

Weather and Season

During kharif 2011-12 total rainfall received was 515.8 mm which was 34.62 % less than normal (789 mm). Maximum rains were received during July, 2011 to Sep., 2011. There was shortage of irrigation water during April, May and June it affected the cane growth during these months.

The highest incidence of shoot borer (7.89 %) observed during March due to high temperature. The maximum intensity of scale insect (6.12 %) was observed during July. The maximum intensity of mealy bugs (7.38 %) was observed during July. The incidence of Thrips and Pyrilla were in traces during the season.

Pokkah boeng disease incidence was observed up to 6.81 % on sugarcane variety Co 7219. Mosaic incidence (11.36 %) was observed on sugarcane plant crop variety Co 7219. Other diseases were negligible.

Table 1: Weekly weather data for the year 2011 recorded at Agromet Observatory,
Dr. P.D.K.V., Akola

Met Week	Date	Rainfall (mm)	Temperature (Oc)		RH I %	RH II %
			Max	Min		
1	2	3	4	5	6	7
1	1-7 Jan.10	0.0	30.3	13.7	65	29
2	8-14	0.0	31.0	16.9	75	33
3	15-21	0.0	31.6	15.0	59	21
4	22-28	0.0	33.6	14.0	56	19
5	29-4 Feb.	0.0	34.8	15.9	49	16
6	5-11	0.0	34.4	16.7	43	17
7	12-18	0.0	33.5	15.7	44	18
8	19-25	0.0	36.4	20.7	41	18
9	26-4 Mar.	0.0	38.1	19.0	41	16
10	5-11	0.0	37.9	21.0	34	18
11	12-18	0.8	36.7	20.9	41	22
12	19-25	1.5	38.2	21.2	34	14
13	26-1 Apr.	0.0	39.6	22.3	28	14
14	2-8	0.0	41.1	23.4	28	21
15	9-15	0.0	40.6	21.8	26	16
16	16-22	0.0	43.4	26.7	26	12
17	23-29	0.0	43.0	24.7	24	9
18	30-6 May	0.0	44.9	28.8	30	12
19	7-13	0.0	43.2	29.2	34	13
20	14-20	21.8	41.8	26.9	58	27
21	21-27	20.3	41.7	28.3	57	26
22	28-3 June	0.0	41.7	28.6	51	25
23	4-10	0.0	39.8	28.3	56	31
24	11-17	0.0	41.6	28.9	55	27
25	18-24	2.4	40.8	27.0	60	28
26	25-1 July	143.2	33.6	24.5	82	59
27	2-8	77.1	32.8	24.5	90	65
28	9-15	48.0	30.2	24.1	89	71
29	16-22	57.2	28.6	23.6	86	78
30	23-29	30.0	30.3	23.6	85	60
31	30-5 Aug.	0.0	32.2	24.0	81	52
32	6-12	4.2	32.1	24.0	84	56
33	13-19	0.0	32.8	24.9	77	49
34	20-26	65.7	31.1	22.8	94	73
35	27-2 Sept.	2.9	30.2	23.5	91	68
36	3-9	30.2	30.3	23.3	93	67
37	10-16	0.0	33.2	22.9	85	43
38	17-23	2.1	35.2	22.8	81	34
39	24-30	6.8	34.3	24.5	83	49
40	1-7 Oct.	67.8	32.2	23.7	90	60
41	8-14	0.0	32.9	19.8	90	33
42	15-21	0.0	34.9	17.8	81	23
43	22-28	0.0	33.8	14.7	74	19
44	29-4 Nov.	0.0	34.4	14.3	70	17
45	5-11	5.0	31.0	19.1	81	50
46	12-18	97.8	29.3	21.7	92	58
47	19-25	0.0	27.5	13.1	89	35
48	26-2 Dec.	0.0	28.8	12.2	82	29
49	3-9	0.0	29.6	13.5	85	33
50	10-16	0.0	30.5	15.1	88	34
51	17-23	0.7	29.0	14.7	86	36
52	24-31	14.0	27.4	12.2	76	33

Crop Improvement

Experiment No. :- 1

Name of Section/Research station : Sugarcane Res. Centre, Dr.P.D.K.V. Akola

Location of Project : Agriculture Research Station, Achalpur.

Project Title : Crop improvement in sugarcane
zonal varietal trial AVT Early I Plant

Duration of project : 1 years

Date of start : January 2011-2012.

Date of completion of project : January 2011-2012.

Period for which report submitted : 2011-12

Principal Investigator :

Name : Dr.M.S. Khakare, S.R.S. Sugarcane

Location : C.R.S. Dr.P.D.K.V. Akola

Address : Sugarcane Research Centre, Dr.P.D.K.V. Akola

Co-investigator

Name : Shri P. K. Paulkar, Senior Research Assistant

Location : C.R.S. Dr.P.D.K.V. Akola

Address : Sugarcane Research Centre, Dr.P.D.K.V. Akola

Objectives : To identify the ability of early genotypes for their cane and sugar yield potential.

Technical programme :

1. Project Title : Advanced Varietal Trial (Early) I Plant
2. Progressive year : 2011-12
3. Design : RBD
4. Treatments (7 Genotypes) :
Co 07012 Co 85004 (Ch)
Co 07015 Co 94008(Ch)
CoN 07071 CoC 671(Ch)
PI 07131
5. Plot size : 6.00 X 5.40 mt²
6. Seed rate : 25000 Setts ha⁻¹
7. No. of replications : Three
8. Date of Planting : 02/02/2011
9. Date of harvesting : 02/12/2011
10. Fertilizer : 175:100:100 N, P₂O₅ and K₂O kg ha⁻¹
11. Results : Results are given in Table 1 to 3

Table 1: Cane yield, Sugar yield and ancillary data

Sr. No.	Genotypes	Cane yield (t ha ⁻¹)	Millable canes (ha ⁻¹)	Sugar yield (t ha ⁻¹)	Height (cm)	Internodes (No.)	Cane diameter (cm)
1	Co 07012	104.04	106172	14.28	196	24.87	2.85
2	Co 07015	92.85	106172	11.94	224	23.6	2.72
3	CoN 07071	128.85	104938	16.49	271	26.47	2.99
4	PI 07131	108.28	86625	14.78	237	23.47	3.11
5	Co 85004 (Ch)	91.20	118312	12.67	211	26.33	2.71
6	Co 94008(Ch)	78.08	101543	7.74	169	19.47	2.81
7	CoC 671(Ch)	101.67	90329	13.77	218	24.73	3.03
	'F' Test	Sig	Sig	Sig	Sig	Sig	NS
	SEm±	6.74	2944	1.00	5.14	0.97	0.13
	CD at 5%	20.77	9072	3.09	15.85	2.98	-
	C.V. %	11.59					

Cane Yield:

It is revealed from Table 1 that the genotype CoN 07071 (128.85 t ha⁻¹) significantly superior over ther best check ie. CoC 671 (101.67 t ha⁻¹) and the genotypes PI 07131 was found at par with each other.

Sugar Yield:-

In respect of sugar yield the genotype CoN 07071 (16.49 t ha⁻¹) was found significantly superior over checks Co 85004 and Co 94008. The genotypes CoN 07071, PI 07131 (14.78 t ha⁻¹), Co 07012 (14.28 t ha⁻¹) and CoC 671 check (13.77 t ha⁻¹) were found at par with each other.

Ancillary Growth Characters: -

Regarding millable cane the genotype Co 85004 check (118312 ha⁻¹) was found significantly superior over the rest of the entries. In respect of cane height CoN 07071 (271 cm) was recorded significantly higher cane height than remaining genotypes. However, the genotype CoN 07071 (26.47) was found significantly superior and the entries Co 85004 check, Co 07012 and CoC 671 check were found at par with each other in respect of number of internodes per cane. Regarding cane diameter the genotype PI 07131 was found numerically higher and result found tobe non-significant.

Table 2: Sugarcane Juice quality at 240 DAP.

Sr. No.	Genotypes	Brix	Pol %	C.C.S. %	Purity %
1	Co 07012	21.70	17.41	11.45	80.65
2	Co 07015	19.37	15.77	10.46	80.31
3	CoN 07071	20.50	16.67	11.05	81.17
4	PI 07131	21.87	19.10	13.14	85.93
5	Co 85004 (Ch)	20.00	17.35	11.90	86.67
6	Co 94008(Ch)	19.23	15.96	10.70	82.25
7	CoC 671(Ch)	21.47	18.30	12.44	85.20
	'F' Test	Sig	Sig	Sig	NS
	SE m ±	0.47	0.57	0.50	1.93
	CD at 5%	1.44	1.75	1.55	--

Results:

At 240 DAP, the genotype PI 07131 (21.87) recorded significantly superior and at par with Co 07012, check CoC 671 and CoN 07071 genotypes In respect of brix %. Regarding Pol % The genotype PI 07131 (19.10 %) was found significantly superior and at par with remaining genotypes excuding Co 07015 and CoN 07071. The entry PI 07131 were found significantly higher and at par with genotypes PI 07131 and check CoC 671 in case of CCS %. However, Purity % was found to be non-significant.

Table 3: Sugarcane Juice quality at harvest.

Sr. No.	Genotypes	Brix	Pol %	C.C.S. %	Purity %
1	Co 07012	23.37	20.10	13.72	85.90
2	Co 07015	21.70	18.82	12.90	86.32
3	CoN 07071	22.70	19.00	12.79	86.00
4	PI 07131	22.47	19.80	13.68	88.16
5	Co 85004 (Ch)	22.47	20.06	13.94	89.32
6	Co 94008(Ch)	18.83	14.76	9.59	77.97
7	CoC 671(Ch)	22.00	19.55	13.55	89.03
	'F' Test	Sig	Sig	Sig	Sig
	SE m ±	0.52	0.71	0.61	1.84
	CD at 5%	1.62	2.20	1.88	5.67

Results:

At harvest, the genotype Co 07012 (23.37 %) was found significantly higher and the genotypes CoN 07071, PI 07131, check Co 85007 and check CoC 671 were found at par with each other in case of brix % and the similar trend was observed in case of Pol %. In respect of CCS % the genotype Co 85004 check significantly higher and at par with remaining enties excluding Co 94008 check and also same trend was observed in case of purity %.

Experiment No. :- 2

Name of Section/Research station : Sugarcane Res. Centre, Dr.P.D.K.V. Akola
Location of Project : Sugarcane Res. Centre, Dr.P.D.K.V. Akola
Project Title : Crop improvement in sugarcane zonal varietal trial AVT Early II Plant
Duration of project : 2 years
Date of start : January 2010-2011.
Date of completion of project : January 2011-2012.
Period for which report submitted : 2011-12
Principal Investigator :
Name : Dr.M.S. Khakare, S.R.S. Sugarcane
Location : C.R.S. Dr.P.D.K.V. Akola
Address : Sugarcane Research Centre, Dr.P.D.K.V. Akola
Co-investigator :
Name : Shri P. K. Paulkar, Senior Research Assistant
Location : C.R.S. Dr.P.D.K.V. Akola
Address : Sugarcane Research Centre, Dr.P.D.K.V. Akola
Objectives : To identify the ability of early genotypes for their cane and sugar yield potential.

Technical programme

1. Project Title : Advanced Varietal Trial Early II Plant
2. Progressive year : 2011-12
3. Design : RBD
4. Treatments (8 Genotypes) :

Co 06001	PI 06132
Co 06002	Co 85004 (Ch)
Co 06022	Co 94008(Ch)
CoM 06082	CoC 671(Ch)
5. Plot size : 6.00 x 5.40 m²
6. Seed rate : 25000 Setts ha⁻¹
7. No. of replications : Three
8. Date of planting : 06/01/2011
9. Date of harvesting : 06/11/2011
10. Fertilizer : 175:100:100 N, P₂O₅ and K₂O kg ha⁻¹
11. Results : Results are given in Table 4 to 6

Table 4: Cane yield, Sugar yield and ancillary data

Sr. No.	Genotypes	Cane yield t ha ⁻¹	Millable canes ha ⁻¹	Sugar yield t ha ⁻¹	Height (cm)	Internodes (No.)	Cane diameter (cm)
1	Co 06001	86.46	101954	11.31	184	20.53	3.09
2	Co 06002	106.75	101028	15.46	223	23.67	2.64
3	Co 06022	89.93	86625	12.39	224	22.87	2.77
4	CoM 06082	117.56	109361	14.86	281	23.4	2.68
5	PI 06132	76.34	81892	10.49	166	16.27	2.95
6	Co 85004 (Ch)	103.10	116049	14.62	196	22.53	2.73
7	Co 94008(Ch)	99.55	96090	12.01	209	20.93	2.81
8	CoC 671(Ch)	98.09	88374	13.99	210	22.47	3.19
	'F' Test	Sig	Sig	Sig	Sig	Sig	Sig
	SEm±	6.17	4384	0.99	7.27	0.80	0.06
	CD at 5%	18.02	12794	2.88	21.22	2.34	0.18
	C.V. %	11.00					

Cane Yield:-

It is revealed from Table 4 that the Genotypes CoM 06082 (117.56 t ha⁻¹) found significantly superior and Co 06002 (106.75 t ha⁻¹), Co 85004 check and Co 94008 check were found at par with each other in respect of cane yield.

Sugar yield:-

The Co 06002 (15.46 t ha⁻¹) recorded significantly higher sugar yield and at par with genotypes CoM 06082, check Co 85004 and check CoC 671.

Ancillary Growth Character:-

The check Co 85004 (1,16,049 ha⁻¹) and CoM 06082 (1,09,361 ha⁻¹) were found significantly higher than rest of the all genotypes in respect of millable canes and at par with each other. In respect of cane height the genotype CoM 06082 (281 cm) was found significantly superior than rest of the genotypes. The genotype Co 06002 (23.67), CoM 06082, Co 06022 and Co 85004 check and CoC 671 check were recorded significantly higher number of internodes than remaining genotypes and at par with each other. The check CoC 671 (3.19 cm), genotypes Co 06001 (3.09 cm) and PI 06132 (2.95 cm) were recorded significantly higher than rest of all genotypes and at par with each other in respect of cane diameter.

Table 5: Sugarcane Juice quality at 240 DAP.

Sr. No.	Genotypes	Brix	Pol %	C.C.S. %	Purity %
1	Co 06001	20.60	16.36	10.70	84.01
2	Co 06002	21.33	15.27	9.37	87.43
3	Co 06022	20.17	14.53	8.96	76.55
4	CoM 06082	19.13	14.50	9.23	73.18
5	PI 06132	20.43	15.63	10.01	80.33
6	Co 85004 (Ch)	20.43	13.51	7.84	74.02
7	Co 94008(Ch)	19.10	12.15	6.84	77.38
8	CoC 671(Ch)	21.30	14.90	9.01	81.99
	'F' Test	Sig	N S	N S	Sig
	SEm±	0.35	0.82	0.79	2.92
	CD at 5%	1.02	--	--	8.51

Juice quality:

The table 5 revealed that, Juice quality at 240 day the genotype Co 06002 recorded significantly superior and were found at par with genotypes check CoC 671, Co 06001, PI 06132 and check 85004 in respect of brix. In case of Pol % the genotype Co 06001 was found numerically higher but statistically not up to the level of significance and the similar trend was observed in case of CCS %. Regarding purity % the entry Co 06002 (87.43 %) was found significantly higher and at par with the genotypes Co 06001, CoC 671 check and PI 06132.

Table 6: Sugarcane Juice quality at harvest.

Sr. No.	Genotypes	Brix	Pol %	C.C.S. %	Purity %
1	Co 06001	21.67	18.99	13.08	86.69
2	Co 06002	24.37	21.07	14.42	86.45
3	Co 06022	22.57	19.95	13.80	91.11
4	CoM 06082	21.53	18.53	12.65	87.12
5	PI 06132	23.30	20.03	13.66	88.03
6	Co 85004 (Ch)	22.90	20.41	14.17	89.37
7	Co 94008(Ch)	21.80	18.04	12.07	81.45
8	CoC 671(Ch)	23.17	20.53	14.22	89.90
	'F' Test	Sig	Sig	Sig	N S
	SEm±	0.25	0.42	0.39	2.42
	CD at 5%	0.72	1.22	1.13	--

Juice quality:

Juice quality at harvest the Co 06002 (24.37) recorded significantly superior than rest of all the genotypes. Regarding Pol % the genotype Co 06002 (21.07 %) was found significantly higher and at par with the genotypes check CoC 671, check Co 85004, Co 06022 and PI 06132. The similar trend was observed in case of CCS %. The Co 06022 (91.11 %) recorded numerically higher purity % but statistically not upto the level of significance.

Experiment No. :- 3

Name of Section/Research station : Sugarcane Res. Centre, Dr.P.D.K.V. Akola

Location of Project : Sugarcane Res. Centre, Dr.P.D.K.V. Akola

Project Title : Crop improvement in sugarcane zonal varietal trial AVT Early Ratoon

Duration of project : 2 years

Date of start : January 2009-2010.

Date of completion of project : January 2011-2012.

Period for which report submitted : 2011-12

Principal Investigator :

Name : Dr.M.S. Khakare, S.R.S. Sugarcane

Location : C.R.S. Dr.P.D.K.V. Akola

Address : Sugarcane Research Centre,Dr.P.D.K.V. Akola

Co-investigator :

Name : Shri P. K. Paulkar, Senior Research Assistant

Location : C.R.S. Dr.P.D.K.V. Akola

Address : Sugarcane Research Centre,Dr.P.D.K.V. Akola

Objectives : To identify the ratooning ability of early genotypes for their cane and sugar yield potential.

Technical programme :

1. Project Title : Advanced Varietal Trial (Early) Ratoon
2. Progressive year : 2011-12
3. Design : RBD
4. Treatments (8 Genotypes) :

Co 06001	PI 06132
Co 06002	Co 85004 (Ch)
Co 06022	Co 94008(Ch)
CoM 06082	CoC 671(Ch)
5. Plot size : 6.00 x 5.40 m²
6. Seed rate : 25000 Setts ha⁻¹
7. No. of replications : Three
8. Date of Ratooning : 12/01/2011
9. Date of harvesting : 12/10/2011
10. Fertilizer : 175:100:100 N, P₂O₅ and K₂O kg ha⁻¹
11. Results : Results are given in Table 7 to 8

Table 7: Cane yield, Sugar yield and ancillary data

Sr. No.	Genotypes	Cane yield t ha ⁻¹	Millable canes ha ⁻¹	Sugar yield t ha ⁻¹	Height (cm)	Internodes (No.)	Cane diameter (cm)
1	Co 06001	73.42	94341	9.02	138	16.9	2.69
2	Co 06002	94.44	100411	13.43	186	20.4	2.55
3	Co 06022	79.87	85288	9.95	173	19.1	2.63
4	CoM 06082	102.33	90740	12.58	175	16.6	3.19
5	PI 06132	87.88	79732	11.23	168	16.6	2.86
6	Co 85004 (Ch)	70.63	90740	9.77	173	23.4	2.38
7	Co 94008(Ch)	88.70	78909	10.26	190	17.4	2.81
8	CoC 671(Ch)	82.22	82716	11.85	157	18.0	2.82
	'F' Test	Sig	Sig	Sig	N S	Sig	Sig
	SEm±	3.78	4386	0.55	13.03	1.34	0.09
	CD at 5%	11.02	12800	1.60	--	3.92	0.26
	C.V. %	7.70					

Cane Yield:-

It is revealed from Table 7 that the genotype CoM 06082 (102.33 t ha⁻¹) recorded significantly superior than rest of the genotypes and at with the genotype Co 06002 (94.44 t ha⁻¹) in respect of cane yield.

Sugar yield:-

The genotype Co 06022 (13.43 t ha⁻¹) recorded significantly superior and were found at par with CoM 06082 (12.58 t ha⁻¹) and check CoC 671 in respect of sugar yield.

Ancillary Growth Character:-

The entry Co 06002 (100411 ha⁻¹) was found significantly higher than rest of the all genotypes and at par with Co 06001, CoM 06082 and check Co 85004 in respect of millable canes. The check Co 94008 (190 cm) recorded numerically more height than rest of the genotypes. In case of number of internodes the check Co 85004 was found significantly superior and at par with Co 06002. Regarding cane diameter the genotype CoM 06082 was found significantly higher than rest of all genotypes.

Table 8: Sugarcane Juice quality at harvest.

Sr. No.	Genotypes	Brix	Pol %	C.C.S. %	Purity %
1	Co 06001	18.83	17.39	12.27	95.06
2	Co 06002	20.13	19.66	14.21	94.20
3	Co 06022	19.83	17.86	12.46	91.93
4	CoM 06082	18.30	17.33	12.37	90.43
5	PI 06132	19.63	18.13	12.79	92.14
6	Co 85004 (Ch)	19.07	18.94	13.79	90.79
7	Co 94008(Ch)	18.00	16.47	11.57	85.14
8	CoC 671(Ch)	20.70	20.03	14.43	95.85
	'F' Test	N S	Sig	Sig	N S
	SEm±	0.66	0.43	0.39	3.92
	CD at 5%	--	1.25	1.15	--

Juice quality:

Juice quality at harvest the check CoC 671 found to be significantly superior and at par with genotypes Co 06002 and check Co 85004 in case of pol % and the same trend was observed in CCS %. In respect of Brix and purity % were found non significant data.

Experiment No. :- 4

Name of Section/Research station : Sugarcane Res. Centre, Dr.P.D.K.V. Akola

Location of Project : Sugarcane Res. Centre, Dr.P.D.K.V. Akola

Project Title : Crop improvement in sugarcane zonal varietal trial IVT Early

Duration of project : 2 years

Date of start : January 2011-2012.

Date of completion of project : January 2011-2012.

Period for which report submitted : 2011-12

Principal Investigator :

Name : Dr.M.S. Khakare, S.R.S. Sugarcane

Location : C.R.S. Dr.P.D.K.V. Akola

Address : Sugarcane Research Centre, Dr.P.D.K.V. Akola

Co-investigator :

Name : Shri P. K. Paulkar, Senior Research Assistant

Location : C.R.S. Dr.P.D.K.V. Akola

Address : Sugarcane Research Centre,Dr.P.D.K.V. Akola

Objectives : To identify the ratooning ability of early genotypes for their cane and sugar yield potential.

Technical programme :

1. Project Title : Initial Varietal Trial (Early)
2. Progressive year : 2011-12
3. Design : RBD
4. Treatments (8 Genotypes) : Co 08001 VSI 08121
Co 08006 Co 85004 (Ch)
CoN 08071 Co 94008(Ch)
PI 08131 CoC 671(Ch)
5. Plot size : 6.00 x 5.40 m²
6. Seed rate : 25000 Setts ha⁻¹
7. No. of replications : Three
8. Date of Ratooning : 05/02/2011
9. Date of harvesting : 05/12/2011
10. Fertilizer : 175:100:100 N, P₂O₅ and K₂O kg ha⁻¹
11. Results : Results are given in Table 9 to 11

Table 9: Cane yield, Sugar yield and ancillary data

Sr. No.	Genotypes	Cane yield t ha ⁻¹	Millable canes ha ⁻¹	Sugar yield t ha ⁻¹	Height (cm)	Internodes (No.)	Cane diameter (cm)
1	Co 08001	103.12	94958	14.21	234	21.33	3.01
2	Co 08006	97.77	102468	13.17	210	20.8	2.96
3	CoN 08071	94.26	80555	11.54	214	20.4	2.79
4	PI 08131	72.05	75411	9.79	208	18.33	3.20
5	VSI 08121	98.33	81378	15.37	230	21.13	3.07
6	Co 85004 (Ch)	71.81	95884	9.41	224	18.53	2.95
7	Co 94008(Ch)	68.18	71296	7.30	220	20.13	3.01
8	CoC 671(Ch)	81.56	78189	9.79	221	19.2	3.18
	'F' Test	Sig	Sig	Sig	Sig	Sig	Sig
	SEm±	6.61	3513	1.28	2.75	0.41	0.05
	CD at 5%	19.29	10253	3.72	8.04	1.19	0.15
	C.V. %	13.33					

Cane Yield:-

It is revealed from Table 7 that the genotype Co 08001 (103.12 t ha⁻¹) recorded significantly superior than rest of the genotypes and at par with VSI 08121 (98.23 t ha⁻¹), Co 08006 (97.77 t ha⁻¹) and CoN 08071 (94.26 t ha⁻¹) in respect of cane yield.

Sugar yield:-

The genotype VSI 08121 (15.37 t ha⁻¹) recorded significantly superior and were found at par with genotypes Co 08001 (14.21 t ha⁻¹) and Co 08006 (13.17 t ha⁻¹) in respect of sugar yield.

Ancillary Growth Character:-

Co 08006 (102468 ha⁻¹) was found significantly higher than rest of the all genotypes and at par with check Co 85004 and Co 08001 in respect of millable canes. Co 08001 (234 cm) recorded significantly more height and at par with VSI 08121. Similar trend were observed in case of cane diameter. Regarding number of internodes the genotype PI 08131 was found significantly more internodes and at par with check CoC 671 and genotype VSI 08121.

Table 10: Sugarcane Juice quality at 300 DAP.

Sr. No.	Genotypes	Brix	Pol %	C.C.S. %	Purity %
1	Co 08001	21.57	19.95	14.09	92.30
2	Co 08006	21.17	18.21	12.43	86.14
3	CoN 08071	17.77	13.96	9.08	78.62
4	PI 08131	21.17	17.61	11.81	82.78
5	VSI 08121	21.73	18.89	12.96	85.72
6	Co 85004 (Ch)	21.40	18.97	13.14	88.84
7	Co 94008(Ch)	18.07	14.55	9.60	74.68
8	CoC 671(Ch)	21.50	19.93	14.09	92.79
	'F' Test	Sig	Sig	Sig	Sig
	SEm±	0.58	0.44	0.38	2.11
	CD at 5%	1.71	1.30	1.11	6.15

Juice quality:

Juice quality at harvest the entry VSI 08121 were found to be significantly superior and at par with remaining genotypes excluding check Co 98004 and CoN 08071 in respect of Brix. Regarding Pol % the genotype Co 08001 was significantly higher and found at par with check CoC 671 , check 85004 and VSI 08121. However, the genotype Co 08001 recorded (14.09 %) significantly superior and at par with checks CoC 671 and Co 85004 in respect of CCS %. The similar trend was observed in case of Purity %.

Table 11: Sugarcane Juice quality at 360 DAP.

Sr. No.	Genotypes	Brix	Pol %	C.C.S. %	Purity %
1	Co 08001	22.63	19.93	13.76	88.73
2	Co 08006	22.27	19.55	13.48	87.81
3	CoN 08071	21.67	18.04	12.11	84.46
4	PI 08131	22.80	19.80	13.58	86.35
5	VSI 08121	24.43	22.22	15.57	90.98
6	Co 85004 (Ch)	21.87	19.13	13.17	87.41
7	Co 94008(Ch)	20.30	16.12	10.55	79.67
8	CoC 671(Ch)	22.30	18.02	11.91	86.02
	'F' Test	Sig	Sig	Sig	Sig
	SEm±	0.49	0.82	0.75	2.01
	CD at 5%	1.44	2.39	2.19	5.87

Juice quality:

Juice quality at harvest, the VSI 08121 was found to be significantly superior than rest of the remaining genotypes in respect of Brix. Regarding Pol % the genotype VSI 08121 was found significantly superior and at par with Co 08001. In case of CCS % the genotypes VSI 08121 were found significantly more and at par with Co 08001, PI 08131 and Co 08006. However, the genotype VSI 08121 found significantly higher and at par with rest of all genotypes excluding check Co 98004 and CoN 08071 in respect of purity %.

Experiment No. :- 5

Name of Section/Research station : Sugarcane Res. Centre, Dr.P.D.K.V. Akola
Location of Project : Sugarcane Res. Centre, Dr.P.D.K.V. Akola
Project Title : Crop improvement in sugarcane zonal varietal trial (AVT Midlate) Plant I
Duration of project : 1 years
Date of start : January 2011-2012.
Date of completion of project : January 2011-2012.
Period for which report submitted : 2011-12
Principal Investigator :
Name : Dr.M.S. Khakare, S.R.S. Sugarcane
Location : C.R.S. Dr.P.D.K.V. Akola
Address : Sugarcane Research Centre, Dr.P.D.K.V. Akola

Co-investigator

Name : Shri P. K. Paulkar, Senior Research Assistant
Location : C.R.S. Dr.P.D.K.V. Akola
Address : Sugarcane Research Centre, Dr.P.D.K.V. Akola
Objectives : To identify the ability of midlate genotypes for their cane and sugar yield potential.

Technical programme

1. Project Title : Advanced Varietal Trial (Midlate) Plant I
2. Progressive year : 2011-12
3. Design : RBD
4. Treatments (8 Genotypes) : Co 07006 Co 07010
Co 07007 CoSnk 07103
Co 07008 Co 86032(Ch)
Co 07009 Co 99004(Ch)
5. Plot size : 6.00 X 5.40 mt²
6. Seed rate : 25000 Setts ha⁻¹
7. No. of replications : Three
8. Date of Ratooning : 03/02/2011
9. Date of harvesting : 02/02/2012
10. Fertilizer : 175:100:100 N, P₂O₅ and K₂O kg ha⁻¹
11. Results : Results are given in Table 12 to 14

Table 12: Cane yield, Sugar yield and ancillary data

Sr. No.	Genotypes	Cane yield t ha ⁻¹	Millable canes ha ⁻¹	Sugar yield t ha ⁻¹	Height (cm)	Internodes (No.)	Cane diameter (cm)
1	Co 07006	90.42	86008	12.45	228	20.93	2.75
2	Co 07007	91.98	89608	12.57	181	22	2.77
3	Co 07008	119.32	81790	16.14	240	22.4	3.03
4	Co 07009	94.36	91666	12.67	205	21	2.76
5	Co 07010	113.90	105761	16.12	261	25.53	2.62
6	CoSnk 07103	106.36	98765	14.32	190	21.67	2.67
7	Co 86032(Ch)	98.61	91563	13.48	223	22.13	2.88
8	Co 99004(Ch)	89.86	78086	12.60	230	21	2.74
	'F' Test	Sig	Sig	Sig	Sig	Sig	Sig
	SEm±	4.46	2767	0.85	7.83	0.83	0.07
	CD at 5%	13.03	8074	2.47	22.86	2.42	0.21
	C.V. %	7.68					

Cane Yield:

It is revealed from Table 9 that the genotype Co 07008 (119.32 t ha⁻¹) were found significantly superior and at par with Co 07010 and CoSnk 07103.

Sugar Yield:-

Genotype Co 07008 (119.32 t ha⁻¹) being at par with Co 07010 (113.90 t ha⁻¹) and CoSnk 07103 (106.36 t ha⁻¹) were found to be significantly superior than rest of the entries in respect of sugar yield.

Ancillary Growth Characters: -

Genotype Co 07010 (105761 ha⁻¹) being at par with CoSnk 07103 (98765 ha⁻¹) and found significantly superior than rest of all the entries in respect of millable canes ha⁻¹. The entry Co 07010 (261 cm) was found significantly superior than rest of all genotypes in respect of height. The similar trend was observed in case of number of internodes. The Genotype Co 07008 was found significantly superior and being at par with genotype Co check Co 86032 in respect of cane diameter.

Table 13: Sugarcane Juice quality at 300 DAP.

Sr. No.	Genotypes	Brix	Pol %	C.C.S. %	Purity %
1	Co 07006	20.17	18.37	12.89	89.40
2	Co 07007	21.00	18.75	13.03	89.85
3	Co 07008	20.23	17.69	12.17	87.40
4	Co 07009	20.97	17.82	12.09	86.09
5	Co 07010	20.57	17.05	11.42	82.45
6	CoSnk 07103	20.60	17.38	11.75	84.40
7	Co 86032 (Ch)	21.40	18.87	13.03	88.43
8	Co 99004 (Ch)	21.97	20.02	14.05	91.10
	'F' Test	Sig	N S	N S	N S
	SE m ±	0.33	0.72	0.66	3.03
	CD at 5%	0.98	--	--	--

Results:

In respect of brix at 300 DAP (Table 10), the checks Co 99004 (Ch), Co 86032 and genotype Co 07007 were found to be at par with each other in respect of Brix and found significantly superior over rest of the genotypes. The check CO 99004 found numerically higher but up to the level of significance and recorded 20.02 %, 14.05 % and 91.10 in case of Pol % , CCS % and Purity % respectively.

Table 14: Sugarcane Juice quality at harvest.

Sr. No.	Genotypes	Brix	Pol %	C.C.S. %	Purity %
1	Co 07006	23.00	20.07	13.79	88.60
2	Co 07007	22.27	19.73	13.66	88.45
3	Co 07008	23.63	19.99	13.53	84.65
4	Co 07009	22.30	19.47	13.39	87.35
5	Co 07010	22.47	20.22	14.11	90.09
6	CoSnk 07103	23.33	19.84	13.46	89.04
7	Co 86032(Ch)	23.03	19.95	13.66	87.77
8	Co 99004(Ch)	23.47	20.44	14.04	87.12
	'F' Test	N S	N S	N S	N S
	SE m ±	0.64	0.60	0.49	2.30
	CD at 5%	--	--	--	--

Juice quality:

In respect of Brix, Pol %, CCS % and Purity % at harvest were found non significant data. Regarding Brix %, the genotype Co 07008 was found numerically more. In case of Pol % check recorded numerically higher value. The genotype Co 07010 was found numerically superior than rest of the entries but did not reach to the level of significance in case of CCS % and Purity %.

Experiment No. :- 6

Name of Section/Research station : Sugarcane Res. Centre, Dr.P.D.K.V. Akola
Location of Project : Sugarcane Res. Centre, Dr.P.D.K.V. Akola.
Project Title : Crop improvement in sugarcane zonal varietal trial (AVT Midlate) II Plant
Duration of project : 2 years
Date of start : January 2010-2011.
Date of completion of project : January 2011-2012.
Period for which report submitted : 2011-12
Principal Investigator :
Name : Dr.M.S. Khakare, S.R.S. Sugarcane
Location : C.R.S. Dr.P.D.K.V. Akola
Address : Sugarcane Research Centre, Dr.P.D.K.V. Akola
Co-investigator :
Name : Shri P.K. Paulkar, Senior Research Assistant
Location : C.R.S. Dr.P.D.K.V. Akola
Address : Sugarcane Research Centre, Dr.P.D.K.V. Akola
Objectives : To identify the ability of midlate genotypes for their cane and sugar yield potential.
Technical programme :
1. Project Title : Advanced Varietal Trial (Midlate) II Plant
2. Progressive year : 2011-12
3. Design : RBD
4. Treatments (13 Genotypes) : Co 06007 Co 06027
Co 06010 CoM 06082
Co 06012 CoM 06084
Co 06013 CoSnk 03632
Co 06014 Co 86032 (Ch)
Co 06015 Co 99004 (Ch)
Co 06020
5. Plot size : 6.00 x 4.50 m²
6. Seed rate : 25000 Setts ha⁻¹
7. No. of replications : Three
8. Date of Planting : 07/01/2011
9. Date of harvesting : 07/11/2011
10. Fertilizer : 175:100:100 N, P₂O₅ and K₂O kg ha⁻¹
11. Results : Results are given in Table 15 to 17

Table 15: Cane yield, Sugar yield and ancillary data

Sr. No.	Genotypes	Cane yield (t ha ⁻¹)	Millable canes (ha ⁻¹)	Sugar yield (t ha ⁻¹)	Height (cm)	Internodes (No.)	Cane diameter (cm)
1	Co 06007	67.70	92839	7.88	136	18.13	3.37
2	Co 06010	75.98	111975	8.76	189	21.07	2.51
3	Co 06012	104.23	97901	11.80	177	18.80	3.41
4	Co 06013	100.93	101605	11.89	229	22.13	3.02
5	Co 06014	104.92	96173	12.29	203	22.6	2.95
6	Co 06015	115.13	114074	12.85	205	19.00	2.67
7	Co 06020	68.03	74321	8.04	150	20.93	3.40
8	Co 06027	114.40	118642	13.98	200	22.40	2.78
9	CoM 06082	97.77	112346	10.76	262	22.13	2.59
10	CoM 06084	73.30	84815	7.86	202	21.93	2.82
11	CoSnk 03632	120.46	105802	13.16	206	20.87	3.39
12	Co 86032 (Ch)	88.12	101111	9.70	215	20.67	2.66
13	Co 99004 (Ch)	83.81	82593	10.38	213	19.40	2.68
	'F' Test	Sig	Sig	Sig	Sig	N S	Sig
	SEm±	7.62	5464	1.05	9.50	1.14	0.10
	CD at 5%	22.25	15946	3.06	27.72	--	0.30
	C.V. %	14.13					

Cane Yield:-

Genotype CoSnk 03632 (120.46 t ha⁻¹) was recorded significantly higher and being at par with rest of the genotypes excluding CoM 06082, check Co 86032, check Co 99004, Co 06010, CoM 06084, Co 06020 and Co 06007 in respect of cane yield.

Sugar yield:-

Regarding sugar yield the genotypes Co 06027 (13.98 t ha⁻¹) was recorded significantly higher and being at par with the genotypes excluding CoM 06082, check Co 86032, check Co 99004, Co 06010, CoM 06084, Co 06020 and Co 06007.

Ancillary Growth Character:-

Co 06027 (118642 ha⁻¹) recorded significantly superior and at par with Co 06015 (114074 ha⁻¹), CoM 06082 (112346 ha⁻¹), Co 06010 (111975 ha⁻¹) and CoSnk 03632 (105802 ha⁻¹) in respect of millable canes. Genotype CoM 06082 (262 cm) recorded significantly superior over rest of all genotype. Number of internodes recorded numerically higher by Co 06014 (22.60) but not reach upto the level of significance. Cane diameter

recorded significantly superior by genotype Co 06012 and found at par with the genotypes Co 06020, CoSnk 03632 and Co 06007.

Table 16: Sugarcane Juice quality at 300 DAP.

Sr. No.	Genotypes	Brix	Pol %	C.C.S. %	Purity %
1	Co 06007	20.13	16.67	11.16	82.55
2	Co 06010	20.23	17.62	12.10	84.48
3	Co 06012	19.80	16.04	10.61	79.90
4	Co 06013	19.03	14.45	9.21	76.02
5	Co 06014	20.17	16.31	10.78	80.36
6	Co 06015	19.83	15.56	10.11	80.07
7	Co 06020	20.63	18.06	12.43	86.87
8	Co 06027	20.43	16.21	10.60	78.59
9	CoM 06082	20.53	16.09	10.44	80.31
10	CoM 06084	19.33	18.94	13.71	81.67
11	CoSnk 03632	19.90	15.30	9.83	77.34
12	Co 86032 (Ch)	21.50	16.75	10.84	77.45
13	Co 99004 (Ch)	20.80	17.38	11.69	83.48
	'F' Test	Sig	Sig	Sig	N S
	SEm±	0.40	0.77	0.76	3.55
	CD at 5%	1.16	2.24	2.21	--

Juice quality:

The check Co 86032 recorded (21.50) significantly superior over genotypes all genotypes and at par with check Co 99004, Co 06020, CoM 06082 and Co 06027 in respect of brix. Regarding Pol % the genotype CoM 06084 recorded significantly higher and at par with the genotypes Co 06020, Co 06010, check Co 99004 and Co 86032. The similar trend was observed in case of and CCS %. Regarding Purity % the genotype Co 06020 was recorded numerically higher but not reach upto the level of significance.

Table 17: Sugarcane Juice quality at harvest.

Sr. No.	Genotypes	Brix	Pol %	C.C.S.%	Purity %
1	Co 06007	20.37	17.34	11.77	84.06
2	Co 06010	21.83	17.50	11.51	79.65
3	Co 06012	21.13	17.01	11.21	80.73
4	Co 06013	21.20	17.65	11.85	82.11
5	Co 06014	20.23	17.23	11.70	83.77
6	Co 06015	20.80	16.85	11.15	78.77
7	Co 06020	21.50	17.68	11.79	82.01
8	Co 06027	22.10	18.24	12.19	82.07
9	CoM 06082	21.27	16.81	10.97	79.41
10	CoM 06084	20.90	16.45	10.71	77.13
11	CoSnk 03632	19.67	16.31	10.92	77.43
12	Co 86032 (Ch)	20.43	16.65	11.05	81.28
13	Co 99004 (Ch)	22.00	18.39	12.37	84.86
	'F' Test	NS	NS	NS	NS
	SEm±	0.54	0.55	0.48	1.71
	CD at 5%	--	--	--	--

Juice quality:

The check Co 99004 was recorded numerically superior than rest of the all genotypes 22.00, 18.39 %, 12.37 % and 84.86 % in respect of Brix, Pol %, CCS % and Purity % respectively but did not reach upto the level of significance.

Experiment No. :- 7

Name of Section/Research station	:	Sugarcane Res. Centre, Dr.P.D.K.V. Akola
Location of Project	:	Sugarcane Res. Centre, Dr.P.D.K.V. Akola.
Project Title	:	Crop improvement in sugarcane zonal varietal trial (AVT Midlate) Ratoon
Duration of project	:	2 years
Date of start	:	January 2009-2010.
Date of completion of project	:	January 2010-2011.
Period for which report submitted	:	2010-11
Principal Investigator	:	
Name	:	Dr.M.S. Khakare, S.R.S. Sugarcane
Location	:	C.R.S. Dr.P.D.K.V. Akola
Address	:	Sugarcane Research Centre, Dr.P.D.K.V. Akola
Co-investigator	:	
Name	:	Shri P. K. Paulkar, Senior Research Assistant
Location	:	C.R.S. Dr.P.D.K.V. Akola
Address	:	Sugarcane Research Centre,Dr.P.D.K.V. Akola
Objectives	:	To identify the ability of midlate genotypes for their cane and sugar yield potential.
Technical programme	:	
1. Project Title	:	Advanced Varietal Trial (Midlate) Ratoon
2. Progressive year	:	2011-12
3. Design	:	RBD
4. Treatments (13 Genotypes)	:	Co 06007 Co 06027 Co 06010 CoM 06082 Co 06012 CoM 06084 Co 06013 CoSnk 03632 Co 06014 Co 86032 (Ch) Co 06015 Co 99004 (Ch) Co 06020
5. Plot size	:	6.00 x 4.50 m ²
6. Seed rate	:	25000 Setts ha ⁻¹
7. No. of replications	:	Three
8. Date of Ratooning	:	13/01/2011
9. Date of harvesting	:	13/12/2011
10. Fertilizer	:	175:100:100 N, P ₂ O ₅ and K ₂ O kg ha ⁻¹
11. Results	:	Results are given in Table 18 to 19

Table 18: Cane yield, Sugar yield and Ancillary data

Sr. No.	Genotypes	Cane yield t ha ⁻¹	Millable canes ha ⁻¹	Sugar yield t ha ⁻¹	Height (cm)	Internodes (No.)	Cane diameter (cm)	
1	Co 06007	50.30	70494	6.14	144	19.20	3.49	
2	Co 06010	39.43	68889	4.71	170	20.07	2.81	
3	Co 06012	64.10	75432	7.09	169	18.00	3.25	
4	Co 06013	90.04	73951	10.19	211	20.67	3.58	
5	Co 06014	87.91	76173	10.92	196	22.20	3.31	
6	Co 06015	71.21	93210	8.13	188	19.87	3.41	
7	Co 06020	46.78	50370	5.71	175	20.07	3.81	
8	Co 06027	87.33	88395	12.02	198	22.07	3.19	
9	CoM 06082	65.53	79753	8.31	228	21.07	2.89	
10	CoM 06084	59.53	72346	6.84	186	19.53	3.35	
11	CoSnk 03632	88.86	79753	9.24	207	23.13	4.12	
12	Co 86032 (Ch)	79.28	93333	10.16	189	19.00	3.01	
13	Co 99004 (Ch)	60.42	68518	7.39	193	19.40	3.25	
	'F' Test	Sig	Sig	Sig	Sig	N S	Sig	
	SEm±	5.63	3278	0.88	11.00	1.14	0.13	
	CD at 5%	16.42	9568	2.57	32.09	--	0.38	
	C.V. %	14.22						

Cane Yield:-

Genotype Co 06013 (90.04 t ha⁻¹) were recorded significantly superior than rest of the all genotypes and at par with the genotypes CoSnk 03632, check 86032, Co 06014 and Co 06027 in respect of cane yield.

Sugar yield:-

The genotypes Co 06027 (12.02 t ha⁻¹) was recorded superior than rest of the all genotypes and at par with Co 06014, Co 06013, and check Co 86032 in respect of sugar yield.

Ancillary Growth Character:-

Regarding ancillary growth parameter the millable canes the check Co 99004 (93333 ha⁻¹) recorded significantly superior and were found at par with the genotypes Co 06015 and Co 06027. In case of Cane height CoM 06082 (228 cm) found significantly more than rest of the genotypes but found at par with Co 06013, CoSnk 03632, Co 06027 and Co 06015. Number of internodes did not shown significant difference. In respect of cane diameter the genotype CoSnk 03632 recorded significantly higher and found at par with Co 06020.

Table 19: Sugarcane Juice quality at harvest.

Sr. No.	Genotypes	Brix	Pol %	C.C.S. %	Purity %
1	Co 06007	19.83	17.45	12.04	87.88
2	Co 06010	23.03	18.15	11.82	80.37
3	Co 06012	21.23	16.86	11.03	79.64
4	Co 06013	19.93	16.77	11.32	81.67
5	Co 06014	20.73	18.05	12.39	85.23
6	Co 06015	20.00	16.79	11.32	84.25
7	Co 06020	20.83	17.89	12.20	86.53
8	Co 06027	21.90	19.73	13.77	90.95
9	CoM 06082	20.63	18.25	12.62	88.91
10	CoM 06084	20.90	17.24	11.52	82.58
11	CoSnk 03632	19.17	15.66	10.41	81.96
12	Co 86032 (Ch)	22.10	18.82	12.78	86.79
13	Co 99004 (Ch)	22.23	18.17	12.07	83.16
	'F' Test	Sig	Sig	Sig	N S
	SEm±	0.66	0.52	0.48	3.14
	CD at 5%	1.92	1.51	1.39	--

Juice quality:

Regarding Brix the genotype Co 06010 (23.03) were found significantly superior and being at apr with check Co 86032, check 99004, Co 06027 and Co 06012. In respect of pol % Co 06027 was observed significantly higher over rest of all genotypes except check Co 86032 and CoM 06082. The similar trend was observed in case of CCS %. However, genotype Co 06027 recorded (90.95 %) numerically more but did not reach up to the level of significance in respect purity %.

Experiment No. :- 8

Name of Section/Research station	:	Sugarcane Res. Centre, Dr.P.D.K.V. Akola
Location of Project	:	Sugarcane Res. Centre, Dr.P.D.K.V. Akola.
Project Title	:	Crop improvement in sugarcane zonal varietal trial (IVT Midlate)
Duration of project	:	1 years
Date of start	:	January 2011-2012.
Date of completion of project	:	January 2011-2012.
Period for which report submitted	:	2011-12
Name	:	Dr.M.S. Khakare, S.R.S. Sugarcane
Location	:	C.R.S. Dr.P.D.K.V. Akola
Address	:	Sugarcane Research Centre, Dr.P.D.K.V. Akola
Co-investigator	:	
Name	:	Shri P. K. Paulkar, Senior Research Assistant
Location	:	C.R.S. Dr.P.D.K.V. Akola
Address	:	Sugarcane Research Centre,Dr.P.D.K.V. Akola
Objectives	:	To identify the ability of midlate genotypes for their cane and sugar yield potential.
Technical programme	:	
1. Project Title	:	Initial Varietal Trial (Midlate)
2. Progressive year	:	2011-12
3. Design	:	RBD
4. Treatments (20 Genotypes)	:	Co 08007 CoR 08141 Co 08008 CoSnk 08101 Co 08009 CoVC 08061 Co 08016 CoVC 08062 Co 08018 CoVC 08063 CoN 08019 CoVC 08064 CoM 08020 CoVSI 08122 CoJN 08091 CoVSI 08123 CoN 08081 Co 86032 (Ch) CoN 08072 Co 99004 (Ch)
5. Plot size	:	6.00 x 4.50 m ²
6. Seed rate	:	25000 Setts ha ⁻¹
7. No. of replications	:	Three
8. Date of Planting	:	06/02/2011
9. Date of harvesting	:	06/01/2012
10. Fertilizer	:	175:100:100 N, P ₂ O ₅ and K ₂ O kg ha ⁻¹
11. Results	:	Results are given in Table 20 to 22

Table 20: Cane yield, Sugar yield and ancillary data

Sr. No.	Genotypes	Cane yield (t ha ⁻¹)	Millable canes (ha ⁻¹)	Sugar yield (t ha ⁻¹)	Height (cm)	Internodes (No.)	Cane diameter (cm)
1	Co 08007	86.72	85309	11.56	268	26	2.79
2	Co 08008	82.12	102469	11.15	239	21.67	2.39
3	Co 08009	61.75	85802	7.73	238	22.93	2.64
4	Co 08016	82.80	104444	10.55	276	22.27	2.49
5	Co 08018	93.49	116420	12.44	257	20.07	2.63
6	CoN 08019	69.99	81728	9.43	260	21.27	2.95
7	CoM 08020	73.42	83704	9.69	222	23.6	2.87
8	CoJN 08091	68.70	87901	7.99	276	26.87	2.86
9	CoN 08081	111.11	103704	13.58	263	23.07	2.95
10	CoN 08072	91.16	94691	11.38	255	21.93	3.25
11	CoR 08141	90.24	89136	12.17	265	22.8	3.45
12	CoSnk 08101	88.17	85555	11.43	240	23.47	3.11
13	CoVC 08061	99.28	94568	10.63	262	21.8	3.44
14	CoVC 08062	78.54	109259	9.58	259	21.27	2.59
15	CoVC 08063	100.20	89506	12.78	295	23.27	2.89
16	CoVC 08064	62.43	95555	7.60	262	22.2	2.67
17	CoVSI 08122	115.47	88765	16.23	279	23.2	3.11
18	CoVSI 08123	52.18	73086	6.99	221	23.67	3.12
19	Co 86032 (Ch)	66.26	86543	9.00	242	21.13	3.00
20	Co 99004 (Ch)	84.92	78765	10.94	262	20.87	3.05
	'F' Test	Sig	Sig	Sig	Sig	Sig	Sig
	SEm±	5.84	4764	1.18	9.70	0.71	0.10
	CD at 5%	16.71	13633	3.39	27.76	2.02	0.29
	C.V. %	12.19					

Cane Yield:-

Genotype CoVSI 08122 (115.47 t ha⁻¹) was recorded significantly higher and being at par with the genotypes CoN 08081, CoVC 08063 and CoVC 08061 in respect of cane yield.

Sugar yield:-

The genotypes CoVSI 08122 (16.23 t ha⁻¹) was recorded significantly higher and being at par with genotype CoN 08081 (13.58 t ha⁻¹) in respect of sugar yield.

Ancillary Growth Character:-

Co 08018 (116420 ha⁻¹) recorded significantly superior and at par with CoVC 08062 (109259 ha⁻¹), Co 08016 (104444 ha⁻¹) and CoN 08081 in respect of millable canes. Regarding Height Genotype CoVC 08063 (295 cm) recorded significantly superior over rest of all genotypes and being at par with CoVSI 08122 and CoJN 08091, Co 08016 and Co 08007. Number of internodes recorded significantly higher by genotype CoJN 08091 (26.87) and being at par with Co 08007. Cane diameter recorded significantly superior by genotype CoR 08141 (3.45 cm) and found at par with genotypes CoVC 08061 and CoN 08072.

Table 21: Sugarcane Juice quality at 300 DAP.

Sr. No.	Genotypes	Brix	Pol %	C.C.S. %	Purity %
1	Co 08007	20.90	17.28	11.55	81.95
2	Co 08008	21.07	17.75	11.99	84.11
3	Co 08009	20.67	17.09	11.43	78.62
4	Co 08016	20.67	16.00	10.32	77.58
5	Co 08018	21.20	18.04	12.25	84.32
6	CoN 08019	20.50	16.96	11.35	81.78
7	CoM 08020	21.30	17.36	11.52	80.41
8	CoJN 08091	18.17	13.94	8.94	76.47
9	CoN 08081	18.10	14.60	9.63	76.30
10	CoN 08072	19.63	16.49	11.12	82.74
11	CoR 08141	21.43	18.38	12.52	84.31
12	CoSnk 08101	21.17	17.78	11.99	83.90
13	CoVC 08061	16.47	12.42	7.88	78.61
14	CoVC 08062	20.40	17.02	11.44	83.72
15	CoVC 08063	20.20	16.30	10.76	81.11
16	CoVC 08064	20.47	17.16	11.56	85.21
17	CoVSI 08122	19.57	15.99	10.63	77.07
18	CoVSI 08123	21.00	18.10	12.36	89.73
19	Co 86032 (Ch)	21.73	18.28	12.33	84.26
20	Co 99004 (Ch)	21.57	18.29	12.39	84.92
	'F' Test	Sig	Sig	Sig	N S
	SEm±	0.71	0.77	0.64	3.12
	CD at 5%	2.03	2.20	1.82	--

Juice quality:

Check Co 86032 recorded (21.73) significantly superior over the all genotypes excluding CoN 08072, CoN 08081, CoJN 08091, CoVSI 08122 and CoVC 08061 in respect of brix. The similar trend was observed in Pol % and CCS %. Regarding Purity % CoVSI 08123 was recorded numerically more but not reach up to the level of significance.

Table 22: Sugarcane Juice quality at harvest.

Sr. No.	Genotypes	Brix	Pol %	C.C.S.%	Purity %
1	Co 08007	22.73	19.37	13.15	81.84
2	Co 08008	23.47	20.09	13.68	84.94
3	Co 08009	22.37	18.84	12.72	84.14
4	Co 08016	24.00	19.32	12.74	82.43
5	Co 08018	22.73	19.54	13.33	85.94
6	CoN 08019	22.73	19.68	13.47	84.79
7	CoM 08020	23.07	19.33	13.02	83.63
8	CoJN 08091	20.70	17.28	11.62	82.94
9	CoN 08081	21.53	18.13	12.24	82.81
10	CoN 08072	21.67	18.25	12.33	80.91
11	CoR 08141	23.53	19.82	13.38	84.11
12	CoSnk 08101	22.77	19.07	12.85	83.92
13	CoVC 08061	19.90	16.18	10.72	80.37
14	CoVC 08062	22.70	18.34	12.12	80.91
15	CoVC 08063	22.63	18.95	12.76	83.97
16	CoVC 08064	22.63	18.38	12.18	80.34
17	CoVSI 08122	22.13	20.04	14.01	90.50
18	CoVSI 08123	23.53	19.92	13.48	84.00
19	Co 86032 (Ch)	23.20	20.06	13.72	86.71
20	Co 99004 (Ch)	24.10	19.50	12.90	81.37
	'F' Test	Sig	N S	N S	N S
	SEm±	0.59	0.99	0.95	3.52
	CD at 5%	1.70	--	--	--

Juice quality:

The check Co 99004 recorded (24.10) significantly superior and at par with rest of the genotypes except CoVSI 08122, CoVC 08061, CoN 08072, CoN 08081, CoJN 08091 and Co 08009 in respect of Brix. In case of Pol % genotype Co 08008 recorded numerically higher value but found statistically non significant. Regarding CCS % and Purity % CoVSI 08122 recorded numerically higher but did not reach upto the level of significances.

Part V

On going and new Research Programme to be under taken during 2012-2013

I. Crop Improvement

1. Zonal Varietal Trial IVT (early) **
2. Zonal Varietal Trial IVT (midlate) **
3. Zonal Varietal Trial AVT plant I (early)
4. Zonal Varietal Trial AVT plant I (midlate)
5. Zonal Varietal Trial AVT plant II (midlate)
6. Zonal Varietal Trial AVT plant II (early)
7. Zonal Varietal Trial AVT Ratoon (midlate)
8. Zonal Varietal Trial AVT Ratoon (early)

Note : ** The experiments could not conducted during 2012-13 due to the shortage of irrigation water

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A REPORT
OF
THE RESEARCH WORK DONE
ON
SUGARCANE CROP IMPROVEMENT

DURING 2011-12

Submitted to

**ALL INDIA CO-ORDINATED RESEARCH PROJECT
ON SUGARCANE**



Submitted by

**SENIOR RESEARCH SCIENTIST
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