12.01	67.59	53.70	-20.55	58.70	38.10	-35.09	63.41	49.35	-22.17
SA 04-390	39.27	33.33	-15.13	-	-	-	23.21	20.45	-11.89	31.24	26.89	-13.92
SA 04-496	63.28	59.03	-6.72	63.43	62.04	-2.19	57.86	51.10	-11.68	61.52	57.39	-6.72
SA 04-409	42.71	31.60	-26.01	57.87	56.48	-2.40	52.99	46.72	-11.83	51.19	44.93	-12.22
AS 04-1689	126.84	89.93	-29.10	100.46	128.24	27.65	135.25	132.44	-2.08	120.85	116.87	-3.29
AS 04-245	85.41	70.49	-17.47	119.91	81.02	-32.43	96.83	91.40	-5.61	100.72	80.97	-19.61
AS 04-2097	136.20	117.36	-13.83	81.02	81.02	0.00	81.17	78.75	-2.98	99.46	92.38	-7.12
AS 04-635	118.36	107.64	-9.06	104.63	117.59	12.39	136.10	129.83	-4.61	119.70	118.35	-1.12
AS 04-1687	101.97	89.58	-12.15	121.76	116.67	-4.18	110.10	113.93	3.48	111.28	106.73	-4.09
MA 5/51	48.24	34.03	-29.46	74.07	50.00	-32.50	41.71	38.56	-7.55	54.67	40.86	-25.26
MA 5/5	62.57	45.49	-27.30	69.91	65.74	-5.96	57.10	51.09	-10.53	63.19	54.11	-14.38
MA 5/37	23.18	12.15	-47.58	56.48	45.37	-19.67	53.95	43.98	-18.48	44.54	33.83	-24.03
MA 5/99	107.52	104.51	-2.80	80.56	50.46	-37.36	21.80	18.35	-15.83	69.96	57.77	-17.42
MA 5/22	38.42	36.11	-6.01	65.28	50.00	-23.41	47.90	38.25	-20.15	50.53	41.45	-17.97
GU 07-3849	54.81	47.92	-12.57	71.76	89.35	24.51	91.30	87.77	-3.87	72.62	75.01	3.29
GU 07-3774	49.81	47.22	-5.20	103.24	109.26	5.83	137.50	127.98	-6.92	96.85	94.82	-2.10
GU 07-2276	83.61	75.69	-9.47	81.02	75.93	-6.28	77.75	76.48	-1.63	80.79	76.03	-5.89
CYM 07-986	92.18	85.42	-7.33	77.32	82.41	6.58	85.75	85.85	0.12	85.08	84.56	-0.62
Standards												
Check1	26.03	13.89	-46.64	58.33	53.70	-7.94	72.47	73.89	1.96	52.28	47.16	-9.79
Check2	78.86	61.11	-22.51	81.48	67.13	-17.61	82.35	83.51	1.41	80.90	70.58	-12.75
Check3	46.28	25.69	-44.49	64.81	75.46	16.43	53.60	33.55	-37.41	54.90	44.90	-18.21
GM	66.60	53.84		78.26	71.73		69.67	65.06		71.51	63.54	-11.14
CD	8.21	8.36		10.77	20.87		17.08	16.40				
CV	6.06	7.63		6.77	14.44		12.04	12.38				
CD GxE	5.97			13.57			NS					

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Table 17: 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
BM 1003143	21.19	20.65	-2.55	18.90	20.80	10.05	21.10	14.25	-32.46	20.40	18.57	-8.97
BM 1005149	18.69	18.15	-2.89	20.00	20.65	3.25	20.70	13.25	-35.99	19.80	17.35	-12.36
BM 1009163	22.94	22.65	-1.26	17.75	18.35	3.38	20.80	17.30	-16.83	20.50	19.43	-5.19
BM 1010168	18.19	16.64	-8.52	16.90	12.90	-23.67	18.10	12.75	-29.56	17.73	14.10	-20.49
BM 1022173	19.19	18.14	-5.47	15.35	18.90	23.13	20.00	15.20	-24.00	18.18	17.41	-4.22
PG 9869137	19.69	19.15	-2.74	-	-	-	22.20	18.10	-18.47	20.95	18.63	-11.08
SA 98-13	20.94	20.15	-3.77	20.45	20.55	0.49	16.10	14.00	-13.04	19.16	18.23	-4.85
SA 04-454	22.69	22.15	-2.38	14.70	13.80	-6.12	19.20	15.55	-19.01	18.86	17.17	-8.99
SA 04-472	20.19	19.40	-3.91	-	-	-	21.00	19.30	-8.10	20.60	19.35	-6.05
SA 04-458	20.94	19.65	-6.16	16.50	19.35	17.27	18.70	10.50	-43.85	18.71	16.50	-11.83
SA 04-390	21.69	21.15	-2.49	-	-	-	20.50	14.00	-31.71	21.10	17.58	-16.69
SA 04-496	22.19	21.65	-2.43	20.50	19.45	-5.12	22.10	18.60	-15.84	21.60	19.90	-7.86
SA 04-409	22.94	22.90	-0.17	17.45	19.55	12.03	22.95	17.10	-25.49	21.11	19.85	-5.98
AS 04-1689	16.69	15.65	-6.23	13.00	13.60	4.62	15.50	15.50	0.00	15.06	14.92	-0.97
AS 04-245	19.69	17.90	-9.09	14.45	12.65	-12.46	17.60	15.50	-11.93	17.25	15.35	-11.00
AS 04-2097	19.19	17.14	-10.68	13.30	14.35	7.89	16.75	15.40	-8.06	16.41	15.63	-4.77
AS 04-635	17.69	16.12	-8.88	17.25	13.75	-20.29	17.50	15.60	-10.86	17.48	15.16	-13.29
AS 04-1687	17.44	15.37	-11.87	15.05	15.95	5.98	16.70	14.80	-11.38	16.40	15.37	-6.24
MA 5/51	18.94	17.62	-6.97	16.10	17.35	7.76	18.60	14.00	-24.73	17.88	16.32	-8.71
MA 5/5	21.94	21.15	-3.60	18.10	19.00	4.97	20.20	13.85	-31.44	20.08	18.00	-10.36
MA 5/37	21.69	21.15	-2.49	17.35	17.75	2.31	18.10	14.70	-18.78	19.05	17.87	-6.20
MA 5/99	21.44	20.40	-4.85	18.05	18.25	1.11	20.10	18.30	-8.96	19.86	18.98	-4.43
MA 5/22	20.94	19.65	-6.16	18.10	17.95	-0.83	20.90	15.60	-25.36	19.98	17.73	-11.24
GU 07-3849	21.19	20.65	-2.55	14.05	19.70	40.21	19.00	14.05	-26.05	18.08	18.13	0.29
GU 07-3774	20.94	19.90	-4.97	15.55	15.30	-1.61	17.10	15.10	-11.70	17.86	16.77	-6.14
GU 07-2276	16.94	15.87	-6.32	15.05	14.95	-0.66	17.50	15.10	-13.71	16.50	15.31	-7.21
CYM 07-986	19.69	19.15	-2.74	16.55	14.20	-14.20	17.20	16.50	-4.07	17.81	16.62	-6.72
Standards												
Check1	23.19	22.40	-3.41	20.80	19.85	-4.57	20.90	16.20	-22.49	21.63	19.48	-9.92
Check2	21.19	20.65	-2.55	21.05	21.05	0.00	20.55	18.10	-11.92	20.93	19.93	-4.76
Check3	21.69	21.15	-2.49	22.00	21.45	-2.50	15.55	15.15	-2.57	19.75	19.25	-2.52
GM	20.40	19.48		17.20	17.46		19.11	15.45		18.90	17.46	-7.62
CD	0.78	1.11		1.80	1.00		1.84	1.70				
CV	1.87	2.79		5.11	2.78		4.73	5.40				
CD GxE	NS			1.20			1.24					

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Table 18: 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
BM 1003143	19.72	19.03	-3.50	17.34	19.62	13.15	18.03	12.07	-33.06	18.36	16.91	-7.93
BM 1005149	17.59	16.95	-3.64	18.45	19.83	7.48	18.13	10.77	-40.60	18.06	15.85	-12.22
BM 1009163	20.46	20.94	2.35	15.35	17.68	15.18	18.22	14.93	-18.06	18.01	17.85	-0.89
BM 1010168	17.03	15.63	-8.22	14.88	9.95	-33.13	15.85	9.75	-38.49	15.92	11.78	-26.03
BM 1022173	17.96	17.00	-5.35	12.53	17.67	41.02	17.73	12.46	-29.72	16.07	15.71	-2.26
PG 9869137	18.52	17.90	-3.35	-	-	-	18.62	15.80	-15.15	18.57	16.85	-9.26
SA 98-13	19.40	17.88	-7.84	18.41	20.10	9.18	13.79	11.33	-17.84	17.20	16.44	-4.44
SA 04-454	21.08	20.43	-3.08	12.15	12.52	3.05	17.01	13.42	-21.11	16.75	15.46	-7.70
SA 04-472	19.00	18.00	-5.26	-	-	-	18.15	17.08	-5.90	18.58	17.54	-5.57
SA 04-458	19.45	18.26	-6.12	14.43	18.16	25.85	16.62	8.13	-51.08	16.83	14.85	-11.78
SA 04-390	20.19	18.02	-10.75	-	-	-	18.17	11.63	-35.99	19.18	14.83	-22.71
SA 04-496	20.71	20.16	-2.66	17.39	17.29	-0.58	18.52	16.21	-12.47	18.87	17.89	-5.23
SA 04-409	21.18	20.92	-1.23	14.48	18.66	28.87	18.78	14.91	-20.61	18.15	18.16	0.09
AS 04-1689	15.88	14.66	-7.68	9.55	10.17	6.49	13.28	13.03	-1.88	12.90	12.62	-2.20
AS 04-245	18.53	17.02	-8.15	10.01	10.23	2.20	15.15	12.71	-16.11	14.56	13.32	-8.54
AS 04-2097	17.93	16.00	-10.76	10.62	11.15	4.99	14.65	13.11	-10.51	14.40	13.42	-6.81
AS 04-635	16.65	14.90	-10.51	13.46	12.38	-8.02	15.20	13.37	-12.04	15.10	13.55	-10.28
AS 04-1687	16.21	14.30	-11.78	11.33	13.17	16.24	14.32	12.37	-13.62	13.95	13.28	-4.83
MA 5/51	17.64	16.55	-6.18	13.66	15.39	12.66	16.19	11.43	-29.40	15.83	14.46	-8.68
MA 5/5	20.27	19.70	-2.81	15.39	17.53	13.91	17.93	11.08	-38.20	17.86	16.10	-9.85
MA 5/37	20.13	19.69	-2.19	14.98	16.38	9.35	15.76	13.09	-16.94	16.96	16.39	-3.36
MA 5/99	19.80	18.96	-4.24	15.92	17.28	8.54	17.99	16.08	-10.62	17.90	17.44	-2.59
MA 5/22	19.62	18.43	-6.07	16.59	16.86	1.63	18.28	13.53	-25.98	18.16	16.27	-10.41
GU 07-3849	19.77	19.32	-2.28	11.19	18.05	61.30	16.71	11.88	-28.90	15.89	16.42	3.31
GU 07-3774	19.20	18.89	-1.61	13.48	13.25	-1.71	14.80	12.60	-14.86	15.83	14.91	-5.77
GU 07-2276	15.72	15.05	-4.26	11.92	12.77	7.13	14.99	12.36	-17.55	14.21	13.39	-5.75
CYM 07-986	18.59	17.94	-3.50	13.69	12.66	-7.52	15.08	12.41	-17.71	15.79	14.34	-9.18
Standards												
Check1	21.46	20.50	-4.47	19.52	19.02	-2.56	18.28	13.88	-24.07	19.75	17.80	-9.89
Check2	19.86	19.19	-3.37	19.83	20.49	3.33	18.22	15.76	-13.50	19.30	18.48	-4.27
Check3	20.08	19.30	-3.88	20.63	20.60	-0.15	13.69	12.87	-5.99	18.13	17.59	-3.00
GM	18.99	18.05		14.71	15.88		16.60	13.00		16.77	15.65	-6.69
CD	0.84	1.15		2.22	1.06		1.61	1.71				
CV	2.17	3.14		7.33	3.21		4.76	6.46				
CD GxE	NS			1.42			1.17					

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Table 19: 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
BM 1003143	93.03	92.17	-0.92	91.58	94.31	2.98	85.45	84.60	-0.99	90.02	90.36	0.38
BM 1005149	94.14	93.35	-0.84	51.68	96.03	85.82	87.60	78.55	-10.33	77.81	89.31	14.78
BM 1009163	89.17	92.46	3.69	86.45	96.35	11.45	87.70	80.90	-7.75	87.77	89.90	2.43
BM 1010168	93.57	93.95	0.41	88.02	77.09	-12.42	87.50	80.65	-7.83	89.70	83.90	-6.47
BM 1022173	93.55	93.80	0.27	81.47	93.41	14.66	88.35	81.75	-7.47	87.79	89.65	2.12
PG 9869137	94.07	93.44	-0.67	-	-	-	83.85	87.20	4.00	88.96	90.32	1.53
SA 98-13	92.69	88.89	-4.10	90.00	97.84	8.71	85.65	80.60	-5.90	89.45	89.11	-0.38
SA 04-454	92.90	92.23	-0.72	82.40	90.73	10.11	88.55	86.30	-2.54	87.95	89.75	2.05
SA 04-472	94.08	92.78	-1.38	-	-	-	86.60	88.45	2.14	90.34	90.62	0.30
SA 04-458	92.89	92.92	0.03	87.42	93.87	7.38	88.80	83.90	-5.52	89.70	90.23	0.59
SA 04-390	93.09	85.27	-8.40	-	-	-	88.15	82.95	-5.90	90.62	84.11	-7.18
SA 04-496	93.32	93.11	-0.23	84.82	88.91	4.82	84.56	87.10	3.00	87.57	89.71	2.44
SA 04-409	92.31	91.36	-1.03	82.59	95.45	15.57	81.85	87.15	6.48	85.58	91.32	6.70
AS 04-1689	95.14	93.66	-1.56	73.46	74.74	1.74	85.65	84.05	-1.87	84.75	84.15	-0.71
AS 04-245	94.13	95.08	1.01	69.25	80.89	16.81	85.95	85.20	-0.87	83.11	87.06	4.75
AS 04-2097	93.40	93.44	0.04	79.85	77.83	-2.53	87.45	85.10	-2.69	86.90	85.46	-1.66
AS 04-635	94.11	92.40	-1.82	78.04	90.00	15.33	86.85	85.70	-1.32	86.33	89.37	3.51
AS 04-1687	92.93	93.04	0.12	75.25	82.53	9.67	86.20	83.50	-3.13	84.79	86.36	1.84
MA 5/51	93.14	93.91	0.83	84.34	88.70	5.17	87.50	81.60	-6.74	88.33	88.07	-0.29
MA 5/5	92.39	93.14	0.81	85.03	92.21	8.44	88.80	79.25	-10.75	88.74	88.20	-0.61
MA 5/37	92.83	93.09	0.28	86.10	92.35	7.26	87.05	86.05	-1.15	88.66	90.50	2.07
MA 5/99	92.33	92.96	0.68	88.20	94.63	7.29	89.00	86.29	-3.04	89.84	91.29	1.61
MA 5/22	93.70	93.81	0.12	91.67	93.97	2.51	87.45	86.80	-0.74	90.94	91.53	0.65
GU 07-3849	93.27	93.55	0.30	78.83	91.65	16.26	87.95	82.45	-6.25	86.68	89.22	2.92
GU 07-3774	91.69	94.93	3.53	86.73	86.58	-0.17	86.50	83.95	-2.95	88.31	88.49	0.20
GU 07-2276	92.80	94.78	2.13	79.18	85.37	7.82	85.60	81.70	-4.56	85.86	87.28	1.66
CYM 07-986	94.40	93.64	-0.81	82.71	89.11	7.74	87.70	82.45	-5.99	88.27	88.40	0.15
Standards												
Check1	92.53	91.49	-1.12	93.85	95.80	2.08	87.35	85.70	-1.89	91.24	91.00	-0.27
Check2	93.70	92.93	-0.82	94.21	97.32	3.30	88.65	87.05	-1.80	92.19	92.43	0.27
Check3	92.59	91.27	-1.43	93.77	96.02	2.40	88.05	84.90	-3.58	91.47	90.73	-0.81
GM	93.13	92.76		83.22	90.14		86.94	84.06		87.76	88.99	1.39
CD	NS	NS		NS	5.27		3.09	4.82				
CV	1.38	2.51		10.72	2.85		1.75	2.82				
CD GxE	NS			9.40			2.71					

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Table 20: 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
BM 1003143				16.00	18.00	12.50	13.10	12.85	-1.91	14.55	15.43	6.01
BM 1005149				16.00	16.40	2.50	12.80	12.33	-3.67	14.40	14.37	-0.24
BM 1009163				20.60	22.20	7.77	12.55	12.23	-2.55	16.58	17.22	3.86
BM 1010168				16.00	17.40	8.75	11.93	12.53	5.03	13.97	14.97	7.16
BM 1022173				16.20	17.60	8.64	12.70	13.23	4.17	14.45	15.42	6.68
PG 9869137				-	-	-	12.41	12.15	-2.10	12.41	12.15	-2.10
SA 98-13				15.00	16.40	9.33	11.45	12.03	5.07	13.23	14.22	7.49
SA 04-454				15.60	14.80	-5.13	11.53	12.20	5.81	13.57	13.50	-0.48
SA 04-472				-	-	-	12.38	12.05	-2.67	12.38	12.05	-2.67
SA 04-458				18.00	18.20	1.11	12.26	12.10	-1.31	15.13	15.15	0.13
SA 04-390				-	-	-	11.86	12.15	2.45	11.86	12.15	2.45
SA 04-496				17.20	21.40	24.42	11.63	12.18	4.73	14.42	16.79	16.48
SA 04-409				16.20	17.40	7.41	12.32	12.33	0.08	14.26	14.87	4.24
AS 04-1689				19.00	21.80	14.74	12.38	13.03	5.25	15.69	17.42	10.99
AS 04-245				19.00	25.40	33.68	12.50	12.88	3.04	15.75	19.14	21.52
AS 04-2097				17.40	18.80	8.05	12.58	13.23	5.17	14.99	16.02	6.84
AS 04-635				21.60	22.80	5.56	12.75	13.40	5.10	17.18	18.10	5.39
AS 04-1687				20.20	25.20	24.75	12.10	11.85	-2.07	16.15	18.53	14.71
MA 5/51				19.00	21.00	10.53	11.45	11.83	3.32	15.23	16.42	7.82
MA 5/5				15.20	19.40	27.63	11.49	12.25	6.61	13.35	15.83	18.58
MA 5/37				15.40	15.60	1.30	11.48	12.23	6.53	13.44	13.92	3.53
MA 5/99				14.00	17.20	22.86	12.24	11.90	-2.78	13.12	14.55	10.90
MA 5/22				16.60	18.40	10.84	11.39	11.68	2.55	14.00	15.04	7.47
GU 07-3849				19.40	23.80	22.68	13.80	13.50	-2.17	16.60	18.65	12.35
GU 07-3774				19.60	20.60	5.10	13.41	13.10	-2.31	16.51	16.85	2.09
GU 07-2276				16.00	18.40	15.00	12.41	12.68	2.18	14.21	15.54	9.40
CYM 07-986				16.60	20.80	25.30	12.91	12.95	0.31	14.76	16.88	14.37
Standards												
Check1				17.60	18.40	4.55	12.38	12.15	-1.86	14.99	15.28	1.90
Check2				15.00	16.20	8.00	12.20	12.20	0.00	13.60	14.20	4.41
Check3				15.80	17.20	8.86	12.46	12.20	-2.09	14.13	14.70	4.03
GM				17.19	19.29		12.30	12.45		14.74	15.87	7.63
CD				2.60	1.71		0.88	0.26				
CV				7.51	4.39		3.50	1.02				
CD GxE				1.43			NS					

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Table 21: 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
BM 1003143	57.97	31.67	-45.37				34.36	38.11	10.91	46.17	34.89	-24.42
BM 1005149	16.99	5.71	-66.39				41.41	37.37	-9.76	29.20	21.54	-26.23
BM 1009163	85.16	56.70	-33.42				38.38	52.25	36.14	61.77	54.48	-11.81
BM 1010168	21.43	9.84	-54.08				35.62	37.46	5.17	28.53	23.65	-17.09
BM 1022173	42.92	21.32	-50.33				64.53	59.21	-8.24	53.73	40.27	-25.05
PG 9869137	83.81	58.11	-30.66				44.27	46.44	4.90	64.04	52.28	-18.37
SA 98-13	24.15	9.06	-62.48				24.47	19.55	-20.11	24.31	14.31	-41.16
SA 04-454	28.79	17.72	-38.45				28.85	23.49	-18.58	28.82	20.61	-28.50
SA 04-472	59.18	39.75	-32.83				37.67	27.63	-26.65	48.43	33.69	-30.43
SA 04-458	29.16	22.42	-23.11				40.17	38.69	-3.68	34.67	30.56	-11.86
SA 04-390	20.03	14.23	-28.96				14.80	12.78	-13.65	17.42	13.51	-22.45
SA 04-496	36.76	28.99	-21.14				41.90	39.24	-6.35	39.33	34.12	-13.26
SA 04-409	57.47	40.61	-29.34				38.06	33.38	-12.30	47.77	37.00	-22.55
AS 04-1689	55.35	34.65	-37.40				91.40	90.54	-0.94	73.38	62.60	-14.69
AS 04-245	42.20	23.14	-45.17				63.01	77.51	23.01	52.61	50.33	-4.33
AS 04-2097	54.79	25.59	-53.29				53.70	52.25	-2.70	54.25	38.92	-28.25
AS 04-635	42.13	34.48	-18.16				74.42	85.51	14.90	58.28	60.00	2.95
AS 04-1687	95.45	69.99	-26.67				72.13	69.35	-3.85	83.79	69.67	-16.85
MA 5/51	28.99	19.36	-33.22				30.26	25.70	-15.07	29.63	22.53	-23.95
MA 5/5	28.93	18.31	-36.71				45.70	38.23	-16.35	37.32	28.27	-24.24
MA 5/37	8.63	4.13	-52.14				38.01	29.99	-21.10	23.32	17.06	-26.84
MA 5/99	66.49	55.28	-16.86				12.44	11.34	-8.84	39.47	33.31	-15.60
MA 5/22	24.19	21.16	-12.53				36.57	34.83	-4.76	30.38	28.00	-7.85
GU 07-3849	32.65	26.67	-18.32				64.52	59.28	-8.12	48.59	42.98	-11.55
GU 07-3774	18.13	13.03	-28.13				92.20	80.63	-12.55	55.17	46.83	-15.11
GU 07-2276	46.78	36.72	-21.50				55.91	54.07	-3.29	51.35	45.40	-11.59
CYM 07-986	39.07	26.83	-31.33				57.67	54.25	-5.93	48.37	40.54	-16.19
Standards												
Check1	25.96	6.19	-76.16				52.97	46.34	-12.52	39.47	26.27	-33.45
Check2	87.20	27.36	-68.62				40.60	57.79	42.34	63.90	42.58	-33.37
Check3	48.27	13.38	-72.28				39.19	35.94	-8.29	43.73	24.66	-43.61
GM	43.63	27.08					46.84	45.64		45.24	36.36	-19.63
CD	9.23	8.35					10.88	9.09				
CV	10.39	15.14					11.41	9.78				
CD GxE	6.08						NS					

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Table 22: 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
BM 1003143	8.11	4.25	-47.60	13.50	17.53	29.85	4.29	3.13	-27.04	8.63	8.30	-3.82
BM 1005149	2.13	0.69	-67.61	11.09	16.92	52.57	4.70	2.67	-43.19	5.97	6.76	13.17
BM 1009163	12.41	8.39	-32.39	11.62	15.66	34.77	4.61	5.16	11.93	9.55	9.74	1.99
BM 1010168	2.60	1.10	-57.69	8.31	4.80	-42.24	3.43	2.38	-30.61	4.78	2.76	-42.26
BM 1022173	5.48	2.58	-52.92	8.56	15.05	75.82	7.69	5.06	-34.20	7.24	7.56	4.42
PG 9869137	11.05	7.37	-33.30	-	-	-	5.56	5.04	-9.35	8.31	6.21	-25.29
SA 98-13	3.31	1.13	-65.86	12.76	9.33	-26.88	2.24	1.46	-34.82	6.10	3.97	-34.90
SA 04-454	4.30	2.56	-40.47	6.29	6.07	-3.50	2.97	2.16	-27.27	4.52	3.60	-20.43
SA 04-472	8.03	5.05	-37.11	-	-	-	4.01	3.26	-18.70	6.02	4.16	-30.98
SA 04-458	4.01	2.90	-27.68	8.79	11.43	30.03	4.64	2.03	-56.25	5.81	5.45	-6.19
SA 04-390	2.90	1.97	-32.07	-	-	-	1.85	0.99	-46.49	2.38	1.48	-37.68
SA 04-496	5.42	4.14	-23.62	9.87	11.12	12.66	4.90	4.38	-10.61	6.73	6.55	-2.72
SA 04-409	8.59	5.95	-30.73	7.98	12.14	52.13	4.34	3.42	-21.20	6.97	7.17	2.87
AS 04-1689	6.29	3.61	-42.61	7.99	10.85	35.79	8.28	7.97	-3.74	7.52	7.48	-0.58
AS 04-245	5.56	2.83	-49.10	7.38	7.28	-1.36	6.20	6.94	11.94	6.38	5.68	-10.92
AS 04-2097	6.86	2.92	-57.43	7.94	8.77	10.45	5.26	4.64	-11.79	6.69	5.44	-18.59
AS 04-635	4.99	3.64	-27.05	9.96	13.61	36.65	7.73	7.79	0.78	7.56	8.35	10.41
AS 04-1687	10.96	7.10	-35.22	7.48	14.70	96.52	6.99	5.77	-17.45	8.48	9.19	8.42
MA 5/51	3.63	2.28	-37.19	9.29	7.81	-15.93	3.36	1.97	-41.37	5.43	4.02	-25.92
MA 5/5	4.14	2.55	-38.41	9.09	15.18	67.00	5.90	2.91	-50.68	6.38	6.88	7.89
MA 5/37	1.25	0.58	-53.60	6.58	6.21	-5.62	3.68	2.74	-25.54	3.84	3.18	-17.20
MA 5/99	9.31	7.43	-20.19	10.67	9.65	-9.56	1.56	1.26	-19.23	7.18	6.11	-14.86
MA 5/22	3.37	2.77	-17.80	12.00	10.50	-12.50	4.01	3.22	-19.70	6.46	5.50	-14.91
GU 07-3849	4.58	3.66	-20.09	4.38	17.26	294.06	7.54	4.76	-36.87	5.50	8.56	55.64
GU 07-3774	2.45	1.77	-27.76	10.06	10.53	4.67	8.93	6.83	-23.52	7.15	6.38	-10.77
GU 07-2276	5.20	3.98	-23.46	8.58	11.16	30.07	5.64	4.42	-21.63	6.47	6.52	0.72
CYM 07-986	5.18	3.42	-33.98	6.56	7.23	10.21	6.14	4.26	-30.62	5.96	4.97	-16.61
Standards												
Check1	3.94	0.89	-77.41	14.91	9.99	-33.00	6.70	4.38	-34.63	8.52	5.09	-40.27
Check2	12.31	3.72	-69.78	14.98	16.75	11.82	5.62	6.25	11.21	10.97	8.91	-18.81
Check3	6.94	1.81	-73.92	17.99	18.42	2.39	3.71	3.10	-16.44	9.55	7.78	-18.54
GM	5.84	3.43		9.80	11.70		5.08	4.01		6.91	6.38	-7.61
CD	1.41	1.14		2.71	2.54		1.64	1.00				
CV	11.82	16.33		13.74	10.65		15.86	12.22				
CD GxE	0.88			1.95			0.93					

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Table 23: Commercial Cane Sugar % at 300 and 360 days (Kolhapur) and Cane fibre % at 300 days (Pusa)

Entry	Kolhapur						Pusa		
	Commercial Cane Sugar % at 300 days			Commercial Cane Sugar % at 360 days			Cane fibre % at 300 days		
	Normal	Water logging	% change	Normal	Water logging	% change	Normal	Water logging	% change
BM 1003143	12.49	12.48	-0.08	13.96	13.42	-3.87	13.00	12.86	-1.08
BM 1005149	10.90	10.56	-3.12	12.52	12.02	-3.99	12.90	12.95	0.39
BM 1009163	13.75	13.34	-2.98	14.21	14.79	4.08	12.69	12.00	-5.44
BM 1010168	10.21	9.95	-2.55	12.09	11.11	-8.11	12.02	12.34	2.66
BM 1022173	12.54	11.82	-5.74	12.75	12.07	-5.33	12.50	13.40	7.20
PG 9869137	12.33	11.56	-6.24	13.18	12.70	-3.64	12.60	12.23	-2.94
SA 98-13	13.82	13.67	-1.09	13.72	12.39	-9.69	11.68	11.86	1.54
SA 04-454	13.98	13.10	-6.29	14.92	14.42	-3.35	11.85	12.33	4.05
SA 04-472	14.42	13.96	-3.19	13.52	12.74	-5.77	12.53	12.27	-2.08
SA 04-458	13.49	12.84	-4.82	13.76	12.92	-6.10	12.45	11.87	-4.66
SA 04-390	13.75	13.24	-3.71	14.30	12.25	-14.34	12.10	12.26	1.32
SA 04-496	14.00	13.28	-5.14	14.69	14.28	-2.79	11.67	12.28	5.23
SA 04-409	14.84	14.79	-0.34	14.95	14.70	-1.67	12.38	12.03	-2.83
AS 04-1689	10.57	10.02	-5.20	11.35	10.41	-8.28	12.13	13.70	12.94
AS 04-245	11.59	11.36	-1.98	13.19	12.17	-7.73	12.75	13.32	4.47
AS 04-2097	11.89	11.37	-4.37	12.72	11.35	-10.77	12.65	13.13	3.79
AS 04-635	10.86	9.87	-9.12	11.85	10.52	-11.22	12.70	13.60	7.09
AS 04-1687	11.83	11.38	-3.80	11.47	10.13	-11.68	12.33	11.60	-5.92
MA 5/51	12.22	11.37	-6.96	12.50	11.77	-5.84	11.50	11.72	1.91
MA 5/5	14.00	13.08	-6.57	14.31	13.96	-2.45	11.70	12.33	5.38
MA 5/37	13.08	11.59	-11.39	14.24	13.95	-2.04	-	-	-
MA 5/99	13.02	12.37	-4.99	13.97	13.42	-3.94	12.30	11.67	-5.12
MA 5/22	13.09	12.48	-4.66	13.94	13.10	-6.03	11.33	12.70	12.09
GU 07-3849	13.66	13.12	-3.95	14.01	13.71	-2.14	14.05	14.10	0.36
GU 07-3774	12.42	11.91	-4.11	13.51	13.50	-0.07	13.35	12.98	-2.77
GU 07-2276	10.53	9.53	-9.50	11.12	10.75	-3.33	12.60	13.20	4.76
CYM 07-986	12.46	12.22	-1.93	13.25	12.74	-3.85	12.85	13.05	1.56
Standards									
Check 1	14.55	14.15	-2.75	15.16	14.41	-4.95	12.63	11.90	-5.78
Check 2	13.39	13.13	-1.94	14.11	13.58	-3.76	12.35	12.63	2.27
Check 3	13.83	13.21	-4.48	14.19	13.55	-4.51	12.58	12.01	-4.53
GM	12.78	12.23		13.45	12.76		12.39	14.24	
CD	0.00	0.64		0.69	1.01		0.96	NS	
CV(%)	0.01	2.58		2.54	3.89		3.80	91.07	
CD GxE	NS			NS			NS		

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Table 24: Leaf area (m²) at 150, 180, 210 days and Aerial root (Pusa center)

Pusa	Leaf area at 150 days			Leaf area at 180 days			Leaf area at 210 days			Aerial root	
	Normal	Water logging	% change	Normal	Water logging	% change	Normal	Water logging	% change	Normal	Water logging
BM 1003143	2322.50	2098.50	-9.64	2714.00	2408.00	-11.27	3175.50	2665.00	-16.08	0.00	3.00
BM 1005149	1400.50	2551.00	82.15	1838.00	2867.50	56.01	2196.50	3147.50	43.30	0.00	3.00
BM 1009163	2351.50	3697.50	57.24	2697.00	4332.00	60.62	3168.00	4858.50	53.36	0.50	3.00
BM 1010168	1430.00	2182.00	52.59	1766.00	2637.50	49.35	2245.50	2900.50	29.17	0.50	3.00
BM 1022173	2882.00	2146.50	-25.52	3393.00	2544.50	-25.01	3818.00	3000.00	-21.42	1.00	3.50
PG 9869137	4680.00	2709.00	-42.12	5121.00	3194.00	-37.63	5279.50	3695.00	-30.01	1.00	3.50
SA 98-13	3301.00	1832.50	-44.49	3637.50	2070.50	-43.08	4002.50	2165.00	-45.91	0.00	2.50
SA 04-454	1586.00	2215.50	39.69	2046.00	2420.00	18.28	2417.50	2434.50	0.70	0.00	3.50
SA 04-472	2896.00	5213.00	80.01	3406.00	5577.00	63.74	3762.50	5814.50	54.54	0.00	2.50
SA 04-458	3715.50	3477.00	-6.42	4159.50	3801.50	-8.61	4434.00	4178.50	-5.76	0.00	0.50
SA 04-390	2807.50	2714.00	-3.33	3199.50	2731.00	-14.64	3653.50	2605.00	-28.70	0.00	2.50
SA 04-496	2804.50	4186.00	49.26	3280.50	4223.00	28.73	3554.00	4268.50	20.10	0.00	2.50
SA 04-409	2011.00	2477.00	23.17	2392.50	2720.50	13.71	2832.50	2787.50	-1.59	0.00	2.50
AS 04-1689	3514.00	2700.00	-23.16	3855.00	3112.00	-19.27	4194.50	3698.00	-11.84	3.00	7.00
AS 04-245	1847.00	2183.00	18.19	2210.00	2797.50	26.58	2598.00	3447.50	32.70	3.50	8.50
AS 04-2097	1994.50	2075.00	4.04	2423.50	2673.00	10.30	2836.00	3452.50	21.74	3.00	7.50
AS 04-635	1332.00	1136.50	-14.68	1619.00	1529.00	-5.56	1954.50	1853.00	-5.19	3.50	7.50
AS 04-1687	2496.00	2089.50	-16.29	2815.50	2501.00	-11.17	3287.50	3128.00	-4.85	3.00	8.50
MA 5/51	4123.50	2275.00	-44.83	4473.50	2480.50	-44.55	4830.50	2475.00	-48.76	2.00	3.00
MA 5/5	2060.50	2764.50	34.17	2488.00	2883.50	15.90	2913.00	2973.50	2.08	0.00	2.50
MA 5/37	2096.50	3300.50	57.43	2527.50	3568.00	41.17	2860.50	3573.50	24.93	0.00	3.00
MA 5/99	2503.00	2800.50	11.89	2803.50	3044.50	8.60	3220.00	3214.00	-0.19	0.00	2.50
MA 5/22	1777.50	2931.50	64.92	2217.00	3148.00	41.99	2624.50	3077.00	17.24	0.00	0.00
GU 07-3849	2579.00	1299.50	-49.61	3075.00	1664.00	-45.89	3500.50	1965.00	-43.87	2.00	5.00
GU 07-3774	2380.50	2062.50	-13.36	2656.50	2666.00	0.36	3058.00	3352.00	9.61	1.50	6.00
GU 07-2276	1787.50	2229.00	24.70	2235.00	2760.50	23.51	2629.50	3356.00	27.63	2.00	5.50
CYM 07-986	1753.00	1200.50	-31.52	2132.50	1611.00	-24.45	2539.50	2193.50	-13.62	1.00	6.00
Standards											
Check 1	2882.00	2239.50	-22.29	3152.50	2630.00	-16.57	3471.50	3200.00	-7.82	2.00	5.00
Check 2	4353.50	3183.50	-26.87	4763.50	3828.50	-19.63	5184.50	4648.50	-10.34	4.00	7.50
Check 3	984.50	1970.50	100.15	1348.50	1985.50	47.24	1724.00	1726.00	0.12	0.00	3.00
GM	2488.40	2531.40	1.73	2881.60	2880.30	-0.04	3265.50	3195.10	-2.16	1.12	4.12
CD	197.58	1232.42		165.48	1032.89		250.62	981.34		1.11	1.31
CV(%)	3.90	23.91		2.82	17.61		3.77	15.09		48.63	15.62
CD GxE	583.33			490.21			484.57			0.92	

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Table 25: Single Cane Weight (Kg) at 150, 180 and 210 days (Kolhapur center)

Kolhapur Entry	Single cane weight at 150 days			Single cane weight at 180 days			Single cane weight at 210 days		
	Normal	Water logging	% change	Normal	Water logging	% change	Normal	Water logging	% change
BM 1003143	0.65	0.35	-46.15	0.68	0.42	-38.24	0.76	0.46	-39.47
BM 1005149	0.31	0.27	-12.90	0.33	0.27	-18.18	0.36	0.28	-22.22
BM 1009163	0.81	0.65	-19.75	0.87	0.63	-27.59	0.98	0.72	-26.53
BM 1010168	0.22	0.23	4.55	0.26	0.22	-15.38	0.28	0.25	-10.71
BM 1022173	0.51	0.37	-27.45	0.53	0.44	-16.98	0.58	0.48	-17.24
PG 9869137	0.90	0.64	-28.89	0.94	0.81	-13.83	1.02	0.85	-16.67
SA 98-13	0.39	0.23	-41.03	0.42	0.28	-33.33	0.48	0.30	-37.50
SA 04-454	0.44	0.35	-20.45	0.48	0.41	-14.58	0.52	0.43	-17.31
SA 04-472	0.99	0.86	-13.13	1.06	0.95	-10.38	1.15	0.98	-14.78
SA 04-458	0.29	0.18	-37.93	0.32	0.26	-18.75	0.36	0.28	-22.22
SA 04-390	0.32	0.26	-18.75	0.36	0.33	-8.33	0.42	0.35	-16.67
SA 04-496	0.30	0.23	-23.33	0.32	0.39	21.88	0.48	0.43	-10.42
SA 04-409	1.01	0.65	-35.64	1.06	0.95	-10.38	1.11	1.10	-0.90
AS 04-1689	0.30	0.25	-16.67	0.31	0.33	6.45	0.36	0.38	5.56
AS 04-245	0.30	0.18	-40.00	0.33	0.23	-30.30	0.38	0.25	-34.21
AS 04-2097	0.24	0.15	-37.50	0.27	0.18	-33.33	0.31	0.20	-35.48
AS 04-635	0.22	0.17	-22.73	0.25	0.22	-12.00	0.27	0.25	-7.41
AS 04-1687	0.69	0.55	-20.29	0.72	0.68	-5.56	0.83	0.70	-15.66
MA 5/51	0.40	0.38	-5.00	0.43	0.48	11.63	0.52	0.52	0.00
MA 5/5	0.31	0.27	-12.90	0.33	0.35	6.06	0.38	0.38	0.00
MA 5/37	0.22	0.17	-22.73	0.23	0.22	-4.35	0.27	0.25	-7.41
MA 5/99	0.45	0.33	-26.67	0.46	0.41	-10.87	0.52	0.45	-13.46
MA 5/22	0.41	0.35	-14.63	0.42	0.47	11.90	0.51	0.51	0.00
GU 07-3849	0.40	0.38	-5.00	0.42	0.42	0.00	0.48	0.48	0.00
GU 07-3774	0.21	0.24	14.29	0.25	0.25	0.00	0.27	0.27	0.00
GU 07-2276	0.41	0.33	-19.51	0.43	0.40	-6.98	0.48	0.41	-14.58
CYM 07-986	0.29	0.12	-58.62	0.31	0.18	-41.94	0.37	0.20	-45.95
Standards									
Check 1	0.71	0.20	-71.83	0.78	0.27	-65.38	0.86	0.33	-61.63
Check 2	0.79	0.24	-69.62	0.83	0.27	-67.47	0.93	0.31	-66.67
Check 3	0.75	0.37	-50.67	0.81	0.42	-48.15	0.87	0.48	-44.83
GM	0.47	0.33	-30.13	0.51	0.40	-20.18	0.57	0.44	-22.38
CD	0.10	0.09		0.09	0.13		0.12	0.10	
CV(%)	10.37	12.81		8.87	16.01		10.73	10.67	
CD GxE	0.07			0.07			0.07		

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Table 26: Cane length (cm) at 150, 180 and 210 days (Kolhapur center)

Kolhapur Entry	Cane length at 150 days			Cane length at 180 days			Cane length at 210 days		
	Normal	Water logging	% change	Normal	Water logging	% change	Normal	Water logging	% change
BM 1003143	144.00	102.00	-29.17	145.00	110.00	-24.14	147.00	115.00	-21.77
BM 1005149	82.00	61.00	-25.61	83.00	68.00	-18.07	84.00	71.00	-15.48
BM 1009163	198.00	153.00	-22.73	202.00	168.00	-16.83	208.00	174.00	-16.35
BM 1010168	114.00	72.00	-36.84	115.00	78.00	-32.17	117.00	85.00	-27.35
BM 1022173	142.00	97.00	-31.69	144.00	107.00	-25.69	148.00	112.00	-24.32
PG 9869137	161.00	112.00	-30.43	164.00	118.00	-28.05	168.00	124.00	-26.19
SA 98-13	132.00	68.00	-48.48	133.00	71.00	-46.62	134.00	73.00	-45.52
SA 04-454	118.00	85.00	-27.97	119.00	87.00	-26.89	121.00	93.00	-23.14
SA 04-472	130.00	68.00	-47.69	130.00	73.00	-43.85	131.00	76.00	-41.98
SA 04-458	116.00	86.00	-25.86	116.00	92.00	-20.69	117.00	94.00	-19.66
SA 04-390	116.00	85.00	-26.72	117.00	91.00	-22.22	110.00	93.00	-15.45
SA 04-496	126.00	83.00	-34.13	128.00	93.00	-27.34	132.00	110.00	-16.67
SA 04-409	205.00	168.00	-18.05	207.00	176.00	-14.98	215.00	187.00	-13.02
AS 04-1689	184.00	169.00	-8.15	187.00	174.00	-6.95	193.00	180.00	-6.74
AS 04-245	206.00	182.00	-11.65	209.00	188.00	-10.05	214.00	194.00	-9.35
AS 04-2097	182.00	138.00	-24.18	184.00	142.00	-22.83	188.00	148.00	-21.28
AS 04-635	171.00	98.00	-42.69	125.00	154.00	23.20	181.00	168.00	-7.18
AS 04-1687	208.00	200.00	-3.85	213.00	207.00	-2.82	225.00	215.00	-4.44
MA 5/51	137.00	114.00	-16.79	138.00	121.00	-12.32	142.00	124.00	-12.68
MA 5/5	161.00	123.00	-23.60	163.00	131.00	-19.63	168.00	138.00	-17.86
MA 5/37	94.00	60.00	-36.17	95.00	62.00	-34.74	97.00	64.00	-34.02
MA 5/99	121.00	93.00	-23.14	122.00	98.00	-19.67	125.00	105.00	-16.00
MA 5/22	130.00	90.00	-30.77	132.00	95.00	-28.03	136.00	98.00	-27.94
GU 07-3849	137.00	94.00	-31.39	141.00	96.00	-31.91	147.00	97.00	-34.01
GU 07-3774	89.00	50.00	-43.82	89.00	55.00	-38.20	91.00	58.00	-36.26
GU 07-2276	162.00	129.00	-20.37	162.00	138.00	-14.81	171.00	144.00	-15.79
CYM 07-986	161.00	135.00	-16.15	164.00	141.00	-14.02	168.00	145.00	-13.69
Standards									
Check 1	117.00	59.00	-49.57	119.00	63.00	-47.06	121.00	65.00	-46.28
Check 2	135.00	63.00	-53.33	137.00	66.00	-51.82	142.00	68.00	-52.11
Check 3	139.00	88.00	-36.69	141.00	95.00	-32.62	145.00	98.00	-32.41
GM	143.93	104.17	-27.63	144.13	111.93	-22.34	149.53	117.20	-21.62
CD	13.33	30.60		26.55	12.57		11.90	10.95	
CV(%)	4.55	14.43		9.05	5.51		3.91	4.59	
CD GxE	16.00			13.71			0.07		

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Table 27: Cane Diameter at 150, 180 and 210 days (Kolhapur center)

Kolhapur Entry	Cane diameter at 150 days			Cane diameter at 180 days			Cane diameter at 210 days		
	Normal	Water logging	% change	Normal	Water logging	% change	Normal	Water logging	% change
BM 1003143	2.79	2.58	-7.53	2.79	2.62	-6.09	2.81	2.65	-5.69
BM 1005149	2.35	2.28	-2.98	2.36	2.30	-2.54	2.37	2.32	-2.11
BM 1009163	2.37	2.29	-3.38	2.38	2.27	-4.62	2.42	2.29	-5.37
BM 1010168	2.36	2.25	-4.66	2.37	2.27	-4.22	2.40	2.31	-3.75
BM 1022173	3.06	2.91	-4.90	3.07	2.94	-4.23	3.09	3.00	-2.91
PG 9869137	3.17	3.09	-2.52	3.18	3.18	0.00	3.20	3.21	0.31
SA 98-13	2.80	2.61	-6.79	2.80	2.68	-4.29	2.81	2.72	-3.20
SA 04-454	2.76	2.61	-5.43	2.76	2.68	-2.90	2.77	2.72	-1.81
SA 04-472	2.42	2.33	-3.72	2.43	2.36	-2.88	2.48	2.38	-4.03
SA 04-458	2.08	2.07	-0.48	2.09	2.12	1.44	2.11	2.14	1.42
SA 04-390	2.52	2.42	-3.97	2.52	2.43	-3.57	2.53	2.48	-1.98
SA 04-496	2.23	2.02	-9.42	2.24	2.15	-4.02	2.26	2.19	-3.10
SA 04-409	2.43	2.31	-4.94	2.45	2.37	-3.27	2.47	2.41	-2.43
AS 04-1689	1.60	1.63	1.87	1.61	1.64	1.86	1.63	1.66	1.84
AS 04-245	1.75	1.70	-2.86	1.75	1.73	-1.14	1.76	1.72	-2.27
AS 04-2097	1.57	1.52	-3.18	1.57	1.55	-1.27	1.58	1.58	0.00
AS 04-635	1.64	1.48	-9.76	1.65	1.51	-8.48	1.66	1.55	-6.63
AS 04-1687	1.94	1.89	-2.58	1.95	1.94	-0.51	1.97	1.98	0.51
MA 5/51	2.66	2.62	-1.50	2.66	2.69	1.13	2.68	2.68	0.00
MA 5/5	2.15	2.10	-2.33	2.16	2.14	-0.93	2.20	2.18	-0.91
MA 5/37	2.91	2.90	-0.34	2.93	2.97	1.37	2.95	2.98	1.02
MA 5/99	2.65	2.58	-2.64	2.66	2.61	-1.88	2.67	2.64	-1.12
MA 5/22	3.30	3.31	0.30	3.32	3.31	-0.30	3.38	3.38	0.00
GU 07-3849	1.74	1.70	-2.30	1.75	1.73	-1.14	1.77	1.74	-1.69
GU 07-3774	1.52	1.48	-2.63	1.52	1.52	0.00	1.53	1.54	0.65
GU 07-2276	2.31	2.25	-2.60	2.30	2.27	-1.30	2.32	2.28	-1.72
CYM 07-986	1.74	1.49	-14.37	1.75	1.55	-11.43	1.78	1.58	-11.24
Standards									
Check 1	2.28	2.23	-2.19	2.29	2.26	-1.31	2.36	2.28	-3.39
Check 2	3.39	3.09	-8.85	3.39	3.12	-7.96	3.40	3.15	-7.35
Check 3	2.61	2.58	-1.15	2.62	2.61	-0.38	2.65	2.63	-0.75
GM	2.37	2.28	-3.91	2.38	2.32	-2.52	2.40	2.35	-2.28
CD	0.09	0.10		0.09	0.08		0.07	0.08	
CV(%)	1.84	2.16		1.78	1.69		1.50	1.71	
CD GxE		0.06			0.05			0.05	

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Table 28: Internode length (cm) at 150, 180 and 210 days (Kolhapur center)

Kolhapur	Internode length at 150 days			Internode length at 180 days			Internode length at 210 days		
	Normal	Water logging	% change	Normal	Water logging	% change	Normal	Water logging	% change
BM 1003143	12.00	10.50	-12.50	12.50	10.50	-16.00	13.00	11.00	-15.38
BM 1005149	10.50	10.50	0.00	11.00	11.00	0.00	12.50	12.00	-4.00
BM 1009163	14.00	11.00	-21.43	15.00	12.00	-20.00	16.00	14.00	-12.50
BM 1010168	10.00	8.00	-20.00	10.50	8.50	-19.05	12.00	10.75	-10.42
BM 1022173	10.00	7.00	-30.00	10.00	8.00	-20.00	11.00	10.00	-9.09
PG 9869137	12.00	11.00	-8.33	13.00	11.50	-11.54	13.50	12.25	-9.26
SA 98-13	9.00	9.00	0.00	10.00	9.25	-7.50	10.50	9.75	-7.14
SA 04-454	12.00	10.00	-16.67	13.00	11.00	-15.38	14.00	12.00	-14.29
SA 04-472	11.00	10.00	-9.09	12.50	10.00	-20.00	14.50	13.00	-10.34
SA 04-458	11.00	9.00	-18.18	11.50	9.50	-17.39	12.50	11.25	-10.00
SA 04-390	14.50	12.00	-17.24	15.00	13.00	-13.33	17.00	14.00	-17.65
SA 04-496	12.00	11.00	-8.33	12.50	12.00	-4.00	13.00	12.00	-7.69
SA 04-409	15.00	13.00	-13.33	15.50	13.50	-12.90	17.00	14.75	-13.24
AS 04-1689	13.50	12.00	-11.11	14.00	13.00	-7.14	15.00	13.50	-10.00
AS 04-245	13.50	11.50	-14.81	14.00	12.00	-14.29	14.50	13.75	-5.17
AS 04-2097	12.00	11.00	-8.33	13.00	12.50	-3.85	14.00	13.50	-3.57
AS 04-635	13.00	11.00	-15.38	14.00	12.50	-10.71	14.50	13.75	-5.17
AS 04-1687	15.50	12.00	-22.58	16.50	13.50	-18.18	18.00	14.75	-18.06
MA 5/51	11.50	10.00	-13.04	12.00	11.00	-8.33	13.00	12.00	-7.69
MA 5/5	13.50	11.50	-14.81	14.00	12.00	-14.29	15.50	14.00	-9.68
MA 5/37	9.00	8.50	-5.56	10.00	9.00	-10.00	11.00	10.00	-9.09
MA 5/99	14.00	11.00	-21.43	14.00	12.00	-14.29	15.50	14.00	-9.68
MA 5/22	7.00	7.00	0.00	8.00	7.50	-6.25	9.00	8.00	-11.11
GU 07-3849	16.00	12.50	-21.88	17.00	14.00	-17.65	19.00	16.50	-13.16
GU 07-3774	8.00	8.00	0.00	9.00	8.00	-11.11	11.00	10.00	-9.09
GU 07-2276	12.50	11.00	-12.00	13.00	12.00	-7.69	14.50	13.00	-10.34
CYM 07-986	13.00	11.00	-15.38	14.00	12.00	-14.29	15.00	13.25	-11.67
Standards									
Check 1	7.50	7.50	0.00	8.00	8.00	0.00	10.00	9.00	-10.00
Check 2	9.50	8.00	-15.79	10.00	8.00	-20.00	11.50	10.50	-8.70
Check 3	11.00	10.50	-4.55	12.00	11.00	-8.33	13.50	12.00	-11.11
GM	11.77	10.20	-13.31	12.48	10.93	-12.48	13.70	12.28	-10.40
CD	3.27	2.34		3.00	2.52		2.99	1.89	
CV(%)	13.64	11.25		11.79	11.32		10.71	7.55	
CD GxE	NS			NS			NS		

Table 29: List of clones in each traits showing less than five percent reduction under water logged condition

Traits	Number of entries	Clones showing <5% reduction
Shoot count at 180 days ('000/ha)	3	SA 04-496, SA 04-409, MA 5/5
Shoot count at 210 days ('000/ha)	1	MA 5/5
Single cane weight (Kg) at 300 days	17	BM 1003143, BM 1009163, BM 1022173, SA 04-496, SA 04-409, AS 04-1689, AS 04-245, 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
Cane length (cm) at 300 days	15	BM 1005149 , BM 1009163, SA 04-458, SA 04-496, AS 04-245, AS 04-635, AS 04-1687, MA 5/51, MA 5/37, MA 5/99, MA 5/22, GU 07-3849, GU 07-3774, GU 07-2276, CYM 07-986
Cane diameter (cm) at 300 days	23	BM 1003143, BM 1005149 , BM 1010168, BM 1022173, PG 9869137, SA 98-13, SA 04-454, SA 04-472, SA 04-390, SA 04-496, SA 04-409, AS 04-1689, 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
Number of millable canes ('000/ha) at 300 days	4	SA 04-496, AS 04-635, GU 07-3849, GU 07-3774
Brix % at 300 days	16	BM 1003143, BM 1005149 , BM 1009163, BM 1010168, PG 9869137, SA 04-458, SA 04-409, AS 04-1689, AS 04-2097, AS 04-1687, MA 5/5, MA 5/37, MA 5/99, MA 5/22, GU 07-3849, GU 07-2276
Sucrose % at 300 days	15	BM 1005149 , BM 1009163, BM 1010168, SA 04-458, SA 04-496, SA 04-409, AS 04-1689, AS 04-2097, AS 04-1687, MA 5/5, MA 5/37, MA 5/99, MA 5/22, GU 07-3849, GU 07-2276
CCS % at 300 days	17	BM 1003143, BM 1005149 , BM 1009163, BM 1010168, SA 98-13, SA 04-472, SA 04-458, SA 04-390, SA 04-409, AS 04-245, AS 04-2097, AS 04-1687, MA 5/99, MA 5/22, GU 07-3849, GU 07-3774, CYM 07-986
Purity % at 300 days	27	BM 1003143, BM 1005149 , BM 1009163, BM 1010168, BM 1022173, PG 9869137, SA 98-13, SA 04-454, SA 04-472, 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, CYM 07-986
Fibre % at 300 days	24	BM 1003143, BM 1005149 , BM 1010168, BM 1022173, PG 9869137, SA 98-13, SA 04-454, SA 04-472, SA 04-458, SA 04-390, SA 04-496, SA 04-409, AS 04-1689, AS 04-245, AS 04-2097, AS 04-635, MA

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		5/51, MA 5/5, MA 5/37, MA 5/22, GU 07-3849, GU 07-3774, GU 07-2276, CYM 07-986
Single cane weight at 360 days	22	BM 1003143, BM 1009163, BM 1010168, BM 1022173, PG 9869137, SA 04-454, SA 04-458, SA 04-390, SA 04-496, SA 04-409, AS 04-1689, AS 04-245, 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, CYM 07-986
Cane length (cm) at 360 days	19	BM 1003143, BM 1005149 , BM 1009163, BM 1022173, SA 04-458, SA 04-496, SA 04-409, AS 04-1689, AS 04-245, AS 04-635, AS 04-1687, MA 5/51, MA 5/5, MA 5/37, MA 5/99, MA 5/22, GU 07-3774, GU 07-2276, CYM 07-986
Cane diameter (cm) 360 days	23	BM 1003143, BM 1005149 , BM 1009163, BM 1010168, PG 9869137, SA 98-13, SA 04-454, SA 04-472, SA 04-390, SA 04-496, SA 04-409, AS 04-1689, 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 07-2276, CYM 07-986
Number of millable canes ('000/ha) at 360 days	7	BM 1003143, AS 04-1689, AS 04-635, AS 04-1687, GU 07-3849, GU 07-3774, CYM 07-986
Juice Brix % at 360 days	6	BM 1022173, SA 98-13, AS 04-1689, AS 04-2097, MA 5/99, GU 07-3849
Juice sucrose % at 360 days	9	BM 1009163, BM 1022173, SA 98-13, SA 04-409, AS 04-1689, AS 04-1687, MA 5/37, MA 5/99, GU 07-3849
CCS % at 360 days	14	BM 1003143, BM 1005149 , BM 1009163, PG 9869137, SA 04-454, SA 04-496, SA 04-409, MA 5/5, MA 5/37, MA 5/99, GU 07-3849, GU 07-3774, GU 07-2276, CYM 07-986
Juice purity % at 360 days	25	BM 1003143, BM 1005149 , BM 1009163, BM 1022173, PG 9869137, SA 98-13, SA 04-454, SA 04-472, SA 04-458, 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, CYM 07-986
Cane fibre % at 360 days	27	BM 1003143, BM 1005149 , BM 1009163, BM 1010168, BM 1022173, PG 9869137, SA 98-13, SA 04-454, SA 04-472, 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, CYM 07-986
Cane yield (t/ha) at 360 days*	3	AS 04-245, AS 04-635, MA 5/22
CCS t/ha	12	BM 1003143, BM 1005149 , BM 1009163, BM 1022173, SA 04-496, SA 04-409, AS 04-1689, AS 04-635, AS 04-1687, MA 5/5, GU 07-3849, GU 07-2276
Leaf area (m ²) at 180 days	2	AS 04-635, GU 07-3774
Leaf area (m ²) at 210 days	6	SA 04-454, SA 04-409, AS 04-635, AS 04-1687, MA 5/5, MA 5/99

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Single cane weight (Kg) at 180 days	5	AS 04-1689, MA 5/51, MA 5/5, GU 07-3849, GU 07-3774
Single cane weight (kg) at 210 days	7	SA 04-409, AS 04-1689, MA 5/51, MA 5/5, MA 5/22, GU 07-3849, GU 07-3774
Cane length (cm) at 180 days	1	AS 04-1689
Cane length (cm) at 210 days	1	AS 04-1689
Cane diameter (cm) at 180 days	24	BM 1005149, BM 1009163, BM 1010168, BM 1022173, PG 9869137, SA 98-13, SA 04-454, SA 04-472, SA 04-458, SA 04-390, SA 04-496, SA 04-409, AS 04-1689, AS 04-245, AS 04-2097, 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
Cane diameter (cm) at 210 days	23	BM 1005149, BM 1010168, BM 1022173, PG 9869137, SA 98-13, SA 04-454, SA 04-472, SA 04-458, SA 04-390, SA 04-496, SA 04-409, AS 04-1689, AS 04-245, AS 04-2097, 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
Inter node length (cm) at 180 days	3	BM 1005149, SA 04-496, AS 04-2097
Inter node length (cm) at 210 days	4	BM 1005149, AS 04-245, AS 04-2097, AS 04-635

*less than 10% reduction

ANNEXURE - I

Table 1: Germination (%), Tillers at 120 days ('000/ha), Shoots at 180 days ('000/ha) and Juice Brix % at 300 days under normal and waterlogged conditions at Motipur centre

Entry	Germination (%)			Tillers at 120 days ('000/ha)			Shoots at 180 days ('000/ha)			Juice Brix % at 300 days		
	Normal	Water logging	% change	Normal	Water logging	% change	Normal	Water logging	% change	Normal	Water logging	% change
BM 1003143	35.05	32.74	-6.59	103.60	163.25	57.58	76.77	98.03	27.69	16.99	16.31	-4.00
BM 1005149	20.83	21.81	4.70	143.00	96.01	-32.86	111.32	74.38	-33.18	17.17	16.26	-5.30
BM 1009163	22.29	28.27	26.83	103.56	155.34	50.00	96.49	132.11	36.92	15.41	14.04	-8.89
BM 1010168	24.65	26.25	6.49	96.66	67.07	-30.61	91.57	58.49	-36.13	15.59	13.74	-11.87
BM 1022173	37.70	32.87	-12.81	95.47	104.50	9.46	91.61	78.60	-14.20	12.03	12.54	4.24
PG 9869137	14.24	18.98	33.29	93.63	87.24	-6.82	52.26	78.81	50.80	16.38	14.84	-9.40
SA 98-13	44.14	39.90	-9.61	169.10	81.22	-51.97	98.20	69.88	-28.84	15.83	16.16	2.08
SA 04-454	16.32	20.84	27.70	91.86	158.50	72.55	77.24	78.62	1.79	19.22	17.06	-11.24
SA 04-472	30.00	28.50	-5.00	110.54	50.14	-54.64	113.77	48.40	-57.46	12.31	12.79	3.90
SA 04-458	25.57	24.09	-5.79	103.31	97.25	-5.87	89.01	78.83	-11.44	18.19	14.94	-17.87
SA 04-390	18.71	19.71	5.34	100.01	78.51	-21.50	67.43	53.09	-21.27	17.69	15.14	-14.41
SA 04-496	17.12	18.12	5.84	166.09	79.55	-52.10	98.77	70.30	-28.82	16.74	15.34	-8.36
SA 04-409	35.41	33.64	-5.00	160.02	66.10	-58.69	90.50	61.17	-32.41	16.37	17.48	6.78
AS 04-1689	38.61	35.03	-9.27	169.79	192.18	13.19	114.99	168.94	46.92	13.71	11.98	-12.62
AS 04-245	14.70	19.29	31.22	161.38	91.99	-43.00	97.99	92.68	-5.42	16.74	15.24	-8.96
AS 04-2097	33.68	32.80	-2.61	132.70	111.87	-15.70	99.88	97.83	-2.05	16.31	16.40	0.55
AS 04-635	47.91	39.36	-17.85	93.77	159.91	70.53	87.63	119.31	36.15	14.31	14.44	0.91
AS 04-1687	12.42	13.42	8.05	90.65	127.00	40.10	88.49	108.29	22.38	18.69	12.43	-33.49
MA 5/51	25.48	21.50	-15.62	62.90	88.80	41.18	61.98	76.37	23.22	15.71	15.54	-1.08
MA 5/5	28.19	29.17	3.48	100.83	196.89	95.27	81.58	130.93	60.49	16.01	14.14	-11.68
MA 5/37	38.21	36.51	-4.45	109.81	89.06	-18.90	113.31	71.40	-36.99	16.79	15.36	-8.52
MA 5/99	32.43	26.63	-17.88	92.90	82.15	-11.57	103.57	61.34	-40.77	17.10	15.94	-6.78
MA 5/22	24.30	22.80	-6.17	110.34	108.93	-1.28	96.26	95.36	-0.93	15.36	13.54	-11.85
GU 07-3849	37.64	39.78	5.69	114.04	115.98	1.70	92.63	99.33	7.23	17.19	13.64	-20.65
GU 07-3774	17.36	17.10	-1.50	89.81	94.05	4.72	92.83	82.87	-10.73	12.29	13.24	7.73
GU 07-2276	37.15	33.83	-8.94	143.16	132.20	-7.66	115.48	115.91	0.37	11.93	15.64	31.10
CYM 07-986	37.75	36.41	-3.55	137.80	142.30	3.27	110.24	118.99	7.94	13.04	15.04	15.34
Standards												
Check 1	41.05	35.21	-14.23	81.17	127.21	56.72	105.29	94.93	-9.84	14.79	16.86	14.00
Check 2	11.46	29.62	158.46	37.33	92.58	148.00	52.21	82.93	58.84	16.29	16.37	0.49
Check 3	33.46	39.31	17.48	51.87	84.66	63.22	69.39	76.44	10.16	15.21	16.26	6.90
GM	28.46	28.45	-0.04	110.57	110.75	0.16	91.29	89.15	-2.34	15.71	14.96	-4.81
CD at 5 %	10.27	5.95		42.67	31.85		27.64	22.62		1.88	1.68	
CV(%)	17.72	10.28		18.95	14.13		14.87	12.46		5.89	5.51	
CD GxE	NS			25.81			16.45			1.16		

Varietal Improvement Programme- AICRP (Sugarcane)
 Principal Investigator's Report (2016-17)
 Evaluation and identification of climate resilient ISH and IGH genetic stocks

Table 2: Juice sucrose (%) at 300 days, Cane height (cm) at harvest and Cane diameter (cm) at harvest under normal and waterlogged conditions at Motipur centre

Entry	Juice sucrose (%) at 300 days			Cane height (cm) at harvest			Cane diameter (cm) at harvest		
	Normal	Water logging	% change	Normal	Water logging	% change	Normal	Water logging	% change
BM 1003143	14.99	14.50	-3.27	312.50	300.00	-4.00	2.35	2.15	-8.51
BM 1005149	16.08	14.94	-7.09	290.00	260.00	-10.34	1.95	1.70	-12.82
BM 1009163	13.59	12.00	-11.70	290.00	295.00	1.72	2.35	2.15	-8.51
BM 1010168	13.75	11.65	-15.27	330.00	305.00	-7.58	2.65	2.25	-15.09
BM 1022173	10.55	12.11	14.79	295.00	305.00	3.39	2.30	1.95	-15.22
PG 9869137	14.50	12.96	-10.62	262.50	235.00	-10.48	2.10	2.00	-4.76
SA 98-13	14.52	14.74	1.52	340.00	275.00	-19.12	2.20	2.00	-9.09
SA 04-454	15.78	15.35	-2.72	255.00	230.00	-9.80	2.00	2.05	2.50
SA 04-472	11.17	11.64	4.21	295.00	275.00	-6.78	2.55	2.15	-15.69
SA 04-458	13.79	13.31	-3.48	295.00	240.00	-18.64	2.05	1.95	-4.88
SA 04-390	14.98	13.39	-10.61	255.00	215.00	-15.69	2.30	2.15	-6.52
SA 04-496	14.33	13.05	-8.93	265.00	225.00	-15.09	2.00	1.75	-12.50
SA 04-409	13.82	15.47	11.94	328.00	295.00	-10.06	1.95	1.95	0.00
AS 04-1689	12.10	10.69	-11.65	255.00	280.00	9.80	1.80	1.55	-13.89
AS 04-245	15.96	13.39	-16.10	245.00	215.00	-12.24	2.20	2.05	-6.82
AS 04-2097	13.02	16.29	25.12	295.00	250.00	-15.25	2.00	1.80	-10.00
AS 04-635	12.66	12.12	-4.27	245.00	315.00	28.57	2.00	1.95	-2.50
AS 04-1687	11.17	11.48	2.78	255.00	230.00	-9.80	1.90	1.85	-2.63
MA 5/51	14.22	13.94	-1.97	335.00	305.00	-8.96	2.30	2.30	0.00
MA 5/5	12.56	12.78	1.75	302.50	302.50	0.00	2.20	2.05	-6.82
MA 5/37	15.38	14.38	-6.50	267.50	250.00	-6.54	2.25	1.95	-13.33
MA 5/99	14.43	14.28	-1.04	315.00	300.00	-4.76	2.40	2.05	-14.58
MA 5/22	15.11	11.89	-21.31	245.00	245.00	0.00	2.50	2.05	-18.00
GU 07-3849	16.04	11.53	-28.12	265.00	215.00	-18.87	2.00	1.90	-5.00
GU 07-3774	10.93	11.75	7.50	247.50	220.00	-11.11	1.90	1.95	2.63
GU 07-2276	9.73	13.88	42.65	337.50	310.00	-8.15	2.25	2.05	-8.89
CYM 07-986	10.06	13.02	29.42	305.00	300.00	-1.64	1.85	1.80	-2.70
Standards									
Check 1	13.88	15.35	10.59	280.00	262.50	-6.25	2.15	2.15	0.00
Check 2	14.27	14.94	4.70	275.00	245.00	-10.91	1.85	1.95	5.41
Check 3	12.99	15.03	15.70	240.00	252.50	5.21	2.00	2.20	10.00
GM	13.55	13.40	-1.11	284.10	265.08	-6.69	2.14	1.99	-7.00
CD at 5 %	3.32	1.60		21.04	30.62		0.37	0.32	
CV(%)	12.05	5.87		3.64	5.67		8.45	7.93	
CD GxE	1.70			18.05			NS		

Table 3: Number of millable canes at harvest, Single cane weight (kg) at harvest, Juice Brix % at harvest and Juice sucrose % at harvest under normal and water logged conditions at Motipur centre

Entry	NMC at harvest ('000/ha)			Single cane weight (kg) at harvest			Juice Brix % at harvest			Juice sucrose % at harvest		
	Normal	Water logging	% change	Normal	Water logging	% change	Normal	Water logging	% change	Normal	Water logging	% change
BM 1003143	68.78	67.31	-2.14	2.05	1.90	-7.32	17.84	19.57	9.70	16.05	17.29	7.73
BM 1005149	103.94	66.10	-36.41	0.90	0.75	-16.67	18.68	19.77	5.84	16.01	17.46	9.06
BM 1009163	86.25	82.30	-4.58	1.40	1.15	-17.86	16.91	14.62	-13.54	14.86	12.98	-12.65
BM 1010168	85.23	53.34	-37.42	2.00	1.85	-7.50	16.59	18.15	9.40	13.59	16.02	17.88
BM 1022173	80.89	69.34	-14.28	0.95	0.85	-10.53	14.53	15.62	7.50	11.35	14.19	25.02
PG 9869137	41.54	74.12	78.43	1.45	0.95	-34.48	16.89	17.87	5.80	15.27	16.21	6.16
SA 98-13	87.92	65.21	-25.83	2.05	2.00	-2.44	13.33	19.47	46.06	12.29	17.95	46.05
SA 04-454	80.52	72.77	-9.62	1.00	1.00	0.00	20.22	20.17	-0.25	17.01	17.70	4.06
SA 04-472	96.70	41.98	-56.59	1.30	1.00	-23.08	15.51	16.70	7.67	12.88	15.14	17.55
SA 04-458	76.46	71.62	-6.33	0.75	0.75	0.00	18.69	19.27	3.10	16.39	16.82	2.62
SA 04-390	52.74	37.13	-29.60	0.95	0.95	0.00	17.19	19.57	13.85	13.89	17.34	24.84
SA 04-496	88.15	53.71	-39.07	0.75	0.95	26.67	19.24	19.92	3.53	16.63	17.34	4.27
SA 04-409	97.21	53.91	-44.54	0.95	0.65	-31.58	17.36	18.10	4.26	14.90	16.15	8.39
AS 04-1689	97.98	128.72	31.37	0.60	0.95	58.33	15.41	15.42	0.06	11.96	13.44	12.37
AS 04-245	70.15	77.88	11.02	1.05	1.05	0.00	16.74	18.17	8.54	14.75	16.50	11.86
AS 04-2097	92.10	65.37	-29.02	1.10	0.75	-31.82	14.81	18.65	25.93	12.75	16.72	31.14
AS 04-635	86.37	103.23	19.52	1.30	0.70	-46.15	16.31	16.81	3.07	14.27	15.39	7.85
AS 04-1687	82.79	96.66	16.75	1.00	0.85	-15.00	17.19	18.05	5.00	13.44	16.00	19.05
MA 5/51	52.82	71.76	35.86	1.30	1.15	-11.54	15.91	16.30	2.45	14.09	14.63	3.83
MA 5/5	78.09	112.76	44.40	1.25	1.00	-20.00	17.01	16.40	-3.59	15.68	15.39	-1.85
MA 5/37	96.90	62.12	-35.89	1.60	0.75	-53.13	15.88	18.40	15.87	14.75	17.12	16.07
MA 5/99	88.11	53.30	-39.51	1.00	1.05	5.00	17.60	17.05	-3.13	16.35	15.27	-6.61
MA 5/22	65.01	83.75	28.83	1.60	1.25	-21.88	16.15	18.56	14.92	14.22	16.92	18.99
GU 07-3849	89.82	88.62	-1.34	0.50	0.50	0.00	16.69	16.70	0.06	14.97	15.43	3.07
GU 07-3774	84.37	72.24	-14.38	0.85	0.55	-35.29	15.38	14.77	-3.97	12.70	13.73	8.11
GU 07-2276	98.89	86.85	-12.18	1.10	1.00	-9.09	13.93	19.60	40.70	11.67	16.64	42.59
CYM 07-986	92.80	103.06	11.06	0.95	0.85	-10.53	14.54	20.17	38.72	12.92	17.66	36.69
Standards												
Check1	86.01	76.36	-11.22	1.95	1.50	-23.08	16.89	20.07	18.83	14.68	17.78	21.12
Check2	41.05	75.26	83.34	0.90	1.85	105.56	17.09	18.57	8.66	15.65	16.59	6.01
Check3	62.81	67.26	7.08	1.30	1.80	38.46	17.78	13.37	-24.80	15.06	11.40	-24.30
GM	80.41	74.47		1.20	1.08		16.61	17.86		14.37	15.97	
CD	16.64	15.16			0.27	0.39	1.81	2.41		1.77	1.90	
CV	10.16	10.00			12.14	15.89	5.35	6.62		6.06	5.84	
CD GxE	10.55			0.22			1.39			1.20		

Table 4: Purity % at harvest, Cane yield (t/ha) at harvest, CCS % at harvest and CCS t/ha at harvest under normal and water logged conditions at Motipur centre

Entry	Purity % at harvest			Cane yield (t/ha) at harvest			CCS t/ha at harvest		
	Normal	Water logging	% change	Normal	Water logging	% change	Normal	Water logging	% change
BM 1003143	89.98	88.35	-1.81	53.32	81.21	52.31	5.97	9.71	62.65
BM 1005149	85.77	88.33	2.98	80.66	56.66	-29.75	8.79	6.84	-22.18
BM 1009163	87.88	88.73	0.97	66.67	79.21	18.81	6.84	7.12	4.09
BM 1010168	82.37	88.19	7.07	67.87	82.27	21.22	6.16	9.08	47.40
BM 1022173	77.91	90.84	16.60	59.78	55.16	-7.73	4.41	5.50	24.72
PG 9869137	90.40	90.69	0.32	34.33	71.86	109.32	3.66	8.14	122.40
SA 98-13	92.23	92.12	-0.12	76.42	71.82	-6.02	6.65	9.14	37.44
SA 04-454	84.12	87.75	4.32	65.98	68.29	3.50	7.59	8.35	10.01
SA 04-472	83.18	90.70	9.04	81.75	40.27	-50.74	7.07	4.26	-39.75
SA 04-458	87.66	87.35	-0.35	55.37	54.39	-1.77	6.24	6.27	0.48
SA 04-390	80.81	88.63	9.68	50.72	32.82	-35.29	4.66	3.94	-15.45
SA 04-496	86.40	87.06	0.76	75.48	50.18	-33.52	8.56	5.98	-30.14
SA 04-409	85.78	89.20	3.99	80.38	35.16	-56.26	8.16	3.97	-51.35
AS 04-1689	77.68	86.94	11.92	59.99	94.19	57.01	4.63	8.65	86.83
AS 04-245	88.06	90.88	3.20	64.03	78.91	23.24	6.57	9.13	38.96
AS 04-2097	86.17	89.82	4.24	92.00	44.46	-51.67	8.00	5.18	-35.25
AS 04-635	87.43	91.43	4.58	89.38	75.69	-15.32	8.79	8.24	-6.26
AS 04-1687	78.20	88.69	13.41	95.73	79.95	-16.48	8.33	8.86	6.36
MA 5/51	88.53	89.79	1.42	47.28	67.84	43.49	4.61	6.90	49.67
MA 5/5	92.14	93.88	1.89	85.41	68.71	-19.55	9.43	7.51	-20.36
MA 5/37	92.94	93.02	0.09	86.31	46.15	-46.53	9.00	5.65	-37.22
MA 5/99	93.02	89.65	-3.62	80.61	50.43	-37.44	9.33	5.35	-42.66
MA 5/22	88.02	91.23	3.65	96.96	54.78	-43.50	9.49	6.50	-31.51
GU 07-3849	89.62	92.40	3.10	47.84	44.79	-6.38	5.00	4.86	-2.80
GU 07-3774	82.57	93.21	12.89	78.47	39.93	-49.11	6.67	3.87	-41.98
GU 07-2276	83.74	84.86	1.34	87.35	91.01	4.19	6.85	10.29	50.22
CYM 07-986	88.85	87.73	-1.26	82.48	84.52	2.47	5.97	10.28	72.19
Standards									
Check1	86.90	89.11	2.54	95.76	83.37	-12.94	8.79	10.27	16.84
Check2	91.56	89.84	-1.88	47.50	83.31	75.39	6.84	9.60	40.35
Check3	84.90	85.31	0.48	59.89	89.92	50.14	6.16	6.96	12.99
GM	86.49	89.52		71.52	65.24		6.97	7.21	
CD	7.43	7.42		11.11	12.36		1.49	1.80	
CV	4.22	4.07		7.63	9.31		10.52	12.28	
CD GxE	NS			7.70			1.09		