

ACHARYA N. G. RANGA AGRICULTURAL UNIVERSITY



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To
The Project Co-ordinator (Sugarcane),
Indian Institute of Sugarcane Research,
LUCKNOW - 226002

Sir,

Sub: Sending of crop improvement data for the year 2011-12, RARS, Anakapalle –
Submission – Regarding.

I submit to enclose herewith the AICRP Annual report pertaining to plant breeding department of Regional Agricultural Research Station, Anakapalle for the year 2011-12.

Yours faithfully

Principal Scientist (Sugarcane)

Acharya N.G. Ranga Agricultural University

AICRP ON SUGARCANE

Annual Report

2011 – 2012

Genetics & Plant Breeding

**Regional Agricultural Research Station,
Anakapalle – 531 001, Visakhapatnam District (A.P)**

PLANT BREEDING
Detailed report on experiment wise

- I. Project No. : B IV fluff supply programme
P2 – 2011 / 1 / AHD / F30 / H10 / H20 / 0230
- II. Project Title : Evolving improved sugarcane genotypes suitable for different agro-climatic zones of Andhra Pradesh – Seedling nursery
- III. Serial number of the year of Experimentation : I
- IV. Location : Regional Agricultural Research Station, Anakapalle
- V. Objective : To screen and isolate promising genotypes from population of true seed for further testing in settling nursery.
- VI. Technical Programme on which the technical programme is based : Based on location specific problems and needs of farmers and sugar industry in different agro-climatic zones of the state.
- VII. Discipline wise – technical report :
- a. Date of transplanting : 30.5.2011, 4.6.2011 and 15.6.2011
- b. Varieties : 16,228 seedlings from 54 crosses, 38 GCs and 12 PCs.
- c. Fertilizer application : 100 kg P₂O₅ + 120 kg K₂O / ha basal. 112 kg N in two splits, Viz., 30 Per cent at 10 DAP and 70 Per cent at 60 DAP.
- d. Cultural practices :
- Hand weeding : 2.7.2011, 5.7.2011, 7.7.2011, 9.7.2011 and hoeing : 1.7.2011 and 12.7.2011
- Inter cultivation : 5.8.2011, 8.8.2011, 16.8.2011 and 17.8.2011.
- Rectification of cross channels : 19.8.2011, 20.8.2011 & 22.8.2011
- Removal of flower weeds : 5.9.2011, 6.9.2011, 7.9.2011 & 21.10.2011
- I Tier TT Propping : 6.9.2011, 8.9.2011 and 23.9.2011
- II Tier TT Propping : 11.10.2011, 14.10.2011, 15.10.2011 and 27.10.2011
- III Tier TT Propping : 1.11.2011, 8.11.2011, 9.11.2011, 16.11.2011, 13.12.2011, 15.12.2011, 20.12.2011 and 26.12.2011.
- e. Irrigations : Irrigation at alternate days till establishment and once in six days during formative phase and once in 18 days during maturity.
- f. Plant protection : Need based
- g. Date of harvest : 02.05.2012
- h. Plot size : Furrows of 10m length with 80 cm between furrow
- i. Layout :
- j. Replications : Non – replicated spaced planted trial.
- k. Total experimental area : 1.0 ha
- l. Name and designation of the participants :
1. Dr.K.Prasada Rao, Principal Scientist (PlantBreeding)
 2. Dr.D.Adilakshmi, Senior Scientist (Plant Breeding)
 3. Dr.M.Charumathi, Scientist (Plant Breeding)

m. Results recorded during the previous year :

During 2010-11, a total of 14,337 seedlings were transplanted from 40 crosses, 35 GCs and 12PCs of which 4,537 seedlings survived in the main field with an average survival per cent of 31.65 per cent .Three hundred and twenty one genotypes were selected from seedling nursery based on desired morphological characters and HR Brix values. Maximum number of genotypes were selected in 81V48XCoSe 92423 (44), 81V48XCoA7602 (41) and 88A189GC (30). Number of canes per clump ranged from 2.50 (CP52-68pc) to 8.50 (Co 88028GC). Among the selected clones HR brix values ranged from 20.10 (CoA 7602 pc) to 25.33 (Co 7219 X CoT 8201). Cane length varied from 2.30 (Co 8371 X Co 775) to 3.22 m (Co 2000 – 10GC). Cane diameter ranged from 2.07 (Co 200010 GC) to 2.72 cm (86 A 146 GC). Single cane weight ranged from 0.92 (88 A 189 Gc) to 1.46 kg (87 A 298 X CoV 92102).

n. Results obtained during the year :

During 2011 – 12, a total quantity of 1941.22 g of fluff was received from SBI, Coimbatore. A total number of 16,228 seedlings were transplanted from 40 station crosses, 14 zonal crosses, 12 PC's and 38 GCs'. Out of which 11,620 seedlings survived in the main field with an average survival per cent of 71.60. (Table1).Three hundred and fifty seven genotypes were selected from seedling nursery based on desired morphological characters and HR brix values. Maximum number of genotypes were selected in CoA 92081 GC (48), CoV 98101xCoT 8201 (31),CoA 07321 x CoS 8436 (27) and Co 6304x CoA 7602 (26) . Number of canes per clump ranged from 2.83m (Co8371xCoV 92102) to 6.00 (CoA 92081x Co 1148). Among the selected clones HR brix values ranged from 20.01 (Co 2000-10xC 79180) to 25.40 (Co 7201 PC).Cane length varied from 2.39m (CoS 8436 GC) to 3.07m (Co 7706 x CoV 92102). Cane diameter ranged from 2.12cm (Co 06033GC) to 2.82 cm (CoS 8436 GC). Single cane weight ranged from 0.96 (CoV 98101x CoA 7602) to 1.67 kg (CoA 92081 X CoV 92102). (Table 2)

VIII Technical programme of the year next to the reporting year:

The fluff of 19 station crosses, 11 zonal crosses, 13 poly crosses and 25 GCs was received from Sugarcane Breeding Institute, Coimbatore will be studied during 2012-13.

IX Technical summary of the individual reporting year :

A total number of 16,228 seedlings were transplanted from 40 station crosses, 14 zonal crosses, 12 PC's and 38 GCs'. Out of which 11,620 seedlings survived in the main field with an average survival per cent of 71.60. Three hundred and fifty seven genotypes were selected from seedling nursery based on desired morphological characters and HR brix values. Maximum number of genotypes were selected in CoA 92081 GC (48), CoV 98101xCoT 8201 (31), CoA 07321 x CoS 8436 (27) and Co 6304x CoA 7602 (26) . Number of canes per clump ranged from 2.83 (Co8371xCoV 92102) to 6.00 (CoA 92081x Co 1148). Among the selected clones HR brix values ranged from 20.01 (Co 2000-10xC 79180) to 25.40 (Co 7201 PC).Cane length varied from 2.39 (CoS 8436 GC) to 3.07 m (Co 7706 x CoV 92102). Cane diameter ranged from 2.12 (Co 06033GC) to 2.82 cm (CoS 8436 GC). Single cane weight ranged from 0.96 (CoV 98101x CoA 7602) to 1.67 kg (CoA 92081 X CoV 92102).

X. Salient findings.

A total number of 16,228 seedlings were transplanted from 40 station crosses, 14 zonal crosses, 12 PC's and 38 GCs'. Out of which 11,620 seedlings survived in the main field with an average survival per cent of 71.60. Three hundred and fifty seven genotypes were selected from seedling nursery based on desired morphological characters and HR brix values. Maximum number of genotypes were selected in CoA 92081 GC (48), CoV 98101xCoT 8201 (31), CoA 07321 x CoS 8436 (27) and Co 6304x CoA 7602 (26) . Number of canes per clump ranged from 2.83 (Co8371xCoV 92102) to 6.00 (CoA 92081x Co 1148). Among the selected clones HR brix values ranged from 20.01 (Co 2000-10xC 79180) to 25.40 (Co 7201 PC).Cane length varied from 2.39 (CoS 8436 GC) to 3.07 m (Co 7706 x CoV 92102). Cane diameter ranged from 2.12 (Co 06033GC) to 2.82 cm (CoS 8436 GC). Single cane weight ranged from 0.96 (CoV 98101x CoA 7602) to 1.67 kg (CoA 92081 X CoV 92102).

Table 1. Details of seedling Nursery 2011 – 2012

S.No	Name of the cross/PC/GC	Quantity of fluff received	No. of seedlings obtained	No. of seedlings/gram of fluff	No. of seedlings survived	Survival per cent
1	CoV 98101 X Co C 8001	23.90	225	9.41	197	87.55
2	Co 85002 X Co A 7602	18.76	22	1.17	21	95.45
3	Co 2000-10 X CoV 92102	08.74	19	2.17	16	84.21
4	Co 86032 X Co V 92102	14.94	175	11.71	153	87.43
5	Co V 98101 X Co A 7602	09.25	375	40.54	203	54.13
6	Co A 92082 X Co Se 92423	11.64	325	27.92	247	76.00
7	Co 7706 X Co A 7602	22.77	19	0.83	16	84.51
8	Co A 07321 X Co S 8436	07.09	225	31.73	149	66.22
9	ISH 100 X Co 86032	16.23	5	0.31	5	100.00
10	Co 2000-10 X C 79180	09.50	28	2.95	25	89.28
11	Co 7706 X Co 86032	23.14	17	0.73	16	94.12
12	Co 8371 X Co V 92102	11.13	175	15.72	160	91.43
13	Co A 07321 X Co S 8436	12.32	2	0.16	2	100.00
14	Co 92002 X Co 86032	11.55	22	1.90	15	68.18
15	Co A 96081 X Co Se 92423	43.88	350	7.98	279	79.71
16	Co A 96081 X ISH 50	41.32	24	0.58	23	95.83
17	Co A 7602 X Co 86032	20.70	100	4.83	95	95.00
18	Co A 92082 X Co 86032	11.56	66	5.71	46	69.70
19	Co V 92101 X Co PANT 92227	12.22	Germination failed			
20	Co 85002 X 85 R 186	32.50	645	19.85	387	60.00
21	Co 94012 X 85 R 186	12.34	100	8.10	48	48.00
22	Co 89010 X Co PANT 92227	20.80	Germination failed			
23	Co 7219 X Co S 8436	25.29	28	1.11	26	92.86
24	ISH 100 X C 81615	18.86	50	2.65	50	100.00
25	Co 7706 X Co V 92102	28.40	136	4.79	103	75.73
26	Co 06033 X Co 86249	22.76	11	0.48	9	81.82
27	Co A 96081 X C 81615	25.24	Germination failed			
28	Co A 07321 X 85 R 186	20.02	565	28.22	328	58.05
29	NCO 310 X Co Se 95422	07.61	22	2.89	14	63.64
30	UP 5 X CO LK 9116	19.38	33	3.87	29	38.67
31	CO H 12 X CO LK 8002	19.71	165	8.37	141	85.45
32	ISH 150 X Co H 12	20.11	375	18.65	245	65.33
33	Co V 98101 X Co A 90081	18.50	295	15.94	125	42.37
34	Co A 92081 X Co 1148	09.02	250	27.72	170	68.00
35	Co 6304 X Co 1148	04.81	41	8.52	35	85.36
36	Co C 671 X CoT 8201	07.52	11	1.46	9	81.82
37	Co V 98101 X Co T 8201	10.00	525	52.50	235	44.76
38	Co A 92081 X Co 94008	09.71	100	10.30	83	83.00
39	Co A 92082 X 97 R 129	06.01	75	12.48	70	93.33
40	Co A 92081 X Co 62198	12.34	6	0.49	6	100.00
41	Co 8371 X Co 775	18.50	375	20.27	201	53.60
42	Co V 98101 X ISH 69	21.92	725	33.07	356	49.10
43	Co A 92081 X Co T 8201	10.51	11	1.05	8	72.73
44	ISH 100 X C 81615	16.16	1	0.06	1	100.00
45	Co V 98101 X Co A 7602	20.85	2	0.09	2	100.00
46	ISH 175 X Co V 92102	10.48	66	6.30	56	84.85
47	Co 6304 X Co A 7602	14.88	350	23.52	256	73.14
48	Co A 92081 X Co V 92102	14.29	19	1.33	19	100.00
49	Co 7219 X Co T 8201	22.11	15	0.68	15	100.00
50	Co C 90063 X Co 94008	12.00	150	12.50	103	68.67
51	Co 8013 X Co C 671	18.00	175	9.72	167	95.43
52	Co C 671 X Co A 7602	9.10	Germination failed			

53	Co 86032 X Co 86249	10.42	150	14.39	62	41.33
54	Co 740 X Co C 671	5.46	11	2.01	6	54.54
	Poly crosses					
55	86 V 96	5.41	44	8.13	38	86.36
56	81 V 48	7.51	350	46.60	291	83.14
57	Co C 90063	12.53	44	3.51	38	86.36
58	Co A 7602	3.50	3	0.86	3	100.00
59	Co M 0265	9.56	275	28.76	208	75.64
60	Co 2000-10	7.80	75	9.61	63	84.00
61	ISH 100	5.91	88	14.89	80	90.91
62	Co 94012	10.00	46	4.60	39	84.78
63	Co 85002	13.80	400	28.98	314	78.50
64	Co C 671	10.00	1	0.10	1	100.00
65	Co 8371	17.00	240	14.12	137	57.08
66	Co 7201	7.28	91	12.50	81	89.01
	GCs					
67	Co V 92101	23.30	121	5.19	110	90.91
68	Co 92002	27.81	399	14.35	344	86.21
69	Co 98006	47.15	120	2.54	101	84.17
70	85 R 186	51.62	22	0.43	19	86.36
71	Co A 96081	44.71	1	0.02	1	100.00
72	Co 8013	16.91	176	10.41	130	73.86
73	Co 7706	29.68	2	0.07	2	100.00
74	Co A 07321	19.28	475	24.64	148	31.16
75	Co A 07322	12.75	225	17.65	134	59.55
76	Co 06033	35.74	384	10.74	254	66.14
77	Co C 85061	31.50	66	2.09	41	62.12
78	Co A 7602	8.77	1	0.11	1	100.00
79	Co 86032	13.80		Germination failed		
80	70 A 5	27.14	213	7.85	199	93.43
81	Co 95005	4.43		Germination failed		
82	Co 7201	4.84		Germination failed		
83	Co 7219	23.16	10	0.43	8	80.00
84	Co 62198	5.65		Germination failed		
85	Co A 92082	12.00	88	7.33	81	92.04
86	Co 94012	11.62	2	0.17	2	100.00
87	Co 1158	11.39	110	9.66	101	91.82
88	CO LK 8102	34.78	875	25.16	752	85.94
89	Co 85002	16.18	457	28.24	391	85.56
90	ISH 100	21.94	242	11.03	213	88.02
91	Co 88025	8.15	20	2.45	13	65.00
92	Co J 99192	51.91	252	4.85	235	93.25
93	Co H 119	30.47	691	22.68	584	84.51
94	Co A 92081	49.82	830	16.66	741	89.28
95	Co 94008	5.84		Germination failed		
96	Co 98010	8.82	101	11.45	80	79.21
97	Co A 90081	25.09	500	19.93	225	45.00
98	ISH 111	24.74	4	0.16	4	100.00
99	Co V 98101	17.91	408	22.78	269	65.93
100	Co 2000-10	4.82	22	4.56	14	63.64
101	Co C 671	131.2	4	0.03	4	100.00
102	MS 6847	7.92	2	0.25	2	100.00
103	2003 V 46	7.40		Germination failed		
104	Co S 8436	34.41	91	2.64	91	100.00
	Total	1941.22	16,228	8.36	11,620	71.60

Table2: Mean data of selected clones in Seedling Nursery 2011 – 2012

S.No	Pedigree	No. of selections	Genotypes	No of canes / Clump	HR Brix per cent	Cane length (m)	Cane Diameter (cm)	Single cane weight (kg)
1	CoH 119GC	22	2012A 1 to 2012A 11 and 2012A 62 to 2012A 72	4.14	22.63	2.55	2.47	1.05
2	CoA 92081GC	48	2012A 12 to 2012A59	3.67	22.07	2.64	2.49	1.08
3	Co 2000-10x C79180	2	2012A 60 & 2012A 61	3.00	20.01	2.73	2.51	1.17
4	Co 6304x Co 1148	4	2012A73 to 2012A 76	4.50	21.07	2.78	2.53	1.25
5	CoA 07321x CoS 8436	27	2012A77 to 2012 103	3.67	21.21	2.61	2.65	1.19
6	CoS 8436 GC	3	2012A104 to 2012A 106	3.67	23.07	2.39	2.82	1.04
7	CoV 98101x CoC 8001	2	2012A 107 & 2012A108	4.50	23.90	2.71	2.46	1.01
8	Co8371x CoV 92102	6	2012A 109 to 2012A 114	2.83	21.53	2.67	2.61	1.0
9	CoA 92082 X CoSe 92423	15	2012A 115 to 2012A 129	3.07	21.12	2.68	2.78	1.12
10	CoV 98101 x CoT 8201	31	2012A 130 to 2012A 151& 2012A 168 to 2012A 176	4.64	22.35	2.60	2.50	1.18
11	Co 7706x CoV 92102	7	2012A 161 to 2012A 167	4.43	22.86	3.07	2.57	1.15
12	CoA 92082X 97R129	2	2012A 152 & 2012A153	4.00	23.01	2.55	2.26	1.18
13	CoA07321x85R186	7	2012A154 to 2012A160	3.86	22.54	2.57	2.74	1.26
14	CoA 92081x Co 1148	4	2012A177 to 2012A180	6.00	20.80	2.55	2.60	1.08
15	CoV 98101x ISH69	15	2012A 181 to 2012A 195	5.00	22.39	2.70	2.67	1.24
16	CoA 7602x Co86032	1	2012 A 196	3.00	24.0	2.63	2.47	1.17
17	ISH 100x C81 615	2	2012A 197 & 2012A198	3.50	23.7	2.70	2.60	1.10
18	Co85002Gc	9	2012A199, 2012 A 200 and 2012A215 to 2012A218 & 2012A299 to 2012A 301	4.40	23.67	2.57	2.48	1.06
19	CoJ 99192GC	9	2012A 201 to 2012A 209	4.22	23.20	2.62	2.21	1.06
20	Co9202Gc	5	2012A 210 to 2012A 214	5.00	22.16	2.69	2.43	1.14

21	Co 86032x Co86249	6	2012A 219 to 2012A 223 & 2012A 323	4.50	23.4	2.57	2.22	1.26
22	CoV 98101x CoA 7606	3	2012A 224 to 2012A 226	3.67	23.8	2.71	2.08	1.05
23	CoC 90063 x Co 94008	5	2012A 227 to 2012A 228 & 2012A 331 to 2012A 333	3.80	25.24	2.65	2.44	1.23
24	CoA 90081 Gc	8	2012A 229 to 235 & 334	4.50	22.87	2.63	2.51	1.19
25	Co 6304x CoA 7602	26	2012A 236 to 2012A 249 & 2012A 341 to 2012A 352	3.38	23.06	2.48	2.42	1.18
26	Co 8371 x Co 775	8	2012A 250 to 2012A 256 & 2012A 322	4.75	22.88	2.65	2.32	1.09
27	Co 85002 x 85R 186	9	2012A 257 to 2012A 264 & 2012A 325	3.11	22.83	2.60	2.33	1.18
28	CoA 92081x Co94008	7	2012A 265 & 2012A 335 to 2012A 340	3.43	23.00	2.52	2.16	1.00
29	Co 96081x CoSe 92423	9	2012A 266 to 2012A 274	4.11	23.47	2.42	2.40	1.11
30	Co 86032x Co92102	1	2012A 275	4.00	23.60	2.73	2.4	1.50
31	CoA 07321GC	10	2012A 276 to 2012A 285	4.50	23.43	2.52	2.43	1.04
32	Co 2000-10 PC	1	2012A 286	4.00	23.20	2.77	2.67	1.00
33	Co 85002Pc	2	2012A 287 & 2012A 288	3.00	22.90	2.62	2.38	1.08
34	Co 7201PC	1	2012A 289	5.00	25.40	2.68	2.4	1.02
35	CoM 0265PC	10	2012A 290 to 295 & 2012A 311 to 2012A 314	4.30	23.29	2.57	2.37	1.14
36	ISH 100GC	3	2012A 296 to 2012A 298	3.67	23.33	2.55	2.35	1.27
37	CoA 92081x CoV92102	1	2012A 302	3.00	21.80	2.55	2.5	1.67
38	Co 94012x 85R 186	4	2012A 303 to 2012A 306	4.50	24.00	2.67	2.46	1.33
39	CoH 12x CoLk 8002	2	2012A 307 & 2012A 308	4.00	22.40	2.57	2.31	1.25
40	CoA 92081x Co 62198	1	2012A 309	3.00	24.60	2.58	2.3	1.00
41	70A5 GC	2	2012A 310 & 2010A 357	3.50	22.70	2.50	2.16	1.00
42	CoA 92082 Gc	6	2012A 315 to 2012A 319 & 2012 A 320	3.17	22.68	2.52	2.31	1.05
43	86V96PC	1	2012A321	5.00	22.30	2.67	2.5	1.00
44	CoV98101x CoA 7602	6	2012A 324 & 2012A 326 to 2012A 330	3.83	23.83	2.50	2.13	0.96
45	Co 06033GC	3	2012A 353 to 2012A 355	4.33	22.40	2.65	2.12	1.00
46	CoV 98101GC	1	2012A 356	4.00	22.60	2.68	2.4	1.00

- I. Project No. : B IV fluff supply programme
P2 – 2011 / 2 / AHD / F30 / H10 / H20 / 02301
- II. Project Title : Evolving improved sugarcane genotypes suitable for different agro-climatic zones of A.P. –Settling nursery
- III. Serial number of the year of Experimentation : II
- IV. Location : Regional Agricultural Research Station, Anakapalle
- V. Objective : To identify superior clones for further study in selection nursery.
- VI. Technical Programme on which the technical programme is based : Based on location specific needs and problems identified in Zonal Research and Extension Advisory Council Meetings and diagnostic team visits.
- VII. Discipline wise – technical report
- a. Date of planting : 1.4.2011
- b. Varieties : 321 clones selected from seedling nursery 2010 – 11
- c. Fertilizer application : 112 kg N + 100 kg P₂O₅ + 120 kg K₂O / ha
- d. Cultural practices
- Hand weeding and hoeing : 24.5.2011, 25.5.2011,26.5.2011 and 28.5.2011
- Inter cultivation on : 30.5.2011 and 31.5.2011
- Rectification of cross channels : 1.6.2011 and 2.6.2011
- Removal of flower weeds : 11.8.2011,12.8.2011,13.9.2011,14.10.2011&17.11.2011
- TT propping I tier : 31.8.2011
- TT propping II tier : 12.9.2011, 14.10.2011,15.10.2011 and 17.10.2011
- e. Irrigations : Once in a week during formative phase and once in 18 days during maturity phase.
- f. Plant protection : --
- g. Date of harvest : 12.3.2012
- h. Plot size : 2.5 m x 0.8 m x 2R =4.0m²
- i. Layout : ARCBD
- j. Replications : 0.2 ha
- k. Total experimental area : 0.2 ha
- l. Name and designation of the participants : 1. Dr.K.Prasada Rao, Principal Scientist (Plant Breeding)
2. Dr.D.Adilakshmi, Senior Scientist (Plant Breeding)
3. Dr.M.Charumathi, Scientist (Plant Breeding)

m. Results obtained during the previous year:

In Settling nursery out of 519 genotypes tested during 2010-2011, 100 clones were selected based on morphological features and HR brix values. Among the selected clones, 2010 A 11 (145.00 t/ha) 2010 A 17, 2010 A 19, 2010 A 155 (125.00 t/ha) and 2010 A 53, 2010 A 54, 2010 A 84 and 2010 A 89 (120.00 t/ha) recorded cane yield of more than 120.00 t/ha in comparison with standards, Co 6907 (110.00 t/ha) and Co 7219 (115.00 t/ha). The clones 2010 A 53, 2010 A 175, 2010 A 279 (26.25) 2010 A 302 (24.06) and 2010 A 518 (24.00) recorded higher percent juice sucrose when compared to standards Co 6907 (21.30) and Co 7219 (22.40) for Brix. The clones viz., 2010 A 53 (31.20 t/ha). 2010 A 314 (28.80 t/ha), 2010 A 155 (28.25), 2010 A 192 (28.06 t/ha) and 2010 A 175 (27.95) recorded maximum brix yield when compared standards Co 6907 (20.87) and Co 7219 (25.76).

n. Results obtained during the year:

In settling nursery 321 genotypes tested during 2011-12 (table 3). Ninety one clones were selected based on morphological features and HR brix values. Among the selected clones 2011A 250 (150t/ha), 2011A 11, 2011A 33, 2011A 86(147.50 t/ha) and 2011A 42, 2011A 102(145t/ha) 2011A134 (142.50 t/ha), 2011A49 (140 t/ha), 2011A7, 2011A116, 2011A175, 2011A202, 2011A211 (137.50) recorded higher cane yield. The clone 2011A39 (23.73), 2011A 255 (23.13), 2011A 313 (23.10), 2011A 267(23.00), 2011A21,2011A41(22.67) recorded higher brix percent when compared to standards Co 7219 (20.70%) and Co 6907 (19.27%). The clones viz., 2011A11(31.79 t/ha), 2011A33(31.56 t/ha), 2011A39(31.44), 2011A 250 (31.05) recorded maximum brix yield when compared to standards Co6907 (19.85) and Co 7219 (21.94)

VIII. Technical programme of the year next to the reporting year:

Three hundred and fifty seven genotypes selected from seeding nursery of 2011-12 will be studied in setting nursery during 2012-13 season.

IX. Technical summary of the individual reporting year:

In settling nursery 321 genotypes tested during 2011-12 .Ninety one clones were selected based on morphological features and HR brix values. Among the selected clones 2011A 250 (150t/ha), 2011A 11, 2011A 33, 2011A 86(147.50 t/ha) and 2011A 42, 2011A 102(145t/ha) 2011A134 (142.50 t/ha), 2011A49 (140 t/ha), 2011A7, 2011A116, 2011A175, 2011A202, 2011A211 (137.50) recorded higher cane yield. The clone 2011A39 (23.73), 2011A 255 (23.13), 2011A 313 (23.10), 2011A 267(23.00), 2011A21,2011A41(22.67) recorded higher brix percent when compared to standards Co6907 (19.27%) and Co7219 (20.70%) .The clones viz., 2011A11(31.79 t/ha), 2011A33(31.56 t/ha), 2011A39(31.44), 2011A 250 (31.05) recorded maximum brix yield when compared to standards Co6907 (19.85) and Co 7219 (21.94)

X. Salient findings.

In Settling Nursery 321 genotypes were tested during 2011 -12. Ninety one clones were selected based on morphological features and HR brix values. Among the selected clones 2011A 250 (150t/ha), 2011A 11, 2011A 33, 2011A 86(147.50 t/ha) and 2011A 42, 2011A 102(145t/ha) 2011A134 (142.50 t/ha), 2011A49 (140 t/ha), 2011A7, 2011A116, 2011A175, 2011A202, 2011A211 (137.50) recorded higher cane yield. The clone 2011A39 (23.73), 2011A 255 (23.13), 2011A 313 (23.10), 2011A 267(23.00), 2011A21,2011A41 (22.67) recorded higher brix percent when compared to standards Co6907 (19.27%) and Co7219 (20.70%) .

Table 3: Performance of selected clones in Settling Nursery 2011 – 2012

S.No	Clone	Pedigree	NMC 000/ha	Cane Yield t/ha	HR Brix %	Brix Yield t/ha
1.	2011 A 250	88 A 189 GC	137.50	150.00	20.70	31.05
2.	2011 A 11	81 V 48X Co A 7602	132.50	147.50	21.55	31.79
3.	2011 A 33	81 V 48X Co A 7602	130.00	147.50	21.40	31.56
4.	2011 A 86	Co 86032X Co 94008	120.00	147.50	20.70	30.53
5.	2011 A 42	87 A 298X Co V 92102	125.00	145.00	20.80	30.16
6.	2011 A 102	81 V 48X Co Se 92423	137.50	145.00	19.27	27.94
7.	2011 A 134	87 A 298X Co T 8201	117.50	142.50	21.25	30.28
8.	2011 A 49	87 A 298X Co V 92102	125.00	140.00	21.87	30.62
9.	2011 A 7	81 V 48X Co A 7602	125.00	137.50	21.20	29.15
10.	2011 A 116	81 V 48X Co Se 92423	100.00	137.50	19.17	26.36
11.	2011 A 175	Co7219X Co T 8201	125.00	137.50	20.65	28.39
12.	2011 A 202	C79027 GC	105.00	137.50	20.06	27.58
13.	2011 A 211	C79027 GC	110.00	137.50	19.67	27.05
14.	2011 A 44	87 A 298X Co V 92102	120.00	135.00	18.67	25.2
15.	2011 A 219	C 79218 GC	120.00	135.00	20.30	27.4
16.	2011 A 259	88 A 189 GC	120.00	135.00	21.55	29.09
17.	2011 A 13	81 V 48X Co A 7602	127.50	132.50	20.90	27.69
18.	2011 A 39	81 V 48X Co A 7602	125.00	132.50	23.73	31.44
19.	2011 A 83	Co 86032X Co 94008	112.50	132.50	21.40	28.35
20.	2011 A 104	81 V 48X Co Se 92423	125.00	132.50	20.47	27.12
21.	2011 A 163	Co98008X Co 78201	107.50	132.50	20.50	27.16
22.	2011 A 193	Co 98008 GC	125.00	132.50	19.60	25.97
23.	2011 A 166	87 A 298X ISH 69	100.00	132.00	19.33	25.51
24.	2011 A 236	C 79218 GC	107.50	132.00	21.77	28.74
25.	2011 A 21	81 V 48X Co A 7602	125.00	130.00	22.67	29.47
26.	2011 A 27	81 V 48X Co A 7602	112.50	130.00	21.00	27.3
27.	2011 A 94	Co 8371X Co775	100.00	130.00	20.67	26.87
28.	2011 A 152	81 V 48X Co Se 92423	102.50	130.00	21.25	27.62
29.	2011 A 176	Co7219X Co T 8201	105.00	130.00	18.80	24.44
30.	2011 A 212	C79027 GC	92.50	130.00	18.95	24.65
31.	2011 A 222	C 79218 GC	112.50	130.00	20.60	26.78
32.	2011 A 225	C 79218 GC	102.50	130.00	18.53	24.09
33.	2011 A 34	81 V 48X Co A 7602	125.00	127.50	20.00	25.5
34.	2011 A 41	81 V 48X Co A 7602	125.00	127.50	22.67	28.9
35.	2011 A 105	81 V 48X Co Se 92423	105.00	127.50	20.33	25.92
36.	2011 A 230	C 79218 GC	102.50	127.50	19.04	24.2
37.	2011 A 270	Co 8371 PC	107.50	127.50	20.50	26.14

38.	2011 A 5	81 V 48X Co A 7602	112.50	125.00	20.33	25.41
39.	2011 A 10	81 V 48X Co A 7602	100.00	125.00	19.85	24.81
40.	2011 A 30	81 V 48X Co A 7602	107.50	125.00	21.50	26.87
41.	2011 A 40	81 V 48X Co A 7602	112.50	125.00	20.40	25.5
42.	2011 A 67	81 V 48X 97 R 129	100.00	125.00	20.00	25
43.	2011 A 78	81 V 48X 97 R 129	112.50	125.00	21.17	26.46
44.	2011 A 90	Co 8371X Co775	112.50	125.00	20.20	25.25
45.	2011 A 158	Co98008X Co 78201	112.50	125.00	18.98	23.72
46.	2011 A 226	C 79218 GC	102.50	125.00	18.96	23.7
47.	2011 A 252	88 A 189 GC	100.00	125.00	21.60	27
48.	2011 A 79	81 V 48X 97 R 129	105.00	122.50	20.10	24.62
49.	2011 A 91	Co 8371X Co775	100.00	122.50	21.33	26.13
50.	2011 A 96	Co 8371X Co775	100.00	122.50	20.52	25.14
51.	2011 A 313	Co 2000- 10PC	112.50	122.50	23.10	28.3
52.	2011 A 145	81 V 48X Co Se 9243	95.00	120.00	20.33	24.2
53.	2011 A 178	Co 88028 GC	95.00	120.00	21.25	25.5
54.	2011 A 205	C79027 GC	105.00	120.00	20.53	24.64
55.	2011 A 240	C 79218 GC	100.00	120.00	20.20	24.24
56.	2011 A 267	Co 8371 PC	112.50	120.00	23.00	27.6
57.	2011 A 294	Co 85002 GC	97.50	120.00	20.00	24
58.	2011 A 98	Co 8371X Co775	100.00	117.50	19.33	22.71
59.	2011 A 167	87 A 298X ISH 69	100.00	117.50	20.40	23.97
60.	2011 A 275	90 A 272 GC	105.00	117.50	21.27	24.99
61.	2011 A 24	81 V 48X Co A 7602	100.00	115.00	21.33	24.53
62.	2011 A 64	81 V 48X 97 R 129	100.00	115.00	22.20	25.53
63.	2011 A 95	Co 8371X Co775	100.00	115.00	20.40	23.46
64.	2011 A 149	81 V 48X Co Se 9243	107.50	115.00	20.10	23.11
65.	2011 A 260	88 A 189 GC	85.00	115.00	20.20	23.23
66.	2011 A 287	87 A 380 GC	95.00	115.00	20.07	23.08
67.	2011 A 319	Co M 265 PC	112.50	115.00	21.75	25.01
68.	2011 A 100	81 V 48X Co Se 92423	100.00	112.50	20.57	23.14
69.	2011 A 121	81 V 48X Co Se 92423	100.00	112.50	19.70	22.16
70.	2011 A 253	88 A 189 GC	100.00	112.50	21.93	24.67
71.	2011 A 54	81 V 48X 97 R 129	97.50	110.00	20.10	22.11
72.	2011 A 255	88 A 189 GC	102.50	110.00	23.13	25.44
73.	2011 A 265	88 A 189	95.00	110.00	21.85	24.03
74.	2011 A 277	90 A 272 GC	92.50	110.00	20.27	22.3
75.	2011 A 308	Co M 265	100.00	110.00	20.33	22.36
76.	2011 A 218	C 79218 GC	102.50	107.50	18.56	19.95
77.	Co 7219 (C)	Co 449XCo 658	102.00	106.00	20.70	21.94

78.	2011 A 143	ISH 100X Co T 8201	95.00	105.00	21.00	22.05
79.	2011 A 231	C 79218 GC	95.00	105.00	20.20	21.21
80.	2011 A 273	Co Pant 92227	95.00	105.00	22.07	23.17
81.	2011 A 302	81 V 48 GC	95.00	105.00	20.00	21
82.	Co 6907 (C)	Co 740XCo 1287	100.00	103.00	19.27	19.85
83.	2011 A 139	87 A 298X Co T 8201	90.00	102.50	19.00	19.47
84.	2011 A 204	C79027 GC	97.50	102.50	20.13	20.63
85.	2011 A 207	C79027 GC	95.00	102.50	19.30	19.78
86.	2011 A 200	86 A 146 GC	95.00	100.00	21.00	21
87.	2011 A 242	C 79218 GC	87.50	100.00	19.60	19.6
88.	2011 A 262	Co 8371PC	87.50	100.00	19.20	19.2
89.	2011 A 314	81 V 48 PC	95.00	100.00	20.67	20.67
90.	2011 A 298	Co 85002 GC	90.00	97.50	21.33	20.8
91.	2011 A 261	Co 8371PC	90.00	95.00	22.20	21.09
92.	2011 A 177	Co7219X Co T 8201	87.50	90.00	20.13	18.12
93.	2011 A 281	ISH 100 GC	75.00	80.00	20.50	16.4

I.	Project No.	:	B VI fluff supply programme P2 – 2011 / 3 / AHD / F30 / H10 / H20 / 02301
II.	Project Title	:	Evolving improved sugarcane genotypes suitable for different agro-climatic zones of A.P – Selection Nursery
III.	Serial number of the year of Experimentation	:	III
IV.	Location	:	Regional Agricultural Research Station, Anakapalle
V.	Objective	:	To identify superior clones for further study in preliminary yield trail.
VI.	Technical Programme on which the technical programme is based	:	Based on location specific problems and needs identified in ZREAC and SLTP meetings.
VII.	Discipline wise – technical report		
	a. Date of planting	:	23.3.2011
	b. Varieties	:	100 clones selected from settling nursery of 2010-2011
	c. Fertilizer application	:	100 kg P ₂ O ₅ + 120 kg K ₂ O / ha as basal. 112 kg N in two splits, viz., at 45 DAP and 90 DAP.
	d. Cultural practices	:	
	Intercultivation on		26.5.2011 and 28.5.2011
	Rectification of cross channels		1.6.2011
	Removal of flower weeds		3.8.2011, 5.8.2011, 6.8.2011, 14.9.2011, 21.9.2011 27.10.2011, 28.10.2011, 30.12.2011 and 31.12.2011
	T.T. Propping I tier on		27.8.2011
	T.T. Propping II tier on		14.9.2011, 16.9.2011, 19.9.2011, 21.9.2011 and 24.9.2011
	T.T. Propping III tier on		4.10.2011 and 15.12.2011
	e. Irrigations	:	Once in a week during formative phase and once in 18 days during maturity phase.
	f. Date of harvest	:	30.3.2012
	g. Plot size	:	5.0 m X 0.8 m X 4 R =16m ²
	h. Layout	:	
	i. Replications		ARCBD
	j. Total experimental area		0.15 ha.
	k. Name and designation of the participants	:	1. Dr.K.Prasada Rao, Principal Scientist (Plant Breeding) 2. Dr.D.Adilakshmi, Senior Scientist (Plant Breeding) 3. Dr.M.Charumathi, Scientist (Plant Breeding)

I. Results recorded during the previous year:

Twenty one clones were selected from 66 clones during 2010-2011 (Table 4) in selection nursery. During 2010 - 2011 The clones 2009 A 288 (130.00 and 18.86 t/ha) 2009 A 107 (125.00 and 18.69t/ha), 2009 A 123 (121.87 and 15.50 t/ha) and 2009 A 344 (123.12 t/ha and 13.01) recorded higher cane and sugar yields when compared to standards Co 6907 (103.12 t/ha and 13.45 t/ha) and Co 7219 (102.50 t/ha) and 14.05t/ha). The clones 2009 A 107 (20.58), 2009A288 (19.70) and 2009 A 399 (19.68) recorded higher per cent sucrose compared to standards Co 6907 (17.98) and Co 7219 (18.75).

m. Results obtained during the year:

One hundred clones were evaluated during 2011-12 in selection nursery, out of which forty one clones were selected based on cane yield and other quality parameters. The clones viz., 2010A 229(125.00 t/ha), 2010A 273 (124.37 t/ha), 2010A 224 (122.50 t/ha), 2010A 241 (121.25 t/ha), 2010A 360 (120.62 t/ha) and 2010A 192 (120.0t/ha) recorded higher cane yield of more than 120.0t/ha when compared to the best check Co 6907 (101.25 t/ha). The clones 2010A 159, (20.00%), 2010A 56 (20.00%), 2010A 314 (20.42%), 2010A 309 (20.50%) and 2010 289(21.10%) recorded higher per cent juice sucrose compared to standards Co 6907 (16.00%) and Co 7219 (20.00%). The clones 2010A 154 (15.20 t/ha), 2010A 159 (16.83 t/ha), 2010A 197 (17.37 t/ha), 2010A 229 (18.94t/ha) and 2010A 309 (17.55 t/ha) recorded higher CCS yield compared to standards Co 6907 (11.24 t/ha) and Co 7219 (11.22 t/ha). (Table 4).

VIII Technical programme of the year next to the reporting year:

Ninety one clones selected from settling nursery 2011– 12 will be studied in selection nursery during 2012 – 13.

IX. Technical summary of the individual reporting year:

One hundred clones were evaluated during 2011-12 in selection nursery, out of which forty one clones were selected based on cane yield and other quality parameters. The clones viz., 2010A 229(125.00 t/ha), 2010A 273 (124.37 t/ha), 2010A 224 (122.50 t/ha), 2010A 241 (121.25 t/ha), 2010A 360 (120.62 t/ha) and 2010A 192 (120.0t/ha) recorded higher cane yield of more than 120.0t/ha when compared to the best check Co 6907 (101.25 t/ha). The clones 2010A 159, (20.00%), 2010A 56 (20.00%), 2010A 314 (20.42%), 2010A 309 (20.50%) and 2010 289(21.10%) recorded higher per cent juice sucrose compared to standards Co 6907 (16.00%) and Co 7219 (20.00%). The clones 2010A 154 (15.20 t/ha), 2010A 159 (16.83 t/ha), 2010A 197 (17.37 t/ha), 2010A 229 (18.94t/ha) and 2010A 309 (17.55 t/ha) recorded higher CCS yield compared to standards Co 6907 (11.24 t/ha) and Co 7219 (11.22 t/ha).

X. Salient findings.

Out of 100 clones studied during 2011-12 , out of which forty one clones were selected based on cane yield and other quality parameters. The clones viz., 2010A 229(125.00 t/ha), 2010A 273 (124.37 t/ha), 2010A 224 (122.50 t/ha), 2010A 241 (121.25 t/ha), 2010A 360 (120.62 t/ha) and 2010A 192 (120.0t/ha) recorded higher cane yield of more than 120.0t/ha when compared to the best check Co 6907 (101.25 t/ha). The clones 2010A 159, (20.00%), 2010A 56 (20.00%), 2010A 314 (20.42%), 2010A 309 (20.50%) and 2010 289(21.10%) recorded higher per cent juice sucrose compared to standards Co 6907 (16.00%) and Co 7219 (20.00%).

Table 4. Performance of selected clones in Selection Nursery 2011-12

S.No	Clone No.	NMC (000/ha)	Cane Yield (t/ha)	Per cent of juice sucrose	CCS Yield (t/ha)
1.	2010 A 229	120.00	125.00	21.0	18.94
2.	2010 A 273	112.50	124.37	16.05	13.87
3.	2010 A 224	113.75	122.50	16.8	14.04
4.	2010 A 241	117.50	121.25	16.0	13.68
5.	2010 A 360	110.00	120.62	18.60	16.18
6.	2010 A 192	115.00	120.00	19.76	14.22
7.	2010 A 197	112.50	118.75	19.76	17.37
8.	2010 A 251	117.50	118.75	16.73	14.16
9.	2010 A 309	115.00	118.75	20.50	17.55
10.	2010 A 159	111.25	116.87	20.0	16.83
11.	2010 A 155	110.00	115.62	16.0	12.81
12.	2010 A 17	100.00	113.12	17.21	13.79
13.	2010 A 440	106.25	112.50	18.20	14.72
14.	2010 A 89	107.50	111.87	16.8	13.16
15.	2010 A 54	105.00	111.25	17.2	13.75
16.	2010 A 255	106.25	111.25	18.0	14.35
17.	2010 A 154	105.00	110.00	19.05	15.20
18.	2010 A 249	108.75	110.00	17.50	13.68
19.	2010 A 292	105.00	110.00	16.6	12.64
20.	2010 A 344	105.00	108.75	16.2	12.10
21.	2010 A 167	100.00	108.12	18.80	14.86
22.	2010 A 182	105.62	108.12	16.80	12.91
23.	2010 A 302	102.50	107.50	19.00	14.54
24.	2010 A 144	103.12	105.62	16.00	11.72
25.	2010 A 175	101.87	105.62	18.00	13.69
26.	2010 A 454	100.00	105.62	16.50	12.60
27.	2010 A 399	96.87	105.00	18.18	13.93
28.	2010 A 474	100.00	105.00	16.4	12.16
29.	2010 A 139	101.87	104.37	16.4	11.46
30.	2010 A 422	98.12	104.37	19.05	14.14
31.	2010 A 56	97.50	103.75	20.0	14.94
32.	2010 A 289	101.25	103.75	21.10	15.83
33.	2010 A 314	101.25	102.50	20.42	15.21
34.	2010 A 490	100.00	102.50	16.2	11.35
35.	Co 6907(C)	100.00	101.25	16.00	11.24
36.	2010 A 76	96.25	100.62	16.4	11.35
37.	2010 A 280	97.50	100.62	16.10	11.18
38.	2010 A 406	97.50	100.00	19.00	13.71
39.	Co 7219(C)	98.75	100.00	20.0	11.22
40.	2010 A 72	95.00	99.37	16.0	11.33
41.	2010 A 13	93.75	98.12	16.68	11.36
42.	2010 A 320	95.00	97.50	16.30	10.84
43.	2010 A 341	87.50	91.25	18.50	12.20

- I. Project No. : B II Zonal Varietal Trials
P2 – 2011 / 4/ AHD / F30 / H10 / H20 / 0230
- II. Project Title : Advanced Varietal Trial (Early) I Plant crop
- III. Serial number of the year of Experimentation : IV
- IV. Location : Regional Agricultural Research Station, Anakapalle
- V. Objective : To screen and select high yielding and sucrose rich clones from clones poled from different centres of EC Zone.
- VI. Technical Programme on which the technical programme is based : Based on constraints identified in East Coast Zone and deliberation held in the Joint group / workshop in AICRP on Sugarcane.
- VII. Discipline wise – technical report :
- a. Date of planting : 30.1.2011
- b. Varieties : Six + Three stds
CoA 08323, CoA 09321, CoC 08336, CoC 09336,
CoV 09356 and PI 09376
Standards: Co 6907, Co C 01061 and Co A 92081
- c. Fertilizer application : 100 kg P₂O₅ + 120 kg K₂O / ha. 112 kg N in two splits i.e. at 45 DAP and 90 DAP
- d. Cultural practices :
- | | |
|--------------------------|-------------------------------|
| Hand weeding and hoeing | 11-03-2011 |
| Second time hand weeding | 28.4.2011 |
| Ear thing up | 03.6.2011 |
| TT propping I tier | 29.8.2011 & 30.8.2011 |
| Removal of flower weed | 20.7.2011, 22.7.2011, |
| TT propping II tier | 27.9.2011,30.9.2011,1.10.2011 |
| TT propping III tier | 31.10.2011,2.11.2011 |
- e. Irrigations : Once in a week during formative phase and once in 18 days during maturity phase.
- f. Plant protection : -
- g. Date of harvest : 22.12.2011
- h. Plot size :
- | | |
|-------|---|
| Gross | : 6.0 m x 0.8 m x 8 R = 38.4 m ² |
| Net | : 5.0 m x 0.8 m x 6 R = 24.0 m ² |
- i. Layout : RBD
- j. Replications : Three
- k. Total experimental area : 0.25 ha
- l. Name and designation of the participants : 1. Dr. M.Charumathi, Scientist (Plant Breeding)
2. Dr.K.Prasada Rao, Principal Scientist (Plant Breeding)
3. Dr.D.Adilakshmi, Senior Scientist (Plant Breeding)

m. Results recorded during the previous year :

Three clones were tested against three standards in Advance Varietal Trail (Early) I plant crop during 2010 – 2011 .Among the selected clones, number of millable canes ranged from 94.00 thousands/ha (CoV 07356) to 126.00 thousands/ha (CoC 01061). The standard CoC 01061 recorded higher number of millable canes (126.00 thousands/ha). However, the clone CoA 07321 (121.00 thousands/ha) was found significantly superior over popular standard CoA 92081 (111.00 thousands/ha) but was on par with the standard CoC 01061. Cane yield varied from 90.25t/ha (CoV 07356) to 133.67 t/ha (CoA 07321). The clone CoA07321 recorded higher cane yield (133.67 t/ha) and found to be significantly superior over the best standard CoA92081 (108.33 t/ha). The best standard CoA92081 (17.13%) recorded significantly higher per cent juice sucrose when compared to test clones. However, the clones CoA07321 (16.68%) and CoC07336 (16.69%) were found to be on par with the popular standard Co6907 (16.92) for per cent juice sucrose at harvest. CCS yield varied from 10.11t/ha. CoC 07336 to 15.93 t/ha. (CoA07321). The clone CoA07321 recorded higher CCS yield (15.93 t/ha) and found to be significantly superior over the best standard CoA92081 (13.08t/ha).

n. Results obtained during the year :

Six clones were tested against three standards under Advanced Varietal Trial (Early) I Plant crop during 2011 – 2012. The clones differed significantly for all characters studied. Number of millable canes ranged from CoC 09336 (89.33 thousands/ha) to CoC 01061 (138.00 thousands /ha). The clone CoA09321 (127.00 thousands/ha) was found to be on par with the best standard CoC 01061 (138.00 thousands/ha) for number of millable canes. Cane yield varied from 93.67 t/ha (PI 09376) to 136.67 t/ha (CoA 09321). The clone CoA 09321 (136.67 t/ha) was significantly superior over two standards CoC01061 (106.00 t/ha) and Co 6907 (111.67 t/ha) but was on par with the best standard CoA 92081 (125.67 t/ha) for cane yield. Per cent juice sucrose at harvest ranged from 16.55 (PI 09376) to 17.92 (CoA 92081). The best standard CoA 92081 recorded significantly higher per cent juice sucrose when compared to test clones tested in trial. However, the clones CoV 09356 (17.58) and CoC 08336 (17.70) were found to be significantly superior over Co 6907 (17.25) and CoC 01061 (17.50) but were on par with the best standard CoA 92081 (17.92) for per cent juice sucrose. CCS yield varied from 11.15 t/ha (PI 09376) to 16.32 t/ha (CoA 09321). The clone CoC 08336 (16.06t/ha) was found to be on par with the best standard CoA 92081 (15.19 t/ha) tested in the trial for commercial cane sugar yield. (Table 5)

VIII Technical programme of the year next to the reporting year:

I X. Technical summary of the individual reporting year:

The standard CoC 01061 recorded maximum number of millable canes. CoA 09321 was found to be significantly superior for cane yield, CCS yield at harvest. The standard CoA 92081 was found to be superior for per cent juice sucrose at harvest when compared to test clones and other standards.

X. Salient findings.

CoA09321 was found significantly superior to standards and all other test clones for cane yield and CCS yield during 2011 - 2012

East Coast Zone
Table 5 : Advanced Varietal Trial (Early – I Plant)

Statistically analysed data
Centre: Regional Agricultural Research Station, Anapalle.

S. No.	Clone	CCS (t/ha)	Cane yield (t/ha)	Brix % (10 th month)	Sucrose% (10 th month)	Purity % (10 th month)	CCS % (10 th month)	Pol % (10 th month)	Juice Extraction% (10 th month)	Fibre % (10 th month)	NMC at 10 th month ('000/ha)
1	CoA 08323	13.26	112.00	19.09	16.83	88.16	11.97	-	65.33	-	108.00
2	CoA 09321	16.32	136.67	19.41	17.20	88.60	12.24	-	68.67	-	127.00
3	CoC 08336	16.06	127.67	19.84	17.70	89.21	12.67	-	48.67	-	100.00
4	CoC 09336	12.80	110.33	19.59	17.38	88.51	12.32	-	48.33	-	89.33
5	CoV 09356	12.42	102.67	19.75	17.58	89.02	12.54	-	66.00	-	118.00
6	PI 09376	11.15	93.67	18.71	16.55	88.44	11.76	-	65.67	-	107.67
Std											
1	Co 6907	12.84	111.67	19.75	17.25	87.35	12.18	-	64.33	-	109.00
2	CoC 01061	12.54	106.00	19.87	17.50	88.05	12.41	-	52.67	-	138.00
3	CoA 92081	15.19	125.67	20.07	17.92	89.30	12.80	-	63.33	-	116.00
	CD (0.05)	4.00	33.69	0.80	0.86	2.16	0.70	-	10.17	-	28.39
	CV (%)	11.26	11.30	1.57	1.90	0.93	2.19	-	6.45	-	9.65

S. No.	Clone	Stalk length (m)	Stalk diameter (cm)	Single cane weight (kg)	Brix % (8 th month)	Sucrose% (8 th month)	Purity% (8 th month)	CCS % (8 th month)	No. of shoots ('000/ha) 240 days	No. of tillers ('000/ha) 120 days	Germination % (30 days)
1	CoA 08323	2.66	2.47	1.30	19.09	16.20	88.00	11.49	119.67	148.33	68.00
2	CoA 09321	2.91	2.42	1.23	19.41	16.06	87.76	11.38	162.33	204.67	75.33
3	CoC 08336	2.50	2.07	1.01	19.84	16.76	88.85	11.92	115.33	129.67	61.67
4	CoC 09336	2.46	2.03	1.00	19.59	16.96	87.53	12.01	115.33	149.33	65.33
5	CoV 09356	2.64	2.56	1.29	19.75	16.70	85.94	11.70	127.67	161.00	47.00
6	PI 09376	2.39	2.41	1.07	18.71	15.66	86.65	11.02	124.00	142.33	56.00
Std											
1	Co 6907	2.71	2.12	1.03	19.75	16.20	85.44	11.32	127.00	153.67	63.33
2	CoC 01061	2.64	2.08	1.00	19.87	16.27	87.55	11.50	144.00	172.67	70.00
3	CoA 92081	2.57	2.36	1.19	20.07	16.68	87.73	11.57	136.67	165.33	76.00
	CD (0.05)	23.10	0.27	0.08	0.08	0.77	4.13	0.73	24.79	37.51	12.24
	CV (%)	3.38	3.64	2.72	1.59	1.79	1.81	2.43	7.29	9.05	7.24

- I. Project No. : B II Zonal Varietal Trials
P2 – 2011 / 5 / AHD / F30 / H10 / H20 / 0230
- II. Project Title : Advanced Varietal Trial (Early) – II Plant Crop
- III. Serial number of the year of Experimentation : V
- IV. Location : Regional Agricultural Research Station, Anakapalle
- V. Objective : To screen and select high yielding and sucrose rich clones from clones poled from different centres of EC Zone.
- VI. Technical Programme on which the technical programme is based : Based on constraints identified in East Coast Zone and deliberation held in the Joint group / workshop in AICRP on Sugarcane.
- VII. Discipline wise – technical report :
- a. Date of planting : 20.2.2011
- b. Varieties : Two + Three stds
CoA 07321 and CoV 07356
Standards: Co 6907, CoC 01061 and CoA 92081
- c. Fertilizer application : 100 kg P₂O₅ + 120 kg K₂O / ha. 112 kg N in two splits i.e. at 45 DAP and 90 DAP
- d. Cultural practices :
- Hand weeding & Hoeing 7.4.2011 & 8.4.2011
Second time on 16.5.2011, 17.5.2011 & 18.5.2011
Ear thing up 20.6.2011 & 21.6.2011
Removal of flower weeds
28.7.2011, 29.7.2011, 24.8.2011 & 27.8.2011
TT propping I tier 20.8.2011, 22.8.2011, 24.8.2011
TT propping II tier 30.8.2011, 1.9.2011 & 3.10.2011
TT propping II tier 5.11.2011 & 8.11.2011
- e. Irrigations : Once in a week during formative phase and once in 18 days during maturity phase.
- f. Plant protection : Need based
- g. Date of harvest : 28.12.2011
- h. Plot size : Gross : 6.0 m x 0.8 m x 8 R = 38.4 m²
Net : 5.0 m x 0.8 m x 6 R = 24.0 m²
- i. Layout : RBD
- j. Replications : Three
- k. Total experimental area : 0.2 ha
- l. Name and designation of the participants : 1. Dr. M.Charumathi, Scientist (Plant Breeding)
2. Dr.K.Prasada Rao, Principal Scientist (Plant Breeding)
3. Dr.D.Adilakshmi, Senior Scientist (Plant Breeding)

m. Results recorded during the previous year :

Four clones were tested against three standards under Advanced Varietal Trial (Early) II plant during 2010-2011 .Number of millable canes ranged from 86.00 thousands / ha (PI06377) to 121.00 thousands / ha (Co A 06321). The clone Co A 406321 recorded maximum number of millable canes (121.00 thousands /ha) at harvest. Cane yield ranged from 88.00 (PI06377) to 136.00 t/ha (CoA06321). The clone CoA06321 was found to be significantly superior over the best standard Co 6907 (109.00 t/ha) for cane yield. per cent juice sucrose at harvest ranged from 16.65 (PI06376) to 17.57 (CoA92081). The standard CoA92081 was found to be significantly superior over the test clones and other two standards. However, the clones, CoA06321 (17.51) and PI06377 (17.23) found to be significantly superior over other two standards Co6907 (16.70) and CoC01061 (16.75) but were on par with the best standard CoA92081 (17.57) for per cent juice sucrose. CCS yield varied from 10.81 (PI06377) to 17.02 t/ha (CoA06321). CCS yield of CoA06321 (17.02t/ha) was significantly superior over best standard Co 6907 (13.04 t/ha) for CCS yield.

n. Results obtained during the year:

During 2011 – 2012 two clones were tested against three standards under Advanced Varietal Trial (Early) second Plant crop. Significant variations were observed for most of the characters studied in the trail. Number of millable canes varied from 102.50 (Co 6907) to 134.75 thousands /ha (CoC 01061) (134.75 thousands/ha). The clone CoA 07321 (128.00 thousands /ha) was found to be on par with the best standard CoC 01061 for number of millable canes. Cane yield ranged from 107.25 t/ha (Co 6907) to 138.50 t/ha(CoA 07321). Cane yield of CoA 07321 (138.50 t/ha) was found to be on par with the best standard CoA 92081 (126.25 t/ha) but significantly superior over other two standards Co 6907 (107.25 t/ha) and CoC 01061 (107.50 t/ha) at the time of harvest. CCS yield varied from 12.82 (Co 6907) and 16.69 t/ha (CoA 07321). CCS yield of CoA 07321 (16.69 t/ha) was found to be significantly higher over the best standard CoA 92081 (15.61 t/ha) and other two standards, Co 6907 (12.82 t/ha), and CoC 01061 (12.88 t/ha) tested in the trial. Per cent juice sucrose ranged from 16.42 (CoV 07356) to 17.95 (CoA92081). The best standard CoA 92081 (17.95) was found to be significantly superior over other two standards and test clones tested in the trial. However, per cent juice sucrose of CoA 07321 (17.34) was found to be on par with the best standard CoA 92081(17.95) at the time of harvest. (Table 6)

VIII. Technical programme of the year next to the reporting year:

Six clones viz., CoA 08323, CoA 09321, CoC 08336, CoC 09336 , CoV 09356 and PI 09376 will be studied in comparison with three standards Co 6907, CoC 01061 and CoA 92081 during 2012 -13 season.

IX. Technical summary of the individual reporting year:

The best standard CoC 01061 was found to be superior for number of millable canes when compared to test clones and other standards. The clone CoA 07321 was found to be significantly superior over three standards for cane yield and CCS yield. The clone CoA 07321 was found to be on par with the best standard CoA 92081 for per cent juice sucrose, but significantly superior over standards, Co 6907 and CoC 01061.

X. Salient findings.

CoA07321 was found significantly superior to standards and all other test clones for cane and CCS yields. The clone CoA 07321 was found to be on par with the best standard CoA 92081 for per cent juice sucrose.

East Coast Zone
Table 6 :Advanced Varietal Trial (Early – II Plant)
Statistically analysed data
Centre : Regional Agricultural Research Station, Anakapalle.

S. No.	Clone	CCS (t/ha)	Cane yield (t/ha)	Brix % (10 th month)	Sucrose% (10 th month)	Purity % (10 th month)	CCS % (10 th month)	Pol % cane (10 th month)	Juice Extraction% (10 th month)	Fibre % (10 th month)	NMC at 10 th month ('000/ha)
1	CoA 07321	16.69	138.50	19.58	17.34	88.59	12.34	-	64.25	-	128.00
2	CoV 07356	12.89	110.00	18.48	16.42	88.88	11.69	-	56.00	-	104.50
	Stds										
3	Co 6907	12.82	107.25	19.21	17.16	89.33	12.26	-	64.75	-	102.50
4	CoC 01061	12.88	107.50	19.21	17.11	89.07	12.21	-	48.75	-	134.75
5	CoA 92081	15.61	126.25	20.24	17.95	88.72	12.77	-	61.75	-	111.50
	CD (0.05)	5.58	41.90	1.06	0.87	5.51	0.70	-	16.17	-	38.48
	CV (%)	12.42	11.17	1.70	1.57	1.91	1.78	-	8.63	-	10.37

S. No.	Clone	Stalk length (m)	Stalk diameter (cm)	Single cane weight (kg)	Brix % (8 th month)	Sucrose% (8 th month)	Purity% (8 th month)	CCS % (8 th month)	No. of shoots ('000/ha) 240 days	No. of tillers ('000/ha) 120 days	Germination % (30 days)
1	CoA 07321	3.10	2.55	1.27	17.90	15.62	87.28	11.03	132.00	171.00	73.25
2	CoV 07356	2.48	2.35	1.19	17.50	15.30	87.42	10.82	114.25	152.25	65.75
	Stds										
3	Co 6907	2.55	2.10	1.04	18.30	16.21	88.71	11.53	111.75	150.50	63.00
4	CoC 01061	2.61	2.16	1.17	18.46	16.00	88.67	11.26	141.00	180.75	75.50
5	CoA 92081	2.74	1.92	0.99	18.81	16.68	88.73	11.87	125.50	154.25	72.25
	CD (0.05)	50.72	0.48	0.15	1.21	1.11	4.36	1.01	37.24	40.12	11.14
	CV (%)	5.90	6.67	4.16	2.07	2.17	1.53	2.78	9.31	7.72	4.99

I.	Project No.	:	B II Zonal Varietal Trials P2 – 2011 / 6/ AHD / F30 / H10 / H20 / 0230
II	Project Title	:	Advanced varietal trial (Early) – Ratoon
III.	Serial number of the year of Experimentation	:	VI
VI	Location	:	Regional Agricultural Research Station, Anakapalle
V.	Objective	:	To screen and select high yielding and sucrose rich clones from clones poled from different centers of EC Zone.
VI.	Technical Programme on which the technical programme is based	:	Based on constraints identified in East Coast Zone and deliberation held in the Joint group / workshop in AICRP on Sugarcane.
VIII.	Discipline wise – technical report	:	
	a. Date of Ratoon	:	22.2.2011
	b. Varieties	:	Three+ Three stds CoA 07321, CoV 07356 and CoC 07336 Standards : Co 6907, CoC 01061 and CoA 92081
	c. Fertilizer application	:	100 kg P ₂ O ₅ + 120 kg K ₂ O / ha. 112 kg N in two splits i.e. at 45 DAP and 90 DAP
	d. Cultural practices	:	Hand weeding an Hoeing 3.4.2011 2 nd time on 12.5.2011 Removal of flower weeds & Creepers 27.7.2011 and 30.8.2011 Ear thing up 21.6.2011 TT propping I tier 24.8.2011, 27.8.2011 & 29.8.2011 TT propping II tier 29.9.2011 & 30.9.2011 TT propping III tier 1.11.2011 & 2.11.2011
	e. Irrigations	:	Once in a week during formative phase and once in 18 days during maturity phase.
	f. Plant protection	:	Need based
	g. Date of harvest	:	19.12.2011
	h. Plot size	:	Gross : 6.0 m x 0.8 m x 8 R = 38.4 m ² Net : 5.0 m x 0.8 m x 6 R = 24.0 m ²
	i. Layout	:	RBD
	j. Replications	:	Three
	k. Total experimental area	:	0.18 ha
	l. Name and designation of the participants	:	1. Dr. M.Charumathi, Scientist (Plant Breeding) 2. Dr.K.Prasada Rao, Principal Scientist (Plant Breeding) 3. Dr.D.Adilakshmi, Senior Scientist (Plant Breeding)

m. Results recorded during the previous year :

Four clones were studied for their ratoon performance in comparison with three standards Co 6907, Co C 01061 and CoA 92081 during 2010 – 2011 .The clones differed significantly for all the characters studied. Among the clones, number of millable canes ranged from 64.00 (PI 06377) to 86.73 thousand/ha (CoA06321) at harvest. The clone CoA06321 was found to be on par with the three standards, CoA92081 (86.38 thousands /ha) and CoCo1061 (84.67 thousands/ha) respectively. Cane yield varied from 62.67 (CoV06356) to 98.00 thousands/ha (CoA06321). Cane yield of CoA06321 (98.00 t/ha). The clone, CoA06321 (98.00 t/ha) was found to be significantly superior over Co6907 (80.00 t/ha) and CoC 01061 (73.00 t/ha) but was on par with the best standard CoA92081 for cane yield. per cent juice sucrose varied from 16.94 (CoC 01061) to 17.88 (CoA06321). The clone, CoA06321 (17.88) recorded higher percent juice sucrose followed by PI 06376 (17.81) but significantly superior over another standards Co 6907 (16.97) and CoC 01061 (16.94). CCS yield varied from 7.93 t/ha (CoV 06356) to 12.57 t/ha (CoA06321). CCS yield of CoA06321 was found to be significantly superior over three standards CoA92081 (11.27t/ha) Co 6907 (9.68) and CoC 01061 (8.82) for CCS yield.

n. Results obtained during the year :

Three clones were tested for their ratoon performance in comparison with three standards, viz., Co6907, CoC 01061 and CoA 92081 during 2011 – 2012. The clones differed significantly for all the characters studied. Number of millable canes ranged from 77.75 (CoC 07336) to 96.75 thousands/ha (CoC01061). The clone CoA 07321 (93.25 thousands/ha) was found to be on par with the best standard CoC 01061 for number of millable canes. Cane yield varied from 75.00 t/ha (CoV 07356) to 97.25 t/ha (CoA 07321). The clone CoC07336 (81.75 t/ha) and two standards Co 6907 (79.00 t/ha) and CoC 01061 (88.75 t/ha) but was on par with the best standard CoA 92081 (95.50 t/ha) for cane yield. Per cent juice sucrose at harvest ranged from 16.59 (CoV 07356) to 18.10 (CoA 92081). The best standard CoA 92081 (18.10) recorded maximum per cent juice sucrose compared to test clones. However, the clone CoA 07321 (17.41) recorded higher per cent juice sucrose and found to be significantly superior over other two standards i.e, Co 6907 (17.22) and CoC 01061 (17.18) for per cent juice sucrose at harvest. CCS yield ranged from 8.35 t/ha (CoV07356) to 11.67 t/ha (CoA07321) 11.24t/ha and CoC 01061 (10.26 t/ha) but significantly superior over the other standard Co6907 (9.50t/ha) for CCS yield. (Table 7)

VIII. Technical programme of the year next to the reporting year:

Six clones viz., CoA 08323, CoA 09321, CoC 08336, CoC 09336, CoV 09356 and PI 09376 will be studied in comparison with three standards.

IX. Technical summary of the individual reporting year:

The best standard CoC 01061 was found to be superior for number of millable cane when compared to best standard and other standards. The clone CoA 07321 was found to be significantly compared to test clones and other standards. The clone CoA 07321 was found to be significantly superior over three standards for cane yield and CCS yield. The standard CoA 92081 recorded higher per cent juice sucrose and found to be superior over three clones and other two standards tested in the trail. The clone CoA 07321 was found to be superior over three clones and other two standards tested in the trial. However, the clone CoA 07321 was found to be on par with the best standard CoA 92081 for per cent juice sucrose at harvest.

X. Salient findings.

CoA 07321 was found significantly superior to standards and all other test clones for cane and CCS yields. The best standard CoA 92081 was found to be superior over test clones and other standards for percent juice sucrose.

East Coast Zone
Table 7: Advanced Varietal Trial (Early - Ratoon)
Statistically analysed data
Centre: Regional Agricultural Research Station, Anakapalle.

S. No.	Clone	CCS (t/ha)	Cane yield (t/ha)	Brix % (9 th month)	Sucrose% (9 th month)	Purity % (9 th month)	CCS % (9 th month)	Juice Extraction% (9 th month)	Fibre % (9 th month)	NMC at 9 th month ('000/ha)
1	CoA 07321	11.67	97.25	19.44	17.41	89.44	12.45	57.50	-	93.25
2	CoV 07356	8.35	75.00	18.68	16.59	88.84	11.82	55.00	-	78.50
3	CoC 07336	10.09	81.75	19.18	17.10	89.13	12.21	58.25	-	77.50
	Stds									
4	Co 6907	9.50	79.00	19.36	17.22	88.93	12.27	50.75	-	80.00
5	CoC 01061	10.26	88.75	19.23	17.18	88.18	12.20	46.50	-	96.75
6	CoA 92081	11.24	95.50	20.58	18.10	87.98	12.83	57.75	-	89.25
	CD 0.05	3.06	25.47	1.07	0.92	2.70	0.72	7.73	-	14.42
	CV (%)	9.28	9.16	1.70	1.65	0.94	1.81	4.39	-	11.03

S. No.	Clone	Stalk length (m)	Stalk diameter (cm)	Single cane weight (kg)	No. of shoots ('000/ha) 180 days	No. of tillers ('000/ha) 90 days
1	CoA 07321	2.61	2.35	1.09	151.00	184.25
2	CoV 07356	2.10	2.21	0.97	130.50	159.75
3	CoC 07336	2.27	2.09	1.03	127.50	152.00
	Stds					
4	Co 6907	1.81	2.08	1.01	124.75	155.75
5	CoC 01061	1.50	1.85	0.99	182.25	203.50
6	CoA 92081	1.29	2.15	1.09	138.50	181.50
	CD 0.05	0.51	0.31	0.08	23.00	36.64
	CV(%)	7.63	4.62	2.55	4.98	6.54

- I. Project No. : B II Zonal Varietal Trials
P2 – 2011 / 7 AHD / F30 / H10 / H20 / 0230
- II. Project Title : Advanced varietal trial (Mid late) I Plant
- III. Serial number of the year of Experimentation : VII
- IV. Location : Regional Agricultural Research Station, Anakapalle
- V. Objective : To screen and select high yielding and sucrose rich clones from clones poled from different centers of EC Zone.
- VI. Technical Programme on which the technical programme is based : Based on constraints identified in East Coast Zone and deliberation held in the Joint group / workshop in AICRP on Sugarcane.
- VII. Discipline wise – technical report :
- a. Date of planting : 10.2.2011
- b. Varieties : Three + Three stds
Co 06031, CoC 08339 and CoC 09339
Standards: CoV 92102, Co 7219 and Co 86249
- c. Fertilizer application : 100 kg P₂O₅ + 120 kg K₂O / ha. 112 kg N in two splits i.e. at 45 DAP and 90 DAP
- d. Cultural practices :
- | | |
|-------------------------|-------------------------------------|
| Hand weeding | 21.3.2011&8.5.2011 |
| Ear thing up | 9.6.2011 |
| Removal of flower weeds | 14.11.2011,15.7.2011 |
| TT propping I tier | 18.8.2011 &19.8.2011 |
| TT propping I tier | 30.9.2011 &3.10.2011 |
| TT propping II tier | 30.10.2011,3.11.2011
& 8.11.2011 |
- e. Irrigations : Once in a week during formative phase and once in 18 days during maturity phase.
- f. Plant protection : Need based
- g. Date of harvest : 04.02.2012
- h. Plot size :
- | | |
|-------|---|
| Gross | : 6.0 m x 0.8 m x 8 R = 38.4 m ² |
| Net | : 5.0 m x 0.8 m x 6 R = 24.0 m ² |
- i. Layout : RBD
- j. Replications : Three
- k. Total experimental area : 0.18 ha
- l. Name and designation of the participants :
1. Dr. M.Charumathi, Scientist (Plant Breeding)
 2. Dr.K.Prasada Rao, Principal Scientist (Plant Breeding)
 3. Dr.D.Adilakshmi, Senior Scientist (Plant Breeding)

m. Results obtained during the previous year

Five clones were studied for their performance in comparison with three standards CoV92102, Co7219 and Co 86249 during 2010-2011. Among the clones, number of millable canes ranged from 89.50 thousands/ha (Co Or 08346) to CoC 08338 (114.55 thousands/ha). The clone, CoC 08338 (114.55 thousands/ha) was found to be significantly superior over standards viz., CoV 92102(94.33 thousands/ha) and Co86249 (96.23 thousands/ha) but was on par with the best standard Co 7219 (103.60 thousands/ha). Cane yield varied from 86.00 (CoC 08339) to 126.00 t/ha (CoC 08338). The clone CoC 08338 recorded higher cane yield and was found to be significantly superior over other two standards Co7219 (105.00 t/ha) CoV 92102 (100.67t/ha) but was on par with the best standard Co7219 (105.00t/ha). The best standard CoV92102 recorded significantly higher per cent juice sucrose (19.30) when compared to test clones and other standards, however the clone Co 06031 (19.10) was significantly superior over the other two standards, Co 7219 (18.50) and Co 86249 (17.52) but was on par with the best standard CoV 92102 for per cent juice sucrose at harvest. CCS yield varied from 9.29 (Co Or 08346) to 15.91t/ha (CoC 08338). The clone, CoC 08338 (15.91 t/ha) was found to be significantly superior over the best standard Co 7219 (13.73 t/ha) for CCS yield. However, the clones Co 06031 (15.58 t/ha) and CoA08324 (14.70 t/ha) were found to be significantly superior over the standard Co 86249 (12.10 t/ha) but was on with another standard CoV92102 (13.62t/ha) for CCS yield.

n. Results obtained during the year :

Three clones were tested against three standards for their performance during 2011-2012. The clones differed significantly for all the characters studied. Number of millable canes ranged from 89.00 (Co 86249) to 116.50 thousands/ha CoC 08339. The clones CoC 08339 (116.50) thousands/ha followed by Co 06031 (112.75 thousands /ha) recorded maximum number of millable canes but was on par with the standard CoV 92102 (110.75 thousands/ha) and Co 7219 (100.00 thousands/ha) and significantly superior over other standard Co 86249 (89.00 thousands/ha). Cane yield varied from 90.00 t/ha (CoC09339) to 124.50 t/ha (Co 06031). The clone Co 06031 recorded higher cane yield (124.50 t/ha) followed by CoC 08339 (124.00 t/ha) and found to be significantly superior over best standard Co7219(112.00t/ha) , better standard CoV 92102 (107.00t/ha) and other standard Co 86249 (92.25t/ha).Per cent juice sucrose at harvest ranged from 17.50 (Co 86249) to 19.54 (CoV 92102). The best standard CoV 92102 (19.54) recorded maximum per cent juice sucrose compared to test clones. However, the clone Co 06031 (19.00) was found to be on par with the best standard CoV 92102 (19.54) for per cent juice sucrose. CCS yield from 10.94 (CoC 09339) to 16.01 (Co 06031). The clone Co06031(16.01t/ha) recorded significantly higher CCS yield when compared to test clones and other standards . However the clone CoC 08339 (15.01) was found to be on par with best standard Co7219(13.27 t/ha) for CCS yield (Table 8)

VIII Technical programme of the year next to the reporting year:

IX. Technical summary of the individual reporting year:

Co 06031 recorded significantly higher NMC, cane yield and CCS followed by CoC 08339 and were found to superior when compared to test clones and standards.

X. Salient findings:

Co 06031 and CoC 08339 were found to be significantly superior for number of millable canes, cane yield and CCS yield.

East Coast Zone

**Table 8: Advanced Varietal Trial (Midlate) I Plant cop
Statistically analysed data
Centre: Regional Agricultural Research Station, Anakapalle.**

S. No.	Clone	CCS (t/ha)	Cane yield (t/ha)	Brix % (12 th month)	Sucrose% (12 th month)	Purity % (12 th month)	CCS % (12 th month)	Pol % (12 th month)	Juice Extraction% (12 th month)	Fibre % (12 th month)	NMC at 12 th month ('000/ha)
1	Co 06031	16.01	124.50	21.72	19.00	87.49	13.44	-	67.75	-	112.75
2	CoC 08339	15.01	124.00	19.97	17.80	89.15	12.70	-	57.25	-	116.50
3	CoC 09339	10.94	90.00	20.88	18.58	89.04	13.24	-	49.75	-	96.50
	Stds									-	
4	CoV 92102	13.08	107.00	21.99	19.54	90.48	14.12	-	59.50	-	110.75
5	Co 7219	13.27	112.00	21.32	18.53	86.93	12.86	-	62.00	-	100.00
6	Co 86249	10.99	92.25	19.82	17.50	88.29	12.43	-	51.75	-	89.00
	CD (0.05)	3.25	73.26	1.68	0.91	4.87	0.87	-	12.62	-	26.76
	CV (%)	7.61	147.13	1.72	1.53	1.69	2.05	-	6.72	-	10.54

S. No.	Clone	Stalk length (m)	Stalk diameter (cm)	Single cane weight (kg)	Brix % (10 th month)	Sucrose% (10 th month)	Purity% (10 th month)	CCS % (10 th month)	No. of shoots ('000/ha) 240 days	No. of tillers ('000/ha) 120 days	Germination % (30 days)
1	Co 06031	2.78	2.50	1.39	19.31	17.45	87.64	12.32	158.50	185.50	63.75
2	CoC 08339	2.44	2.22	1.43	19.43	17.21	88.59	12.24	163.75	197.25	64.00
3	CoC 09339	2.26	2.15	1.01	20.00	17.77	88.85	12.66	112.25	146.75	56.25
	Stds										
4	CoV 92102	2.63	2.40	1.45	19.96	17.67	88.52	12.57	135.00	167.50	61.25
5	Co 7219	2.69	2.28	1.22	19.36	17.13	88.26	12.17	139.25	194.00	65.00
6	Co 86249	2.58	2.30	1.03	18.76	16.62	88.59	11.75	124.75	161.00	60.25
	CD (0.05)	47.66	0.35	0.15	0.71	0.92	2.81	0.84	31.97	39.82	13.39
	CV (%)	5.73	4.78	3.77	1.12	1.64	0.98	2.12	7.10	7.01	6.69

- I. Project No. : B II Zonal Varietal Trials
P2 – 2011/ 8/ AHD / F30 / H10 / H20 / 0230
- II. Project Title : Advanced varietal trial (Mid late) – II Plant Crop
- III. Serial number of the year of Experimentation : VIII
- IV. Location : Regional Agricultural Research Station, Anakapalle
- V. Objective : To screen and select high yielding and sucrose rich clones from clones poled from different centres of EC Zone.
- VI. Technical Programme on which the technical programme is based : Based on constraints identified in East Coast Zone and deliberation held in the Joint group / workshop in AICRP on Sugarcane.
- VII. Discipline wise – technical report :
- a. Date of planting : 03.03.2011
- b. Varieties : Two + Three Standards
Co 06030, CoA 07322
Standards : CoV 92102, Co 7219 and Co 86249
- c. Fertilizer application : 100 kg P₂O₅ + 120 kg K₂O / ha. 112 kg N in two splits i.e. at 45 DAP and 90 DAP
- d. Cultural practices : Hand weeding & Hoeing 13-04-2011
II weeding 24 -5 -2011
Ear thing up 02 -07-2011
Removal of flower weeds 24-08-2011, 25.8.2011,
17.10.2011,18.10.2011
& 19.10.2011
TT propping I tier 26.08.2011 & 27.08.2011
TT propping II tier 30.9.2011 & 3.10.2011
TT propping III tier 25.11.2011 & 29.11.2011
- e. Irrigations : Once in a week during formative phase and once in 18 days during maturity phase.
- f. Plant protection : Need baseds
- g. Date of harvest : 01.03.2012
- h. Plot size : Gross : 6.0 m x 0.8 m x 8 R = 38.4 m²
Net : 5.0 m x 0.8 m x 6 R = 24.0 m²
- i. Layout : RBD
- j. Replications : Three
- k. Total experimental area : 0.18 ha
- l. Name and designation of the participants : 1. Dr. M.Charumathi, Scientist (Plant Breeding)
2. Dr.K.Prasada Rao, Principal Scientist (Plant Breeding)
3. Dr.D.Adilakshmi, Senior Scientist (Plant Breeding)

m. Results recorded during the previous year :

Three clones were studied for their performance in comparison with three standards Co 86249, Co 7219 and CoV92102 during 2010-2011. The clones differed significantly for all the characters tested. Number of millable canes ranged from 90.17 thousands/ha (CoC 07337) to 107.00 thousands/ha (Co 06030). The clone Co 06030 recorded higher number of millable canes (107.00 thousands/ha) and found to be significantly superior over the standards CoV 92102 (97.67 thousands/ha) and Co86249 (94.33 thousands/ha) but was on par with the best standard Co 7219 (101.33 thousands/ha) for number of millable canes at harvest. Cane yield ranged from 86.33 (Co C 07337) to 110.00 t/ha (Co 06030). Cane yield of the clone Co 06030 (110.00 t/ha) was found to be significantly superior over the standards, CoV 92102 (100.15t/ha) and Co 86249 (96.25 t/ha) but was on par with the best standard Co 7219 (102.25 t/ha). The best standard CoV 92102 (18.77) recorded higher per cent juice sucrose when compared to test clones and other standards, however, the clones Co 06030 (17.97) and CoA 07322 (17.99) were found to be superior over the other two standards Co 7219 (17.90) and Co 86249 (16.73) but were on par with the best standard CoV 92102 (18.77) for per cent juice sucrose at harvest. CCS yield ranged from 10.70 (CoCo 7337) to Co 06030 (14.14). The clone Co 06030 (14.14t/ha) recorded higher CCS yield when compared to three standards viz., CoV92102 (13.47t/ha) Co 7219 (13.06t/ha) and Co 86249 (11.45 t/ha) but was on par with the three standards for CCS yield.

n. Results obtained during the year :

During 2011 – 2012, two clones were tested against three standards in Advanced Varietal Trail II plant crop. Significant variations were observed for most of the characters studied in the trial. NMC varied from 94.75 (Co 86249) to 110.00 thousands/ha (Co 06030). The clone Co 06030 (110.00 thousands/ha) was found to be on par with best standard CoV 92102 (104.25 thousands/ha) but was significantly superior over better standard Co 7219 (99.50 thousands/ha) and other standard Co 86249 (94.75 thousands/ha). Cane yield ranged from 90.25 t/ha (Co 86249) to 118.75 t/ha (Co 06030). The clone Co06030 (118.75 t/ha) was found to be significantly superior over best standard CoV 92102 (106.50 t/ha), however the clone CoA 07322 (107.00 t/ha) was found to superior over the other two standard Co7219(104.00 t/ha) and Co 86249 (90.25 t/ha) but was on par with the best standard CoV 92102 (106.50 t/ha) for cane yield. Per cent juice sucrose at harvest ranged from 16.82 (Co 86249) to 19.15 (CoV 92102). The best standard CoV 92102 (19.15) recorded significantly superior over other standards and test clones. However, the clone CoA 07322 (18.40) was found to be on par with best standard CoV 92102 (19.15) but significantly superior over the other two standards Co 7219 (17.72) and Co 86249 (16.82) for per cent juice sucrose. CCS yield varied from 10.32 (Co 86249) to 14.19 t/ha (Co 06030). The clone Co 06030 (14.19 t/ha) recorded higher CCS yield when compared to three standards CoV92102(13.21 t/ha), Co7219 (13.67 t/ha) and Co 86249 (10.32 t/ha), however the clone CoA 07322 (12.91 t/ha) was found to be significantly superior over the standard Co 86249 (10.32 t/ha) and on par with the other two standards CoV 92102 (13.21 t/ha) and Co 7219 (13.67 t/ha) for CCS yield. (Table 9)

VIII. Technical programme of the year next to the reporting year:

Three clones viz., Co 06031, Co C 08339 and Co C 09337 will be studied in comparison with Co 7219, Co 86249 and Co V 92102 during 2011-12.

IX. Technical summary of the individual reporting year:

Co 06030 recorded higher NMC, cane yield and CCS yield and was found to be significantly superior over three standards i.e., Co 86249, Co7219 and CoV 92102. The best standard CoV 92102 recorded significantly higher per cent juice sucrose and found to be superior over test clones and other standards. However, the clone CoA 07322 was found to be superior over the standards Co 7219, Co 86249 but was on par with the best standard CoV 92102 for per cent juice sucrose.

X. Salient findings.

The clone Co 6030 was found to be superior for number of millable canes, cane yield and sugar yield. The best standard CoV 92102 recorded higher per cent juice sucrose at harvest. However, the clone CoA 07322 was found to be on par with the best standard CoV 92102 for per cent juice sucrose.

East Coast Zone
Table 9: Advanced Varietal Trial (Midlate) II Plant
Statistically analysed data
Centre: Regional Agricultural Research Station, Anakapalle.

S. No.	Clone	CCS (t/ha)	Cane yield (t/ha)	Brix % (12 th month)	Sucrose% (12 th month)	Purity % (12 th month)	CCS % (12 th month)	Pol % (12 th month)	Juice Extraction% (12 th month)	Fibre % (12 th month)	NMC at 12 th month ('000/ha)
1	Co 06030	14.19	118.75	20.61	18.10	87.84	12.82	-	71.75	-	110.00
2	CoA 07322	12.91	107.00	20.51	18.40	89.09	13.11	-	66.50	-	96.00
	Stds										
3	CoV 92102	13.21	106.50	22.24	19.15	85.77	13.34	-	69.50	-	104.25
4	Co 7219	13.67	104.00	19.92	17.72	89.17	12.63	-	66.50	-	99.50
5	Co 86249	10.32	90.25	18.96	16.82	89.49	11.97	-	57.50	-	94.75
	CD (0.05)	3.06	22.24	1.20	1.05	3.70	0.89	-	17.69	-	21.11
	CV (%)	7.59	6.68	1.82	1.81	1.29	2.05	-	8.41	-	6.56

S. No.	Clone	Stalk length (m)	Stalk diameter (cm)	Single cane weight (kg)	Brix % (10 th month)	Sucrose% (10 th month)	Purity% (10 th month)	CCS % (10 th month)	No. of shoots ('000/ha) 240 days	No. of tillers ('000/ha) 120 days	Germination % (30 days)
1	Co 06030	2.78	2.58	1.24	19.36	17.32	89.50	12.39	122.75	147.00	67.75
2	CoA 07322	2.62	2.85	1.42	19.77	17.58	88.95	12.53	112.25	137.25	65.25
	Stds										
3	CoV 92102	2.71	2.47	1.23	20.20	17.81	88.16	12.64	114.25	147.75	69.50
4	Co 7219	2.68	2.60	1.20	19.04	16.79	88.15	11.92	111.25	140.00	70.50
5	Co 86249	2.38	2.25	1.13	17.82	15.48	86.88	10.91	109.25	135.75	64.25
	CD (0.05)	0.36	0.44	0.14	0.92	1.36	5.02	1.01	20.75	31.42	13.49
	CV (%)	4.43	5.46	3.78	1.49	2.47	1.75	2.61	5.64	6.86	6.28

- I. Project No. : B II Zonal Varietal Trials
P2 – 2011 / 9/ AHD / F30 / H10 / H20 / 0230
- II Project Title : Advanced varietal trial (Midlate) – Ratoon
- III. Serial number of the year of : IX
Experimentation
- VI Location : Regional Agricultural Research Station, Anakapalle
- V. Objective : To screen and select high yielding and sucrose rich clones from clones poled from different centers of EC Zone.
- VI. Technical Programme on which the technical programme is based : Based on constraints identified in East Coast Zone and deliberation held in the Joint group / workshop in AICRP on Sugarcane.
- VIII. Discipline wise – technical report :
- a. Date of Ratoon : 5.3.2011
- b. Varieties : Three + Three stds
CoA 07322, CoC 07337, CoC 09339
Standards : CoV 92102, Co 7219 and Co 86249
- c. Fertilizer application : 100 kg P₂O₅ + 120 kg K₂O / ha. 112 kg N in two splits i.e. at 45 DAP and 90 DAP
- d. Cultural practices : Hand weeding and Hoeing 13.4.2011, 28.5.2011
- Removal of flower 12.8.2011, 13.8.2011,
weeds & Creepers 4.10.2011, 5.10.2011
- Ear thing up 8.7.2011
- TT propping I tier 26.08.2011 & 30.8.2011
- TT propping II tier 30.9.2011 & 3.10.2011
- TT propping III tier 5.11.2011, 8.11.2011, 20.11.2011
- e. Irrigations : Once in a week during formative phase and once in 18 days during maturity phase.
- f. Plant protection : Need based
- g. Date of harvest : 27.2.2012
- h. Plot size : Gross : 6.0 m x 0.8 m x 8 R = 38.4 m²
Net : 5.0 m x 0.8 m x 6 R = 24.0 m²
- i. Layout : RBD
- j. Replications : Three
- k. Total experimental area : 0.18 ha
- l. Name and designation of the participants : 1. Dr. M.Charumathi, Scientist (Plant Breeding)
2. Dr.K.Prasada Rao, Principal Scientist (Plant Breeding)
3. Dr.D.Adilakshmi, Senior Scientist (Plant Breeding)

m. Results recorded during the previous year :

Five clones were studied for their ratoon performance in Advanced Varietal Trial (Mid late) ratoon in comparison with three standards CoV92102, Co7219 and Co86249 during 2009-10. The clones differed significantly for all the characters studied. Among the selected clones number of millable canes ranged from 53.00 (CoC06340) to 95.00 thousands/ha (CoA05322). The clones CoA05322 (95.00 thousands/ha) and CoA05323 (89.30 thousands/ha) were significantly superior over the best standard CoV2102 (65.60 thousands/ha). The clone CoA06322 (74.60 thousands/ha) but was recorded significantly higher number of millable canes than the standard Co86249 (55.60 thousands/ha) but was on par with the standards CoV92102 and Co7219. Cane yield varied from 50.00 (CoC06340) to 97.60 t/ha (CoA05322). The clones CoA05322 (97.60 t/ha) and CoA05323 (91.30 t/ha) were significantly superior over the best standard CoV92102 (74.03 t/ha) for cane yield. The clone CoA06322 (77.30 t/ha) recorded higher cane yield (77.30 t/ha) and found to be significantly superior over the standard Co86249 (53.30 t/ha). The best standard CoV92102 recorded higher Percent juice sucrose (19.07) when compared to test clones and other standards. However, the clones CoC06340 (18.40), CoA05322 (18.20) and CoA05323 (18.00) were found to be on par with the standards Co7219 (18.20) and Co86249 (17.46). CCS yield varied from 5.70 (CoC06340) to 12.30 t/ha (CoA05322). The clones for CCS yield CoA05322 (12.30) and CoA05323 (11.50 t/ha) were significantly superior over the standards Co7219 (9.58 t/ha) and Co86249 (9.12 t/ha) but were on par with the standard CoV92102 (10.92 t/ha).

n. Results obtained during the year :

Three clones were studied for their ratoon performance in comparison with three standards, Co 7219 and CoV92102 during 2011-2012. (Table 9). The clones differed significantly for all the characters tested in the trial. Number of millable canes ranged from 55.50 (CoC 07337) to Co 06030 (94.00 thousands/ha). The clones Co06030 (94.00 thousands/ha) and CoA 07322 (86.00 thousands/ha) were found to be significantly superior over the standards number of millable canes when compared to standards CoV 92102 (77.75 thousands/ha), Co 7219 (72.65 thousands/ha) and Co 86249 (60.75 thousands/ha). Cane yield varied from 50.75 (CoC 07337) to 106.50 t/ha (Co06030). The clones Co 06030 (106.50 t/ha) and CoA 07322 (89.25 t/ha) were found to be significantly superior over three standards CoV 92102 (81.25 t/ha), Co 7219 (77.00 t/ha) and Co 86249 (66.00 t/ha) for cane yield. Per cent juice sucrose ranged from 16.71 (Co 86249) and 18.80 per cent (CoV 92102). The best standard CoV 92102 (18.80) recorded higher per cent juice sucrose. However, the clones CoA 07322 (18.11) and Co 06030 (17.99) were found to be significantly superior over other two standards Co 7219 (17.97) and Co 86249 (16.71) but on par with CoV92102 (18.80) for per cent juice sucrose at harvest. CCS yield ranged from 6.27 (CoC 07337) to 12.73 t/ha (Co06030). The clone Co 06030 (12.73 t/ha) recorded higher CCS yield (12.73 t/ha) and was found to be significantly superior over the standards viz., CoV 92102 (10.40 t/ha), Co 7219 (10.41 t/ha) and Co 86249 (7.90 t/ha) for CCS yield. (Table 9)

Technical programme of the year next to the reporting year:

Three clones viz., Co 06031, Co C 08339 and Co C 09337 will be studied in comparison with Co 7219, Co 86249 and Co V 92102 during 2012-2013.

Technical summary of the individual reporting year:

Co 06030 recorded higher NMC, cane yield and CCS yield and was found to be significantly superior over three standards i.e., Co 86249, Co7219 and CoV 92102. The best standard CoV 92102 recorded significantly higher per cent juice sucrose and found to be superior over test clones and other standards. However, the clone CoA 07322 was found to be superior over the standards Co 7219, Co 86249 but was on par with the best standard CoV 92102 for per cent juice sucrose.

Salient findings.

The clone Co 6030 was found to be superior for number of millable canes, cane yield and sugar yield. The best standard CoV 92102 recorded higher per cent juice sucrose at harvest. However, the clone CoA 07322 was found to be on par with the best standard CoV 92102 for per cent juice sucrose.

East Coast Zone
Table 9: Advanced Varietal Trial (Midlate) Ratoon
Statistically analysed data
Centre: Regional Agricultural Research Station, Anakapalle.

S. No.	Clone	CCS (t/ha)	Cane yield (t/ha)	Brix % (11 th month)	Sucrose% (11 th month)	Purity % (11 th month)	CCS % (11 th month)	Pol % (11 th month)	Juice Extraction% (11 th month)	Fibre % (11 th month)	NMC at 11 th month ('000/ha)
1	Co 06030	12.73	106.50	20.49	17.99	87.86	12.75	-	67.75	-	94.00
2	CoA 07322	10.73	89.25	21.33	18.11	87.74	12.60	-	57.25	-	86.00
3	CoC 07337	6.27	50.75	19.71	17.55	89.03	12.62	-	50.75	-	55.50
	Stds										
4	CoV 92102	10.40	81.25	21.52	18.80	87.39	13.29	-	66.00	-	77.75
5	Co 7219	10.41	77.00	20.11	17.97	89.24	12.79	-	62.00	-	72.65
6	Co 86249	7.90	66.00	19.21	16.71	87.00	11.86	-	53.50	-	60.75
	CD 0.05	3.26	23.75	1.36	0.59	3.72	0.45	-	17.04	-	28.24
	CV (%)	10.34	9.34	2.05	6.64	7.94	1.09	-	8.83	-	11.71

S. No.	Clone	Stalk length (m)	Stalk diameter (cm)	Single cane weight (kg)	No. of shoots ('000/ha) 240 days	No. of tillers ('000/ha) 120 days
1	Co 06030	2.54	2.36	1.11	126.75	187.50
2	CoA 07322	2.43	2.49	1.23	107.25	132.50
3	CoC 07337	2.07	2.02	1.03	82.00	114.75
	Stds					
4	CoV 92102	2.47	2.32	1.07	96.75	159.75
5	Co 7219	2.36	2.19	1.10	95.50	135.00
6	Co 86249	2.05	2.07	1.01	85.00	113.50
	CD 0.05	0.94	0.19	0.14	27.28	51.34
	CV (%)	4.64	2.74	4.22	8.48	11.28