Acharya N.G. Ranga Agricultural University

AICRP ON SUGARCANE

Annual Report

of

Genetics & Plant Breeding

2014-2015

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 – 2014/ 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 report 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	:	20.6.14, 21.6.14, 24.6.14, 25.6.14 & 26.6.14
	b. Varieties	:	8539 seedlings from 30 station crosses, 11 zonal crosses, 12 PCs and 24 GCs.
	c. Fertilizer application	:	100 kg P_2O_5 + 120 kg K_2O / 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 and hoeing	:	22.7.14, 23.7.14 and 24.7.2014
Inter cultivation	:	2.9.14 and 3.9.14
Rectification of cross channels	:	4.9.14 and 5.9.14
Earthing up	:	8.10.14 & 9.10.2014
Removal of flower weeds	:	29.10.14, 30.10.14, 3.11.14
I Tier TT propping	:	30.9.14, 1.10.14, 3.10.14, 4.10.14 and 10.10.14
II Tier TT Propping	:	1.11.14, 3.11.14, 12.11.14, 15.11.14, 17.11.14,20.11.14, 21.11.14
III Tier TT Propping	:	6.12.14, 8.12.14, 23.12.14, 1.1.15, 17.1.15, 27.1.15 and 11.2.15

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	:	4.5.15 and 5.5.15
h. Plot size	:	Furrows of 10m length with 80 cm between furrow
i. Layout	:	ARCBD
j. Replications	:	Non – replicated spaced planted trial.
k. Total experimental area		1.50 acres

l. Name and designation of the participants :

1. Dr.D.Adilakshmi, Senior Scientist (Plant Breeding)
2. Dr.M.Charumathi, Senior Scientist (Plant Breeding)
3. Dr. A. Appalaswamy, Senior Scientist (Plant Breeding)

m. Results recorded during the previous year :

During 2013-14 a total quantity of 2114.50 g of fluff was received from SBI, Coimbatore. A total number of 9403 seedlings were transplanted from 39 station crosses, 11 Zonal crosses, 11 PCs and 44 General crosses. Out of which 6,888 seedlings survived in the main field with an average survival per cent of 73.25.

Three hundred and fifty five genotypes were selected from seedling nursery based on desired morphological characters and HR Brix values. Maximum no of genotypes were selected in Co 8371X Co775 ZC (46) and Co T 8201 X ISH 229 (34).

No of clones per clump ranged from 3.00 (Co Jaw 270 X Co Se 92423) to 7.44 (Co 1148 X ISH 229), Brix 21.67 (97 R 401X Co Se92423) to 27.00 (Co 2000-10 X Co 62198), Cane length (m) ranged from 2.26 (Co 8371 X Co 775) to 2.80 (CoT 8201 X ISH 229), Cane girth ranged from (cm) 2.10 (Co 1148 X ISH 229) to 2.67 (Co 270 x Co Se 92423), Single cane weight ranged from (kg) 0.970 (Co 8371 X Co 775) to 1.209 (CoT 8201 GC).

n. Results obtained during the year :

During 2014-15 a total quantity of 2074.50 g of fluff was received from SBI, Coimbatore. A total number of 11336 seedlings were transplanted from 77 crosses (30 station crosses, 11 Zonal crosses, 12 PCs and 24 General crosses. Out of which8539 seedlings survived in the main field with an average survival per cent of 75.33 (Table 1 & 2).

Three hundred genotypes were selected from seedling nursery based on desired morphological characters and HR Brix values. Maximum no of genotypes were selected in CoV89101 X ISH 69 (29) followed by ISH 69 GC (26) and Co 85002 PC (25). The range of different characters recorded are furnished in (Table 3). Number of clones per clump ranged from 2.00 (Co 8371 X Co 775) to 11.50 (2000V 59 X Co A 7602), Brix 20.00 (ISH 100 PC to 25.00 (Co A 92081 X Co 94008), Cane length (m) ranged from 2.09 (ISH 100 X Co Se 92423) to 2.67 (2000V 59 X Co A 7602), Cane girth (cm) ranged from 2.00 (ISH 100 PC) to 2.57 (Co 92081 GC), Single cane weight (kg) ranged from 0.921 (ISH 100 PC) to 1.186 (Co99006 GC) (**Table 3**).

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

The fluff of 33 station crosses, 13 zonal crosses, 13 poly crosses and 56 GCs was received from Sugarcane Breeding Institute, Coimbatore will be studied during 2015-16.

IX Technical summary of the individual reporting year :

Three hundred genotypes were selected from seedling nursery based on desired morphological characters and HR Brix values. Maximum no of genotypes were selected in CoV89101 XISH 69 (29) followed by ISH 69 GC (26) and Co 85002 PC (25). The range of different characters recorded are furnished in Table 2.Number of clones per clump ranged from 2.00 (Co 8371 X Co 775) to 11.50 (2000V 59 X Co A 7602), Brix 20.00 (ISH 100 PC) to 25.00 (Co A 92081 X Co 94008), Cane length (m) ranged from 2.09 (ISH 100 X Co Se 92423) to 2.67 (2000V 59 X Co A 7602), Cane girth (cm) ranged from 2.00 (ISH 100 PC) to 2. 57 (Co 92081 GC). Single cane weight (kg) ranged from 0.921 (ISH 100 PC) to 1.186 (Co99006 GC).

X Salient findings.

Three hundred genotypes were selected from seedling nursery based on desired morphological characters and HR Brix values. Maximum no of genotypes were selected in CoV89101 XISH 69 (29) followed by ISH 69 GC (26) and Co 85002 PC (25). The range of different characters recorded are furnished in Table 2.Number of clones per clump ranged from 2.00 (Co 8371 X Co 775) to 11.50 (2000V 59 X Co A 7602), Brix 20.00 (ISH 100 PC) to 25.00 (Co A 92081 X Co 94008), Cane length (m) ranged from 2.09 (ISH 100 X Co Se 92423) to 2.67 (2000V 59 X Co A 7602), Cane girth (cm) ranged from 2.00 (ISH 100 PC) to 2. 57 (Co 92081 GC). Single cane weight (kg) ranged from 0.921 (ISH 100 PC) to 1.186 (Co99006 GC).

Table 1: Details of Seedling Nursery 2014-15

S. No	Cross/GC/PC	Quantity of fluff received in gm	No. of seedlings obtained	No. of seedlings/gm of fluff	No. of seedlings survived	Survival %
	Station crosses					
311	Co V 89101 X ISH 69	20.00	350	17.5	243	69.43
312	Co 8213X ISH 69	57.50	150	2.61	125	83.33
313	ISH 100X Co C 8001	16.00	281	17.56	195	69.39
314	Co V 89101 X Co 1148	11.50	Germination failed			
344	Co A 7602 X Co 775	14.50	75	5.17	66	88.00
345	ISH 100 X CoSe 92423	26.5	400	15.09	323	80.75
358	CoSe 92423 X CoC 8001	17.5	210	12	163	77.62
359	CoA 92081 X Co94008	19.5	39	2	36	92.31
360	ISH 100 X 89 V 74	18	18	1	12	66.67
373	70 A 5 X SP 80-185	17.5	18	1.03	12	66.67
374	85 R 186 X Co 1148	31.5	74	2.35	56	75.67
375	CoA92081 X Co 86249	15.5	235	15.16	164	69.79
414	Co 8371 X Co 775	22	114	5.18	74	64.91
415	CoT 8201 X 70 A 2	32	118	3.69	84	71.19
438	2000 V 59 XCo V 92102	30.5	237	7.77	177	74.68
439	Co 85002 X Co A 7602	29	25	0.86	20	80.00
459	85 R 186 X ISH 175	35.5	21	0.59	12	57.14
460	Co A 7602 X SP 80-185	15	134	8.93	112	83.58
499	Co 8338 X Co 94008	41.5	Germination failed			
500	Co A 06321 X CoC 671	20.5	25	1.22	22	88.00
515	Co A 09321 X CoC 671	21.5	8	0.37	7	87.50
536	2000 V 59 X Co A 7602	20.5	84	4.10	57	67.86
559	Co 2000-10 X Co 94008	31	50	1.61	36	72.00
571	2003 V 46 X Co 94008	21	Germination failed			
21	Co Jaw 270 X Co 62198	10	50	5	40	80.00
39	Co Jaw 270 X Co H 15	80	50	0.62	48	96.00
203	Co 8353 X 89 V 74	9.5	61	6.42	56	91.80
162	Co 99006 X C0 775	7	125	17.86	80	64.00
38	Co Jaw 270 X Co 89029	11.5	25	2.17	23	92.00
22	Co Jaw 270 X NCO 310	9.5	Germination failed			
	Total	**713**	**2977**	**4.17**	**2243**	**75.34**
	Zonal crosses					
1.	CoA 92081 X Co 94008	12.5	25	2	18	72.00
2.	CoV 89101 X ISH 69	17.5	500	28.57	391	78.20
3.	CoV 89101 X CoA 7602	5.5	50	9.09	49	98.00
4.	CoV 89101 X CoT 8201	11	75	6.82	71	94.67
5.	ISH 100 X C 81615	25	Germination failed			
6.	Co 6304 X CoA 7602	18.5	50	2.7	40	80.00
7.	CoA 92081 X CoT 8201	26	75	2.88	63	84.00

8.	CoC 90063 X Co 94008	20.5	175	8.54	118	67.43
9.	CoA 92081 X CoV 92102	20.5	65	3.17	63	96.92
10.	Co 8371 X Co 775	9.5	125	13.16	66	52.80
11.	Co 740 X CoC 671	20	250	12.5	166	66.40
	Total	**186.5**	**1390**	**7.45**	**1045**	**75.18**
	PCs					
1	CoM 0265	9.5	81	8.53	58	71.60
2	ISH 100	11	169	15.36	152	89.94
3	Co 94012	41	481	11.73	382	79.42
4	Co 85002	28	383	13.68	295	77.02
5	CoA 7602	14	Germination failed			
6	86 V 46	8.5	234	27.53	162	69.23
7	Co C 671	9.5	Germination failed			
8	CP 52-68	6.5	Germination failed			
9	Co 2000-10	24.5	130	5.31	109	83.85
10	Co C 90063	4.5	Germination failed			
11	Co 7201	10.5	10	0.95	10	100.00
12	Co 8371	40	310	7.75	287	92.58
	Total	**207.5**	**1798**	**8.66**	**1455**	**80.92**
	GCs					
1	Co 8213	18	350	19.44	256	73.14
2	Co V 94101	26.5	213	8.04	108	50.70
3	Co H 119	50	175	3.5	158	90.28
4	Co 85002	28	188	6.71	148	78.72
5	Co 86002	31.5	175	5.55	148	84.57
6	Co 98008	49	475	9.69	402	84.63
7	Bo 91	60.5	400	6.61	354	88.50
8	MS 6847	25.5	650	25.49	265	40.77
9	Co H 110	71.5	115	1.61	78	67.83
10	Co 0233	7	54	7.71	41	75.92
11	Co 1148	107	250	2.34	202	80.80
12	C 81615	51	Germination failed			
13	Co A 92081	29	663	22.86	486	73.30
14	Co A 92082	33.5	102	3.04	69	67.65
15	Co 8013	25	32	1.28	31	96.87
16	ISH 69	19	225	11.84	175	77.78
17	Co 98014	40.5	Germination failed			
18	89V 74	17.5	409	23.37	319	77.99
19	Co 99006	7	144	20.57	104	72.22
20	70 A 5	67	25	0.37	23	92.00
21	Co A 93082	13	5	0.38	5	100.00
22	Co Jaw 270	109	117	1.07	80	68.38
23	C 81-129	20	54	2.7	43	79.63
24	Co 90018	61.5	350	5.69	301	86.00
		967.5	5171	5.34	3796	73.41

Table 2: Abstract of Survival per cent of Seedling Nursery 2014-15

Cross/ GC/PC	Total crosses/ GCs PCs	No. of crosses GCs PCs Germinated	No of crosses GCs/PCs failed to germinate	Quantity of fluff received in grams	No. of seedlings obtained	No. of seedlings/ gram of fluff	No. of seedlings survived	Survival per cent
Station crosses	30	26	4	713.00	2977	4.17	2243	75.34
Zonal crosses	11	10	1	186.50	1390	7.45	1045	75.18
PCs	12	8	4	207.50	1798	8.66	1455	80.92
GCs	24	22	2	967.50	5171	5.34	3796	73.41
Total	**77**	**66**	**11**	**2074.50**	**11336**	**5.46**	**8539**	**75.33**

Table 3: Mean data of selected clones, cross/PC/GC wise in seedling nursery 2014-15

S.No.	Name of the cross	No of selections	Genotypes range	Number of canes/ clump	Brix (%)	Cane length (m)	Cane girth (cm)	Single cane weight (kg)
1	2000V59XCoA7602	2	2015A1 & 2015A2	11.5	21.50	2.67	2.38	1.173
2	Co8213 GC	14	2015A3 – 2015A15 & 2015A207	6.93	22.21	2.5	2.33	1.139
3	MS6847GC	8	2015A16-2015A22& 2015A204	6.75	21.87	2.41	2.3	1.047
4	CoT8201X70A2	6	2015A23-2015A26 &2015A199-2015A200	5.50	23.33	2.40	2.28	1.021
5	Co2000-10 XCo94008	2	2015A27&2015A28	7.0	23.50	2.60	2.28	1.018
6	CoA06321XCoC671	3	2015A29-2015A31	2.33	24.33	2.50	2.34	1.054
7	CoA92081XCo94008	1	2015A32	6	25.00	2.50	2.43	1.050
8	85R186XCo1148	2	2015A33 & 2015A34	2.5	24.50	2.41	2.24	1.020
9	CoV89101XISH69	29	2015A35-2015A45, 2015A88-2015A103 & 2015A209-2015A210	4.68	22.35	2.32	2.09	0.970
10	ISH100XCoSe92423	10	2015A46-2015A55	3.5	22.00	2.09	2.06	0.949
11	CoA7602XSP80-185	1	2015A56	9.0	22.00	2.57	2.37	1.167
12	CoSe92423XCoC8001	6	2015A57-2015A62	6.5	23.33	2.42	2.05	1.008
13	ISH100XCoC8001	2	2015A63 & 2015A208	6.0	22.00	2.50	2.13	1.021
14	Co6304XCoA7602	2	2015A64 & 2015A65	4.5	22.50	2.51	2.35	1.033
15	Co8371XCo775	1	2015A66	2.0	23.00	2.45	2.20	1.050
16	Co740XCoC671	6	2015A67-2015A72	6.33	22.33	2.32	2.21	1.021

S.No.	Name of the cross	No of selections	Genotypes range	Number of canes/ clump	Brix (%)	Cane length (m)	Cane girth (cm)	Single cane weight (kg)
17	CoC90063XCo94008	15	2015A73-2015A87	4.93	22.13	2.30	2.22	1.030
18	CoV89101XCoA7602	3	2015A104, 2015A193 & 2015A194	4.67	20.67	2.38	2.30	1.028
19	CoV89101XCoT8201	8	2015A105-2015A112	5.75	22.50	2.40	2.15	1.022
20	2000V59XCoV92102	4	2015A113-2015A116	7.25	22.00	2.34	2.41	1.124
21	Co8213XISH69	12	2015A117-2015A128	4.50	22.42	2.46	2.21	1.024
22	Co94012PC	14	2015A129-2015A142	6.14	22.00	2.47	2.34	1.038
23	Co8371PC	11	2015A143-2015A153	4.81	20.27	2.50	2.40	1.061
24	Co2000-10PC	4	2015A154-2015A157	4.75	22.75	2.39	2.20	1.005
25	Co85002PC	25	2015A158-2015A182	5.68	22.24	2.46	2.15	1.027
26	86V46PC	3	2015A183-2015A185	5.33	21.33	2.48	2.31	1.081
27	ISH100PC	3	2015A186-2015A188	4.67	20.00	2.18	2.0	0.921
28	CoMo265PC	4	2015A189-2015A192	5.0	21.00	2.22	2.2	0.985
29	C81-129GC	2	2015A195-2015A196	9.0	22.00	2.27	2.02	1.000
30	Co99006GC	2	2015A197-2015A198	3.5	23.50	2.49	2.28	1.186
31	Co90018GC	6	2015A201 & 2015A265-2015A269	5.33	22.67	2.47	2.18	1.017
32	CoA92081GC	20	2015A202-2015A203 & 2015A220-2015A237	5.0	21.80	2.56	2.57	1.039
33	CoH110GC	2	2015A205 & 2015A206	4.5	22.50	2.27	2.13	0.990
34	Co85002GC	3	2015A211 – 2015A213	6.0	22.00	2.58	2.28	1.030
35	89V74GC	7	2015A214-2015A219 & 2015A248	6.0	21.43	2.54	2.33	1.029
36	ISH69GC	26	2015A238-2015A264	6.0.	21.65	2.58	2.46	1.036
37	Co98008GC	15	2015A270-2015A284	5.4	21.07	2.52	2.18	1.027
38	Co1148GC	16	2015A285-2015A300	6.69	20.31	2.53	2.20	1.032

I.	**Project No.**	:	B IV fluff supply programme P2 – 2014 / 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 report 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	:	28.4.2014 and 29.4.2014
	b. Varieties	:	369 genotypes selected from seedling nursery raised during 2013-14
	c. Fertilizer application	:	112 kg N + 100 kg P_2O_5 + 120 kg K_2O / ha
	d. Cultural practices	:	Hand weeding and hoeing : 10.6.2014, 11.6.2014, 12.6.2014 Inter cultivation : 15.7.2014 and 19.7.2014 Rectification of cross channels : 16.7.2014 and 20.7.2014 Earthing up : 10.8.2014 and 11.8.2014 Removal of flower weeds : 28.8.2014 to 31.8.2014 and 18.1.2014 I Tier TT propping : 14.9.2014, 16.9.2014 and 18.9.2014 II Tier TT Propping : 10.10.2014
	e. Irrigations	:	Once in a week during formative phase and once in 18 days during maturity phase.
	f. Plant protection	:	---
	g. Date of harvest	:	24.4.2015
	h. Plot size	:	2.5 m x 0.8 m x 2R = 4.0m^2
	i. Layout	:	ARCBD
	j. Replications	:	Nil
	k. Total experimental area	:	0.75 ac
	l. Name and designation of the participants	:	1. Dr.M.Charumathi, Senior Scientist (Plant Breeding) 2. Dr.D.Adilakshmi, Senior Scientist (Plant Breeding) 3. Dr.A.Appala swamy, Senior Scientist (Plant Breeding)

m. Results obtained during the previous year:

Out of 369 genotypes studied in settling nursery during 2013-14, 93 clones were selected based on morphological features and HR brix values. Cane yield (t/ha) ranged from 100.00 (2013 A 106) to 155 t/ha (2013 A 135). Among the selected clones ten clones viz., 2013 A 6, 2013 A 13, 2013 A 37, 2013 A 131, 2013 A 135, 2013 A 150, 2013 A 158, 2013 A 179 and 2013 A 273 recorded cane yield more than 140 t/ha in comparison with the standards Co 6907 (107.50 t/ha) and Co 7219 (105.00 t/ha).

The NMC ranged from 1.0 lakh (2013 A 226) to 1.45 lakh ha (2013 A135) while HR Brix ranged from 19.00 (2013 A 121) to 26.33 (2013 A 118). The Brix yield ranged from 21.86 (2013 A 277) to 39.79 t/ha (2013 A 135) (Table 4).

n. Results obtained during the year :

Out of 355 genotypes studied in settling nursery during 2014-15, 113 clones were selected based on desirable morphological features and HR brix per cent values. Cane yield (t/ha) ranged from 43.52 (2014 A 4) to 125.00 t/ha (2014 A 39). Among the selected clones 11 clones *viz.*, 2014 A 30, 2014 A 39, 2014 A 47, 2014 A 68, 2014 A 76, 2014 A 93, 2014 A 113, 2014 A 130 , 2014 A 266,2014 A 338 and 2014 A 351 were recorded cane yield more than 100 t/ha in comparison with the standards Co 6907 (82.00 t/ha) and Co 7219 (85.00 t/ha).

Number of Millable Canes (‘000/ha) ranged from 37.50 (2014 A 32) to 95.00 (2014 A176), HR Brix per cent ranged from 18.00 (2014 A 47) to 27.50 (2014 A 125) while, Brix yield ranged from 8.10 (2014 A 7) to 31.85 t/ha (2014 A 338) (**Table 4)**

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

300 genotypes along with two standards, Co 6907 and Co7219 will be studied during 2015-16.

IX. Technical summary of the individual reporting year :

Out of 355 genotypes studied in settling nursery during 2014-15, 113 clones were selected based on desirable morphological features and HR brix per cent values. Cane yield (t/ha) ranged from 43.52 (2014 A 4) to 125.00 t/ha (2014 A 39). Among the selected clones 11 clones *viz.*, 2014 A 30, 2014 A 39, 2014 A 47, 2014 A 68, 2014 A 76, 2014 A 93, 2014 A 113, 2014 A 130 , 2014 A 266,2014 A 338 and 2014 A 351 were recorded cane yield more than 100 t/ha in comparison with the standards Co 6907 (82.00 t/ha) and Co 7219 (85.00 t/ha).

Number of Millable Canes (‘000/ha) ranged from 37.50 (2014 A 32) to 95.00 (2014 A176), HR Brix per cent ranged from 18.00 (2014 A 47) to 27.50 (2014 A 125) while, Brix yield ranged from 8.10 (2014 A 7) to 31.85 t/ha (2014 A 338).

X. Salient findings.

Out of 355 genotypes studied in settling nursery during 2014-15, 113 clones were selected based on desirable morphological features and HR brix per cent values. Cane yield (t/ha) ranged from 43.52 (2014 A 4) to 125.00 t/ha (2014 A 39). Among the selected clones 11 clones *viz.*, 2014 A 30, 2014 A 39, 2014 A 47, 2014 A 68, 2014 A 76, 2014 A 93, 2014 A 113, 2014 A 130 , 2014 A 266,2014 A 338 and 2014 A 351 were recorded cane yield more than 100 t/ha in comparison with the standards Co 6907 (82.00 t/ha) and Co 7219 (85.00 t/ha).

Table 4: Performance of selected clones in Settling Nursery 2014-15

S. No	Clone No	Pedigree	NMC (000/ha)	Cane yield (t/ha)	HR Brix (%)	Brix yield (t/ha)
1	2014A3	Co8371XCo775	45.00	59.05	24.00	14.17
2	2014A4	Co8371XCo775	40.00	43.52	19.80	8.62
3	2014A7	Co8371XCo775	40.00	45.00	18.00	8.10
4	2014A10	Co8371XCo775	60.00	57.50	22.80	13.11
5	2014A15	Co8371XCo775	55.00	65.00	20.40	13.26
6	2014A17	Co8371XCo775	67.50	45.00	25.00	11.25
7	2014A19	Co8371XCo775	57.50	90.00	22.80	20.52
8	2014A23	Co8371XCo775	40.00	45.00	22.60	10.17
9	2014A30	Co8371XCo775	75.00	105.00	22.00	23.10
10	2014A32	Co8371XCo775	37.50	70.00	23.00	16.10
11	2014A33	Co8371XCo775	55.00	80.00	21.80	17.44
12	2014A34	Co8371XCo775	40.00	45.00	22.00	9.90
13	2014A38	Co8371XCo775	70.00	72.50	21.80	15.81
14	2014A39	Co8371XCo775	50.00	125.00	22.00	27.50
15	2014A40	Co8371XCo775	55.00	95.00	22.80	21.66
16	2014A44	Co8371XCo775	55.00	65.00	23.00	14.95
17	2014A45	Co8371XCo775	50.00	55.00	20.00	11.00
18	2014A47	CoA92081XCoV92102	87.50	115.00	22.00	25.30
19	2014A48	CoA92081XCoV92102	75.00	95.00	24.60	23.37
20	2014A50	CoA92081XCoV92102	62.50	95.00	23.20	22.04
21	2014A54	CoA92081XCoV92102	55.00	55.00	22.60	12.43
22	2014A67	CoV89101XCoA7602	55.00	58.00	24.00	13.92
23	2014A68	CoV89101XCoA7602	65.00	107.50	23.20	24.94
24	2014A70	CoV89101XCoA7602	47.50	65.00	23.00	14.95
25	2014A73	CoV89101XCoA7602	80.00	80.00	22.60	18.08
26	2014A76	CoV89101XCoA7602	80.00	112.50	26.00	29.25
27	2014A79	CoA92081XCoT8201	70.00	80.00	22.80	18.24
28	2014A81	CoA92081XCoT8201	55.00	45.00	24.00	10.80
29	2014A84	CoA92081XCoT8201	55.00	85.00	23.00	19.55
30	2014A89	Co6304XCoA7602	55.00	85.00	23.60	20.06
31	2014A93	Co6304XCoA7602	57.50	100.00	22.00	22.00
32	2014A95	Co6304XCoA7602	55.00	47.50	22.00	10.45
33	2014A97	Co6304XCoA7602	60.00	70.00	27.00	18.90
34	2014A99	Co6304XCoA7602	75.00	95.00	23.80	22.61
35	2014A102	Co89101XCoT8201	65.00	70.00	23.60	16.52
36	2014A103	Co89101XCoT8201	82.50	70.00	25.60	17.92
37	2014A106	Co89101XCoT8201	62.50	47.50	23.00	10.93
38	2014A109	Co89101XCoT8201	65.00	68.72	21.60	14.84
39	2014A111	Co89101XCoT8201	55.00	50.00	24.60	12.30
40	2014A112	Co89101XCoT8201	52.50	60.00	22.00	13.20
41	2014A113	Co89101XCoT8201	50.00	105.00	25.00	26.25
42	2014A116	Co89101XCoT8201	70.00	70.00	24.00	16.80
43	2014A120	Co89101XCoT8201	45.00	50.00	23.00	11.50
44	2014A121	Co89101XCoT8201	50.00	55.00	25.00	13.75
45	2014A122	Co89101XCoT8201	65.00	70.00	25.00	17.50
46	2014A125	CoV89101XISH69	72.50	75.00	27.50	20.63

S. No	Clone No	Pedigree	NMC (000/ha)	Cane yield (t/ha)	HR Brix (%)	Brix yield (t/ha)
47	2014A130	CoV89101XISH69	75.00	110.00	24.60	27.06
48	2014A134	CoV89101XISH69	85.00	65.00	25.00	16.25
49	2014A135	CoV89101XISH69	82.50	55.00	23.80	13.09
50	2014A137	CoV89101XISH69	67.50	75.00	21.20	15.90
51	2014A138	CoV89101XISH69	47.50	55.00	25.80	14.19
52	2014A140	CoV89101XISH69	55.00	55.22	19.60	10.82
53	2014A142	CoV89101XISH69	45.00	45.00	24.40	10.98
54	2014A144	CoV89101XISH69	67.50	85.00	24.00	20.40
55	2014A148	CoV89101XISH69	75.00	75.00	26.00	19.50
56	2014A154	CoV89101XISH69	50.00	50.20	23.00	11.55
57	2014A155	CoV89101XISH69	70.00	70.28	19.80	13.92
58	2014A158	CoA92081XCo94008	55.00	97.50	22.40	21.84
59	2014A159	CoA92081XCo94008	57.50	57.50	22.40	12.88
60	2014A162	ISH100XCoJ270	62.50	47.50	25.40	12.07
61	2014A169	CoH119XISH229	65.00	45.00	22.80	10.26
62	2014A173	CoH119XISH229	50.00	45.00	24.60	11.07
63	2014A174	CoH119XISH229	75.00	68.00	20.60	14.01
64	2014A176	CoH119XISH229	95.00	95.00	24.80	23.56
65	2014A180	CoH119XISH229	50.00	52.00	23.00	11.96
66	2014A186	Co1148XISH229	75.00	80.00	24.60	19.68
67	2014A187	Co1148XISH229	55.00	70.00	22.40	15.68
68	2014A191	Co1148XISH229	60.00	70.00	24.00	16.80
69	2014A192	Co1148XISH229	75.00	76.43	23.80	18.19
70	2014A193	Co1148XISH229	72.50	70.00	25.80	18.06
71	2014A203	ISH100XCoS90269	72.50	95.00	22.80	21.66
72	2014A209	CoV89101XCoC8001	60.00	63.00	21.00	13.23
73	2014A210	CoV89101XCoC8001	72.50	60.00	22.60	13.56
74	2014A217	CoA93082XCo8213	67.50	55.00	24.00	13.20
75	2014A218	CoA93082XCo8213	75.00	45.00	24.80	11.16
76	2014A219	CoA93082XCo8213	75.00	52.50	23.60	12.39
77	2014A223	CoA92082XBo91	77.50	60.00	22.60	13.56
78	2014A224	CoA92082XBo91	77.50	72.50	22.40	16.24
79	2014A225	CoA92082XBo91	65.00	87.50	19.40	16.98
80	2014A233	Co89029XCo1148	55.00	80.00	19.60	15.68
81	2014A237	Co98008XCo1148	55.00	57.50	24.00	13.80
82	2014A244	Co89101XCo97015	75.00	45.00	24.60	11.07
83	2014A245	Co89101XCo97015	75.00	50.00	22.40	11.20
84	2014A246	Co89101XCo97015	50.00	52.50	19.80	10.40
85	2014A248	Co89101XCo97015	77.50	70.00	26.20	18.34
86	2014A251	Co89101XCo97015	50.00	55.00	24.00	13.20
87	2014A257	97R401XCoC8001	55.00	57.50	22.60	13.00
88	2014A264	CoT8201XISH229	60.00	50.00	18.50	9.25
89	2014A266	CoT8201XISH229	65.00	100.00	21.80	21.80
90	2014A270	CoT8201XISH229	65.00	65.00	19.60	12.74
91	2014A271	CoT8201XISH229	65.00	57.50	21.60	12.42
92	2014A275	CoT8201XISH229	65.00	52.50	21.00	11.03
93	2014A278	CoT8201XISH229	65.00	85.00	22.60	19.21
94	2014A286	CoT8201XISH229	65.00	55.00	24.20	13.31

S. No	Clone No	Pedigree	NMC (000/ha)	Cane yield (t/ha)	HR Brix (%)	Brix yield (t/ha)
95	2014A291	CoT8201XISH229	47.50	57.50	23.00	13.23
96	2014A293	CoT8201XISH229	50.00	80.00	19.80	15.84
97	2014A294	CoT8201XISH229	50.00	80.00	22.80	18.24
98	2014A298	97R401XCoSe92423	60.00	70.00	21.60	15.12
99	2014A2981	97R401XCoSe92423	55.00	63.42	24.00	15.22
100	2014A301	ISH100XMS6847	65.00	60.00	23.80	14.28
101	2014A302	ISH100XMS6847	50.00	60.00	23.00	13.80
102	2014A307	ISH100XMS6847	62.50	80.00	24.00	19.20
103	2014A311	ISH100XMS6847	77.50	57.50	24.20	13.92
104	2014A312	ISH100XMS6847	80.00	70.00	26.00	18.20
105	2014A322	ISH100XCo09020	47.50	70.00	21.20	14.84
106	2014A323	ISH100XCo09020	55.00	51.30	22.80	11.70
107	2014A331	CoA92081XCoC8001	65.00	57.50	23.60	13.57
108	2014A333	CoA92081XCoC8001	55.00	52.50	23.00	12.08
109	2014A338	MS6847XCoV89101	62.50	122.50	26.00	31.85
110	2014A340	MS6847XCoV89101	50.00	58.90	19.60	11.54
111	2014A343	MS6847XCoV89101	60.00	63.48	24.80	15.74
112	2014A347	CoA09321XCoSE92423	47.50	49.17	20.20	9.93
113	2014A351	ISH1GC	65.00	112.50	23.60	26.55
114	Co6907(C)	Co740xCo1287	72.64	82.00	23.80	19.52
115	Co7219(C)	Co449xCo658	75.00	85.00	24.00	20.40

I.	**Project No.**	:	B VI fluff supply programme P2 – 2013 / 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 trial.
VI.	**Technical Programme on which the report is based**	:	Based on location specific problems and needs identified in ZREAC and SLTP meetings.
VII.	**Discipline wise – technical report**		
	a. Date of planting	:	23.4.14.
	b. Varieties	:	93 clones selected from settling nursery of 2013-14
	c. Fertilizer application	:	100 kg P_2O_5 + 120 kg K_2O / ha as basal. 112 kg N in two splits, *viz.*, at 45 DAP and 90 DAP.
	d. Cultural practices	:	

Hand weeding and hoeing	:	28.5.14, 29.5.14, 5.6.14 and 6.6.14
Inter cultivation	:	20.6.14 & 21.6.14
Rectification of cross channels	:	22.6.14
Earthing up	:	20.8.14
Removal of flower weeds	:	5.9.14, 8.9.14,
I Tier TT propping	:	27.8.14, 28.7.14 & 29.8.14
II Tier TT Propping	:	25.9.14, 26.9.14 & 28.9.14
III Tier TT Propping	:	3.10.14,, 4.10.14 & 5.10.14

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	:	17.4.15
h. Plot size	:	5.0 m X 0.8 m X 4 R =16m^2
i. Layout	:	ARCBD
j. Replications	:	Non – replicated spaced planted trail.
k. Total experimental area		0.50 ac.
l. Name and designation of the participants	:	1. Dr.D.Adilakshmi, Senior Scientist (Plant Breeding) 2. Dr.M.Charumathi, Senior Scientist (Plant Breeding) 3. Dr. A. Appalaswamy, Senior Scientist (Plant Breeding)

m. Results recorded during the previous year:

One hundred and four along with two standards were evaluated during 2013-14 in selection nursery, out of which twenty two clones were selected based on cane yield and other quality parameters. The clones viz., 2012 A 249 (137.50 t/ha), 2012 A 48 (147.5 t/ha) and 201 A 325 (143.75 t/ha) 2012 A 335 (138.13 t/ha), 2012 A 246 (131.25 t/ha) and 2012 A 54 (150.00 t/ha) recorded higher cane yield of more than 130.00 t/ha when compared to the best standard Co 7219 (106.25 t/ha). The clone 2012 A 54 has recorded highest NMC of 137.50 thousands/ha compared to the best standard Co 7219 (105.00 000'/ha).

The clones 2012 A 335 (20.65 %) and 2012 A 149 (20.65 %) recorded higher per cent juice sucrose of more than 20.00 %, compared to standard Co 7219 (16.85 %) . The clone 2012 A 54 has recorded highest CCS yield of 21.49 t/ha compared the best standard Co 7219 (12.81 t/ha).

n. Results obtained during the year:

Ninty three clones along with two standards were evaluated during 2014-15 in selection nursery, of which twenty six clones were selected based on cane yield and other quality parameters. The clones viz., 2013 A 188 (143.75 t/ha), 2013 A 220 (134.37 t/ha), 2013 A 212 (134.37 t/ha), 2013 A 216 (130.00 t/ha), 2013 A 343 (130.00 t/ha), and 2013 A 197 (130.00 t/ha) recorded higher cane yield of more than 130.00 t/ha when compared to the best standard Co 6907 (107.50 t/ha). The clone 2013 A 188 has recorded maximum NMC of 1,21,870 /ha compared to the best standard Co 7219 (1,05,000 /ha)

The clones 2013 A 29 (21.90 %), 2013 A 23 (21.50%) and 2013 A 9 (21.00 %) recorded higher per cent juice sucrose of more than 21.00 %, when compared to standard Co 7219 (18.19 %) . The clone 2012 A 54 has recorded highest CCS yield of 21.49 t/ha compared to the best standard Co 7219 (12.81 t/ha). **Table 5**

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

115 genotypes along with two standards, Co 6907 and Co7219 will be studied during 2015-16.

IX. Technical summary of the individual reporting year:

Ninty three clones along with two standards were evaluated during 2014-15 in selection nursery, of which twenty six clones were selected based on cane yield and other quality parameters. The clones viz., 2013 A 188 (143.75 t/ha), 2013 A 29 (137.50 t/ha), 2013 A 220 (134.37 t/ha), 2013 A 212 (134.37 t/ha), 2013 A 216 (130.00 t/ha), 2013 A 343 (130.00 t/ha), and 2013 A 197 (130.00 t/ha) recorded higher cane yield of more than 130.00 t/ha when compared to the best standard Co 6907 (107.50 t/ha). The clone 2013 A 188 has recorded maximum NMC of 1,21,870 /ha compared to the best standard Co 7219 (1,05,000 /ha)

The clones 2013 A 29 (21.90 %), 2013 A 23 (21.50%) and 2013 A 9 (21.00 %) recorded higher per cent juice sucrose of more than 21.00 %, when compared to standard Co 7219 (18.19 %) . The clone 2013 A 29 has recorded highest CCS yield of 21.67 t/ha compared to the best standard Co 7219 (14.34 t/ha).

X. Salient findings:

Ninty three clones along with two standards were evaluated during 2014-15 in selection nursery, of which twenty six clones were selected based on cane yield and other quality parameters. The clones viz., 2013 A 188 (143.75 t/ha), 2013 A 29 (137.50 t/ha), 2013 A 220 (134.37 t/ha), 2013 A 212 (134.37 t/ha), 2013 A 216 (130.00 t/ha), 2013 A 343 (130.00 t/ha), and 2013 A 197 (130.00 t/ha) recorded higher cane yield of more than 130.00 t/ha when compared to the best standard Co 6907 (107.50 t/ha). The clone 2013 A 188 has recorded maximum NMC of 1,21,870 /ha compared to the best standard Co 7219 (1,05,000 /ha)

The clones 2013 A 29 (21.90 %), 2013 A 23 (21.50%) and 2013 A 9 (21.00 %) recorded higher per cent juice sucrose of more than 21.00 %, when compared to standard Co 7219 (18.19 %) . The clone 2013A 29 has recorded highest CCS yield of 21.67 t/ha compared to the best standard Co 7219 (14.34 t/ha)**.**

Table 5: Performance of selected clones in Selection Nursery 2014-15

S.No.	Clone	Brix (%)	Sucrose (%)	NMC (000'/ha)	Cane Yield (t/ha)	CCS yield (t/ha)
1	2013 A 3	23.00	20.98	111.87	118.75	17.97
2	2013 A 7	22.00	19.98	108.12	113.75	16.36
3	2013 A 9	23.00	21.00	105.00	106.25	16.10
4	2013 A 10	21.00	18.68	120.00	123.75	16.48
5	2013 A 18	22.60	20.45	107.50	113.75	16.71
6	2013 A 23	23.60	21.50	105.00	108.12	16.75
7	2013 A 27	22.80	20.71	85.00	101.25	15.09
8	2013 A 29	24.20	21.90	115.00	137.50	21.64
9	2013 A 32	22.20	20.21	120.00	123.75	18.02
10	2013 A 35	21.00	18.90	100.00	105.00	14.22
11	2013 A 41	22.60	20.61	115.00	118.75	17.65
12	2013 A 90	22.60	20.01	121.87	128.75	18.32
13	2013 A 102	21.60	19.01	100.00	115.00	15.50
14	2013 A 134	20.60	18.62	84.37	92.50	12.37
15	2013 A 135	23.00	20.87	110.00	121.87	18.30
16	2013 A 177	23.80	20.83	100.00	112.50	16.57
17	2013 A 179	22.60	19.90	115.00	118.12	16.67
18	2013 A 188	21.60	18.90	121.87	143.75	19.21
19	2013 A 197	22.60	20.10	117.50	130.00	18.62
20	2013 A 212	21.40	19.10	117.50	134.37	18.32
21	2013 A 214	21.60	19.30	111.87	122.50	16.89
22	2013 A 216	22.00	19.90	116.25	133.75	19.12
23	2013 A 217	22.80	20.44	108.12	117.50	17.18
24	2013 A 220	21.80	19.50	113.75	134.37	18.72
25	2013 A 338	22.40	19.92	97.50	109.37	15.53
26	2013 A 343	22.60	19.94	120.00	130.00	18.40
	Co 6907 (C)	19.80	17.25	103.12	107.50	13.09
	Co7219 (C)	20.20	18.19	105.00	110.00	14.34

I.	**Project No.**	:	B II Zonal Varietal Trials P2 – 2014 / 4 / AHD / F30 / H10 / H20 / 0230
II.	**Project Title**		Initial Varietal Trial (Early)
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 East Coast Zone.
VI.	**Technical Programme on which the report 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	:	26.02.2014
	b. Varieties	:	Five + Three standards CoA 12321, CoA 12322, COA 12323, CoOr 12346 and CoV 12356 Standards: Co 6907, CoC 01061, CoA 92081.
	c. Fertilizer application	:	100 kg P_2O_5 + 120 kg K_2O / ha. 112 kg N in two splits i.e. at 45 DAP and 90 DAP
	d. Cultural practices	:	Hand weeding and hoeing : 12.4.2014 and 18.4.2014 Inter cultivation : 25.4.2014 Rectification of cross channels : 20.5.2014 Earthing up : 10.7.2014 Removal of flower weeds : 15.8.2014, 20.9.2014 and 7.10.2014 I Tier TT propping : 1.8.2014 and 2.8.2014 II Tier TT Propping : 20.9.2014 and 6.10.2014 Lifted lodged canes and propping : 26.10.2014 to 31.10.2014
	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	:	08.01.2015
	h. Plot size	:	Gross : 6.0 m x 1.2 m x 6 R = 43.20 m^2 Net : 5.0 m x 1.2 m x 4 R = 24.0 m^2
	i. Layout	:	RBD
	j. Replications	:	Three
	k. Total experimental area		0.2 ha
	l. Name and designation of the participants	:	1. Dr. M.Charumathi, Senior Scientist (Plant Breeding) 2. Dr.D.Adilakshmi, Senior Scientist (Plant Breeding) 3.Dr.A.Appala swamy Senior Scientist (plant Breeding)

m. Results recorded during the previous year :

Five clones were tested against three standards under Initial varietal trial (Early) during 2013-14. The clones differed significantly for all characters studied. Number of millable canes ranged from 110.00 thousands/ha (Co 6907) to 143.33 thousands/ha (CoC 01061). The standard CoC 01061 (143.33 thousands/ha) was found to be significantly superior over the test clones and other standards. However, the clones CoC 10336 (137.33 thousands/ha) and CoA 11321 (132.00 thousands/ha) were found to be significantly superior over standards Co 6907 (110.00 thousands/ha) and CoA 92081 (120.00 thousands/ha) for number of millable canes at harvest. Cane yield varied from 108.00 t/ha (CoC 10336) to 150.00 t/ha(CoA 11323). The clone CoA 11323 (150.00 t/ha) was found to be significantly superior over the three standards CoA 92081 (128.00 t/ha), CoC 01061 (121.33 t/ha) and Co 6907 (110.00 t/ha). However, the test clone CoA 11321 (124.00 t/ha) was found to be superior over the two standards CoC 01061 (121.33 t/ha) and Co 6907 (110.00 t/ha) and on par with the best standard CoA 92081 (128.00 t/ha) for cane yield. Per cent juice sucrose values ranged from 17.43 (CoA 11322) to 20.02 per cent (CoA 11323). The clone CoA 11323 (20.02) was found to be superior over the best standard CoA 92081 (19.73) for per cent juice sucrose. However, the clone CoA 11321(18.95) was found to be superior over other standards Co 6907 (18.93) and CoC 01061 (18.10) for per cent juice sucrose at harvest. CCS yield varied from 14.43 (CoC 10336) to 21.59 t/ha (CoA 11323). The clone CoA 11323 (21.59 t/ha) was found to be significantly superior over best standard CoA 92081 (18.22 t/ha). However, the clone CoA 11321 (16.90 t/ha) was found superior over other two standards Co 6907 (14.92 t/ha) and CoC 01061 (15.61 t/ha) for CCS yield recorded at harvest. The clone CoC 10336 recorded significantly higher fibre percentage (16.36), while the clone CoA 11323 (12.81) recorded low fibre percentage at harvest.

n. Results obtained during the year:

Five clones viz., CoA 12321, CoA 12322, CoA 12323, CoOr 12346, and CoV 12356 along with three standards Co 6907, CoC 01061 and CoA 92081 were studied for their performance during 2014-15. The clones differed statistically and found to be significant for all the characters studied. The best standard CoC 01061 recorded higher NMC (142.00 thousands/ha). However the clones CoA 12323 (133.00 thousands/ha) followed by CoA 12321 (124.00 thousands/ha) were found to be significantly superior over other two standards Co 6907 (100.00 thousands/ha) and CoA 92081 (105.00 thousands/ha) for NMC at harvest. Cane yield ranged from 78.00 t/ha (Co 6907) to 123.00 t/ha (CoA 12323). The clone CoA 12323 (123.00 t/ha) was found to be significantly superior over the standards, Co 6907 (78.00 t/ha), CoC 01061 (100.00 t/ha) and CoA 92081 (102.00 t/ha) for cane yield. For Per cent juice sucrose, the clone CoA 12323 (19.20) recorded higher Per cent juice sucrose and was found to be significantly superior over the three standards Co 6907 (17.00), CoC 01061 (18.63) and CoA 92081 (18.60) at harvest. CCS yield varied from 9.44 t/ha (Co 6907) to 16.84 t/ha (CoA 12323). The clone CoA 12323 (16.84 t/ha) recorded higher CCS yield and found to be significantly superior over three standards Co 6907 (9.44 t/ha), CoC 01061 (13.29 t/ha) and CoA 92081 (13.47 t/ha) for CCS yield at harvest. The standard CoA 92081 (14.04) recorded lower fibre per cent while CoA 12322 (18.67) recorded higher fibre per cent at harvest (**Table 6**).

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

CoA 13321, CoA 13322, CoA 13323, CoA 13324, CoC 13336, CoC 13337, CoC 13338 and CoV 13356 along with three standards Co 6907, CoC 01061 and CoA 92081 will be studied during 2015-16.

IX. Technical summary of the individual reporting year:

The best standard CoC 01061 recorded significantly higher Number of millable canes. The clone CoA 12323 was found to be significantly superior for Cane, CCS yields and per cent juice sucrose when compared to three standards and other test clones. The standard CoA 92081 recorded lower fibre per cent while CoA 12322 recorded higher fibre per cent at harvest.

X. Salient findings.

The clone CoA 12323 was found to be significantly superior for Cane, CCS yields and per cent juice sucrose when compared to three standards and other test clones.

Table 6: Initial Varietal Trial (Early)
Statistically analysed data
Centre: Regional Agricultural Research Station, Anakapalle

S. No.	Clone	CCS (t/ha)	Cane yield (t/ha)	Brix % (10 m)	Sucrose % (10 m)	Purity % (10 m)	CCS % (10 m)	Pol % cane (10m)	Extraction % (10 m)	Fibre % (10 m)	NMC at 10 m ('000/ha)
1	CoA 12321	12.49	100.00	20.51	17.92	87.40	12.49	13.31	63.33	15.70	124.00
2	CoA 12322	11.99	102.00	19.17	16.67	86.95	11.75	11.89	53.33	18.67	108.00
3	CoA 12323	16.84	123.00	21.57	19.20	89.03	13.69	14.04	67.33	16.88	133.00
4	CoOr 12346	12.60	98.00	20.13	18.00	89.41	12.86	13.00	57.33	17.80	114.00
5	CoV 12356	10.22	86.00	18.97	16.73	88.23	11.88	12.19	57.33	17.11	98.00
Stds											
1	Co 6907	9.44	78.00	19.17	17.00	88.66	12.10	12.69	56.33	15.05	100.00
2	CoC 01061	13.29	100.00	20.91	18.63	89.09	13.29	13.61	50.67	16.95	142.00
3	CoA 92081	13.47	102.00	21.09	18.60	88.20	13.21	14.14	61.00	14.04	105.00
	CD (0.05)	2.18	14.13	0.82	0.77	1.65	0.67	0.56	6.07	0.71	21.25
	CV (%)	9.93	8.17	2.32	2.49	1.07	3.05	2.46	5.94	2.45	10.51

S. No.	Clone	Stalk Length (cm)	Stalk Diameter (cm)	Single cane weight (kg)	Brix % (8 m)	Sucrose % (8 m)	Purity % (8 m)	CCS % (8 m)	No. of shoots ('000/ha) 240 days	No. of tillers ('000/ha) 120 days	Germination % (30 days)
1	CoA 12321	240.00	2.47	0.99	-	-	-	-	-	153.33	64.67
2	CoA 12322	250.00	2.56	0.99	-	-	-	-	-	144.00	72.00
3	CoA 12323	253.00	2.79	1.01	-	-	-	-	-	167.00	68.67
4	CoOr 12346	230.00	2.11	0.86	-	-	-	-	-	147.67	62.00
5	CoV 12356	220.00	2.43	0.95	-	-	-	-	-	152.00	69.33
Stds											
1	Co 6907	210.00	2.22	0.97	-	-	-	-	-	142.33	68.00
2	CoC 01061	215.00	2.30	0.80	-	-	-	-	-	166.33	70.67
3	CoA 92081	216.00	2.85	1.00	-	-	-	-	-	163.00	71.33
	CD (0.05)	17.14	0.12	0.03	-	-	-	-	-	13.12	5.02
	CV (%)	3.99	2.93	2.06	-	-	-	-	-	4.85	4.19

- Due to **HUDHUD** CYCLONE the data on NMC at 240 days and juice quality parameters at 8th month were unable to record in the field.

	Project No.	:	B II Zonal Varietal Trials P2 – 2014 / 5/ AHD / F30 / H10 / H20 / 0230
II.	Project Title		Advanced Varietal Trial (Early) I 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	:	31.01.2014
	b. Varieties	:	Six + Three stds CoA 11321, CoA 11323, CoC 10336, CoC 11336 Standards: Co 6907, Co C 01061 and Co A 92081
	c. Fertilizer application	:	100 kg P_2O_5 + 120 kg K_2O / ha. 112 kg N in two splits i.e. at 45 DAP and 90 DAP
	d. Cultural practices	:	Hand weeding and hoeing : 11-03-2014 Second time hand weeding : 28.4.2014 Ear thing up : 03.6.2014 TT propping I tier : 29.8.2014 & 30.8.2014 Removal of flower weeds : 20.7.2014, 22.7.2014 TT propping II tier : 27.9.2014,30.9.2014,1.10.2014 Lifted lodged canes and Propping : 26.10.2014 31.10.2014
	e. Irrigations	:	Once in a week during formative phase and once in 18 days during maturity phase.
	f. Plant protection	:	-
	g. Date of harvest	:	29.12.2014
	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, Senior Scientist (Plant Breeding) 2. Dr.D.Adilakshmi, Senior Scientist (Plant Breeding) 3. Dr.A.Appala swamy Senior Scientist (plant Breeding)

m. Results recorded during the previous 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 7).**

n. Results obtained during the year :

Four clones were tested against three standards under Advanced Varietal Trial (Early) I Plant crop. During 2014 – 2015. The clones differed significantly for all characters studied. Number of millable canes ranged from 98.00 thousands/ha (CoC11336) to 136.00 thousands/ha (CoA 11321). The clone CoA 11321 (136.00 thousands/ha) recorded higher NMC and was on par with the standards CoC 01061 (130.33 thousands/ha) CoA 92081 (130.00 thousands/ha) and significantly superior over the standard Co 6907 (101.00 thousands/ha) for NMC. Cane yield varied from 79.00 t/ha (CoC 11336) to 120.00 t/ha (CoA 11321). The clone CoA 11321 recorded higher cane yield (120.00 t/ha) when compared to three standards, CoA 92081 (102.67 t/ha), CoC 010161 (101.67 t/ha), Co 6907 (80.00 t/ha) and was found to be significantly superior over the checks for cane yield. For Per cent juice sucrose, the clone CoA 11323 (18.10 per cent) was found to be significantly superior over the three checks Co 6907 (17.00), CoA 92081 (17.41) and CoC 01061 (17.72) for Per cent juice sucrose at harvest. The clone CoA 11321 registered CCS yield of 14.63 t/ha and found to be significantly superior over three standards Co 6907 (9.46 t/ha) CoC 01061 (12.65 t/ha) and CoA 92081 (12.37 t/ha) at harvest. The clone CoA 11323 recorded lower fibre per cent (14.62) while CoC 11336 recorded (17.47) higher fibre Per cent at harvest **(Table 7).**

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

CoA 12321, CoA 12322, CoA 12323, CoOr 12346 and CoV 12356 along with three standards Co 6907, CoA 92081 and CoC01061 will be studied during 2015-16.

I X. Technical summary of the individual reporting year:

The clone CoA 11321 recorded maximum number of millable canes, cane yield, CCS yield at harvest. The clone CoA 11323 was found to be significantly superior for per cent juice sucrose at harvest when compared to test clones and other standards.

X. Salient findings.

CoA11321 was found to be significantly superior to standards and all other test clones for NMC, cane yield where as the clone CoA11323 recorded higher Per cent juice sucrose at harvest.

Table 7: Advanced Varietal Trial (Early) I plant
Statistically analysed data
Centre: Regional Agricultural Research Station, Anakapalle

S. No.	Entry	CCS (t/ha)	Cane yield (t/ha)	Brix % (10 m)	Sucrose % (10 m)	Purity % (10 m)	CCS % (10 m)	Pol % cane (10 m)	Extraction % (10 m)	Fibre % (10 m)	NMC at ('000/ha) (10 m)
1	CoA 11321	14.63	120.00	20.67	17.60	85.17	12.19	13.31	54.00	15.19	136.00
2	CoA 11323	13.34	105.00	21.02	18.10	86.20	12.70	13.65	55.00	14.62	128.00
3	CoC 10336	9.95	88.00	19.93	16.45	82.62	11.31	12.06	50.67	16.78	110.00
4	CoC 11336	8.90	79.00	19.47	16.30	83.69	11.27	11.85	50.67	17.47	98.00
Stds											
1	Co 6907	9.46	80.00	20.07	17.00	84.69	11.83	12.72	52.67	15.16	101.00
2	CoC 01061	12.65	101.67	20.55	17.72	86.21	12.44	12.93	46.67	17.07	130.33
3	CoA 92081	12.37	102.67	20.76	17.41	83.88	12.05	13.12	55.00	14.65	130.00
	CD (0.05)	1.47	14.83	0.95	0.57	3.34	0.53	0.45	4.43	0.45	16.13
	CV (%)	7.11	8.63	2.65	1.88	2.22	2.51	2.00	4.79	1.61	7.62

S. No.	Entry	Stalk Length (cm)	Stalk Diameter (cm)	Single cane weight (kg)	Brix % (8 m)	Sucrose % (8 m)	Purity % (8 m)	CCS % (8 m)	No. of shoots ('000/ha) 240 days	No. of tillers ('000/ha) 120 days	Germination % (30 days)
1	CoA 11321	251.67	2.43	1.01	18.97	16.20	85.37	11.32	155.00	184.33	62.00
2	CoA 11323	241.00	3.00	1.18	18.97	16.73	88.23	11.88	130.33	181.67	64.33
3	CoC 10336	237.67	2.43	0.99	18.17	16.14	88.86	11.50	136.33	164.33	59.33
4	CoC 11336	221.00	2.07	0.93	18.07	15.61	86.44	10.97	136.00	162.33	61.00
Stds											
1	Co 6907	237.33	2.17	0.98	17.57	15.44	87.90	10.94	117.33	151.67	61.67
2	CoC 01061	244.33	2.50	1.01	18.70	16.27	87.03	11.48	146.33	170.67	66.00
3	CoA 92081	238.67	2.80	1.16	18.83	16.62	88.25	11.80	152.33	174.67	61.00
	CD (0.05)	10.98	0.26	0.80	0.78	0.56	2.03	0.41	17.98	15.61	2.49
	CV (%)	2.58	6.06	4.72	2.39	1.97	1.31	2.05	7.27	5.16	2.26

I.	**Project No.**	:	B II Zonal Varietal Trials P2 – 2014/ 6/ AHD / F30 / H10 / H20 / 0230
II.	**Project Title**		Advanced varietal trial (Mid late) – II Plant Crop
III.	**Serial number of the year of Experimentation**	:	VI
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	:	06.01.2014
	b. Varieties	:	Three + Three Standards CoA 10321, CoC 10337and CoOr 10346 Standards : CoV 92102, Co 7219 and Co 86249
	c. Fertilizer application	:	100 kg P_2O_5 + 120 kg K_2O / ha. 112 kg N in two splits i.e. at 45 DAP and 90 DAP
	d. Cultural practices	:	Hand weeding & Hoeing : 10.3.2014,15.3.2014 Inter cultivation : 30.4.2014 Rectification of cross channels : 3.5.2014 Earthing up : 30.5.2014 Removal of flower weeds : 20.8.2014 TT propping I tier : 20.08.2014 TT propping II tier : 18.9.2014,21.9.2014,7.10.2014 Lifting lodged canes and propping : 28.10.2014 to 6.10.2014
	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	:	27.01.2015
	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	:	Four
	k. Total experimental area		0.18 ha
	l. Name and designation of the participants	:	1. Dr. M.Charumathi, Senior Scientist (Plant Breeding) 2. Dr.D.Adilakshmi, Senior Scientist (Plant Breeding) 3. Dr.A.Appala swamy Senior Scientist (plant Breeding)

m. Results recorded during the previous 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 8)

n. Results obtained during the year :

Three clones viz., CoA 10321, CoC 10337 and CoOr 10346 along with three standards Co 7219, CoV 92102 and Co 86249 were tested during 2014-15. The clones differed significantly for all characters studied. Number of millable canes ranged from 73.50 thousands/ha (Co 86249) to 95.00 thousands/ha (CoA 10321). The clone CoA 10321 (95.00 thousands/ha) was on par with the best standard Co 7219 (90.00 thousands/ha) for number of millable canes. Cane yield ranged from 63.75 t/ha (Co 86249) to 90.00 t/ha (CoA 10321). The clone CoA 10321 (90.00 t/ha) was found to be significantly superior over the two standards CoV 92102 (73.75 t/ha) and Co 86249 (63.75 t/ha) and was on par with the better standard Co 7219 (86.00 t/ha) for cane yield. Per cent juice sucose at harvest ranged from 16.98 (CoOr 10346) to 18.15 (CoV 92102). The best standard CoV 92102 (18.15) was found to be significantly superior over the test clones and other standards. However the two clones CoC 10337 (17.70) and CoA 10321(17.52) was found to be significantly superior over the two standards Co 7219 (17.46) and Co 86249 (17.23) for Percent juice sucrose at harvest. CCS yield varied from 7.75 t/ha (Co 86249) to 11.22 t/ha (CoA 10321). The clone CoA 10321 (11.22 t/ha) recorded significantly higher CCS yield over the standards Co 7219 (10.58 t/ha), CoV 92102 (9.09 t/ha) and Co 86249 (7.75 t/ha) at harvest. The standard CoV 92102 recorded lower fibre per cent (13.89) where as CoOr 10346 (17.37) recorded higher fibre per cent at harvest (Table 8).

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

IX. Technical summary of the individual reporting year:

The clone CoA 10321 recorded maximum NMC, Cane yield when compared to best standard Co 7219. The best standard CoV 92102 recorded higher per cent juice sucrose when compared to test clones tested in the trial.

X. Salient findings.

The clone CoA 10321 recorded maximum NMC, Cane yield and CCS yield when compared to best standard Co 7219 respectively. The best standard CoV 92102 recorded higher per cent juice sucrose compared to test clones tested in the trial.

Table 8: Advanced Varietal Trial (Midlate) II plant
Statistically analysed data
Centre: Regional Agricultural Research Station, Anakapalle

S. No.	Entry	CCS (t/ha)	Cane yield (t/ha)	Brix % (12 m)	Sucrose % (12 m)	Purity % (12 m)	CCS % (12 m)	Pol % cane (12m)	Extraction % (12 m)	Fibre % (12 m)	NMC at 12 m ('000/ha)
1	CoA 10321	11.22	90.00	19.74	17.52	88.74	12.47	12.91	54.25	16.28	95.00
2	CoC 10337	10.12	80.75	20.16	17.70	87.79	12.54	12.98	47.50	16.65	90.50
3	CoOr 10346	8.58	71.00	19.12	16.98	88.80	12.09	12.33	42.00	17.41	79.50
Stds											
1	CoV 92102	9.09	73.75	22.43	18.15	80.94	12.33	13.85	55.00	13.93	84.25
2	Co 7219	10.18	86.00	20.13	17.46	86.84	12.30	13.18	56.00	14.51	90.00
3	Co 86249	7.75	63.75	19.80	17.23	86.99	12.15	12.72	50.50	16.18	73.50
	CD (0.05)	1.34	8.47	0.62	0.51	2.29	0.45	0.42	5.94	0.62	9.52
	CV (%)	9.38	7.25	2.03	1.94	1.75	2.44	2.17	7.76	2.63	7.40

S. No.	Entry	Stalk Length (cm)	Stalk Diameter (cm)	Single cane weight (kg)	Brix % (10 m)	Sucrose % (10 m)	Purity % (10 m)	CCS % (10 m)	No. of shoots ('000/ha) 240 days	No. of tillers ('000/ha) 120 days	Germination % (30 days)
1	CoA 10321	195.00	2.39	0.98	19.18	16.90	88.10	11.99	134.50	178.25	64.50
2	CoC 10337	197.50	2.05	0.98	18.87	16.84	89.71	12.05	134.50	164.75	61.75
3	CoOr 10346	175.25	2.25	0.98	18.07	15.95	88.29	11.33	129.75	168.75	59.50
Stds											
1	CoV 92102	198.25	2.39	0.96	20.75	18.24	87.94	12.93	135.50	169.75	65.50
2	Co 7219	204.25	2.43	0.98	19.32	17.23	89.18	12.29	136.00	168.00	65.00
3	Co 86249	186.50	2.23	0.97	19.04	17.00	89.28	12.13	126.50	164.50	62.75
	CD (0.05)	13.59	0.14	0.03	0.55	0.52	2.31	0.46	7.53	14.61	3.88
	CV (%)	4.68	4.21	2.18	1.92	2.02	1.73	2.55	3.77	5.74	4.08

- Due to **HUDHUD** CYCLONE lower yields and juice quality parameters were recorded at 10th month and at harvest.

I.	**Project No.**	:	B II Zonal Varietal Trials P2 – 2014 / 7/ AHD / F30 / H10 / H20 / 0230
II	**Project Title**		Advanced varietal trial (Midlate) – Ratoon
III.	**Serial number of the year of Experimentation**	:	VII
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.
VII.	**Discipline wise – technical report**	:	
	a. Date of Ratoon	:	09.02.2014
	b. Varieties	:	Three + Three stds CoA 10321, CoC 10337 and CoOr 10346 Standards : CoV 92102, Co 7219 and Co 86249
	c. Fertilizer application	:	100 kg P_2O_5 + 120 kg K_2O / ha. 112 kg N in two splits i.e. at 45 DAP and 90 DAP
	d. Cultural practices	:	Hand weeding an Hoeing : 25.3.2014 and 26.3.2014 2nd time Hand weeding : 4.5.2014 and 5.5.2014 Inter cultivation : 20.5.2014 Removal of flower : 7.7.2014, 30.8.2014, 1.10.2014 weeds & Creepers Ear thing up : 20.6.2014 TT propping I tier : 22.8.2014 & 24.8.2014 TT propping II tier : 1.10.2014 Lifted lodged canes and propping : 5.11.2014 to 12.11.2014
	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	:	23.01.2015
	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	:	Four
	k. Total experimental area		0.18 ha
	l. Name and designation of the participants	:	1. Dr. M.Charumathi, Senior Scientist (Plant Breeding) 2. Dr.D.Adilakshmi, Senior Scientist (Plant Breeding) 3. Dr.A.Appala swamy Senior Scientist (plant Breeding)

m. Results recorded during the previous year :

During 2012-13 three clones were tested against three standards in Advance Varietal Trail Midlate ratoon crop. Significant variations were observed for most of the characters studied in the trial. NMC varied from 64.00 (Co 86249) to 102.00 thousands/ha (CoC 08339). The clone CoC 08339 (102.00 thousands/ha) recorded significantly higher number of millable canes when compared to best standard Co 7219 (86.25 thousands/ha). Cane yield ranged from 66.00 t/ha (Co 86249) to 100.00 t/ha (CoC08339). The clone CoC 08339 (100.00 t/ha) was found to be significantly superior over the three standards Co 7219 (91.00 t/ha), CoV 92102 (87.00 t/ha) and Co 86249 (66.00 t/ha). Per cent juice sucrose at harvest ranged from 18.18 (Co 86249) to 21.40 (CoV 92102). The best standard CoV92012 (21.40) recorded significantly higher per cent juice sucrose and found to be superior over other standards and test clones. However, the clone Co06031 (19.40) was found to be on par with best standard CoV 92102 (21.40) but significantly superior over the other two standards Co 7219 (18.60) and Co 86249 (18.18) for per cent juice sucrose. CCS yield varied from 8.50 (Co 86249) to 13.69 t/ha (CoV 92102). The best standard CoV 92102 (13.69 t/ha) recorded significantly higher CCS yield when compared to test clones and other standards, however the clone Co 06031 (13.58 t/ha) was found to be significantly superior over other two standards Co 7219(12.02) and Co 86249 (8.50 t/ha) for CCS yield. The clone CoC09337 (16.82) recorded higher fibre percent where as the clone CoC 08339 recorded lower fibre percent (14.00) at harvest **(Table 9).**

n. Results obtained during the year:

Three clones viz., CoA 10321, CoC 10337 and CoOr 10346 along with three standards Co 7219, CoV 92102 and Co 86249 were tested during 2014-15 for their ratoon performance. The clones differed significantly for all characters studied. Number of millable canes ranged from 51.75 thousands/ha (Co 86249) to 71.25 thousands/ha (CoA 10321). The clone CoA 10321 (71.25 thousands/ha) was significantly superior over the best standard Co 7219 (64.50 thousands/ha) and better standard CoV 92102 (54.75 thousands/ha) with respect to millable cane population. Cane yield ranged from 46.25 t/ha (Co 86249) to 56.00 t/ha (CoA 10321). The clone CoA 10321 recorded higher cane yield (56.00 t/ha) and was on par with the three standards Co 86249(46.00 t/ha), CoV 92102 (52.00 t/ha) and Co 7219 (55.25 t/ha) for cane yield at harvest. Per cent juice sucrose at harvest ranged from 17.06 (CoOr 10346) to 18.34 (CoV 92102). The best standard CoV 92102 (18.34) was found to be significantly superior over the test clones and other standards. However the test clone CoA 10321 (17.54) was found to be statistically superior over the standard Co 86249 (17.34). For per cent juice sucrose at harvest. CCS yield ranged from 5.56 t/ha (Co 86249) to 7.06 t/ha (CoA 10321). The clone CoA 10321 (7.06 t/ha) was found to be on par with standards CoV 92102 (6.48 t/ha), Co 7219 (6.96 t/ha) and Co 86249 (5.56 t/ha) for CCS yield. The standard CoV 92102 recorded lower fibre per cent (14.76) where as CoOr 10346 (18.40) recorded higher fibre per cent at harvest **(Table 9).**

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

IX. Technical summary of the individual reporting year:

The clone CoA10321 recorded higher NMC, Cane yield and CCS yield when compared to best standard Co7219. The best standard CoV92102 recorded higher Per cent juice sucrose when compared to test clones and three standards.

X. Salient findings.

The clone CoA10321 recorded higher NMC, Cane yield and CCS yield when compared to best standard Co7219. The best standard CoV92102 recorded higher Per cent juice sucrose when compared to test clones and three standards.

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

S. No.	Entry	CCS (t/ha)	Cane yield (t/ha)	Brix % (11 m)	Sucrose % (11 m)	Purity % (11 m)	CCS % (11 m)	Pol % cane (11m)	Extraction % (11 m)	Fibre % (11 m)
1	CoA 10321	7.06	56.00	19.83	17.54	88.43	12.60	13.29	52.50	15.49
2	CoC 10337	6.65	52.50	20.46	17.85	88.01	12.66	12.98	47.00	16.97
3	CoOr 10346	5.71	47.00	19.19	17.06	88.53	12.15	12.54	46.25	18.40
Stds										
1	CoV 92102	6.48	52.00	22.63	18.34	81.08	12.47	14.66	53.75	14.76
2	Co 7219	6.96	55.25	20.37	17.82	87.59	12.60	13.40	53.25	14.83
3	Co 86249	5.56	46.00	20.41	17.34	85.12	12.08	12.98	51.50	15.16
	CD (0.05)	0.61	4.21	0.79	0.51	3.88	0.57	1.17	3.24	0.56
	CV (%)	6.37	5.43	2.58	1.92	2.98	3.08	5.84	4.24	2.36

S. No.	Entry	NMC at 11 months (‘000/ha)	Stalk Length (cm)	Stalk Diameter (cm)	Single cane weight (kg)	No. of shoots (‘000/ha) 180 days	No. of tillers (‘000/ha) 90 days
1	CoA 10321	71.25	246.00	2.38	0.90	139.75	98.50
2	CoC 10337	63.75	224.50	2.20	0.90	143.50	101.50
3	CoOr 10346	56.50	220.50	2.13	0.87	113.25	89.75
Stds							
1	CoV 92102	54.75	225.75	2.25	0.88	138.25	100.50
2	Co 7219	60.50	234.50	2.40	0.88	146.75	96.75
3	Co 86249	51.75	225.25	2.35	0.86	131.25	93.50
	CD (0.05)	5.86	16.33	0.22	0.02	11.08	14.93
	CV (%)	6.51	4.72	6.61	2.03	5.43	10.24

ANNEXURE – I

Progress of fluff supply programme from 2000-01 to 2014-15 at RARS; Anakapalle

Year	Quantity of fluff received(g)	No.of crosses/GCs/PCs studied			No. of seedlings			No. of genotypes selected/evaluated in			C_3 PYT	No. of clones promoted to yield trials
		Crosses	GCs	PCs	Transplanted	Survived	% Survival	Seedling nursery(C_0)	Settling nursery(C_1)	Selection nursery (C_2)		
2000-01	1,136.98	23	12	-	3,332	2,735	82.08	103	86/318	16/58	10/12	Early-5 Midlate-5
2001-02	2,804.70	47	25	7	13,711	10,226	74.58	252	20/101	20/86	8/16	Early-4 Midlate-4
2002-03	2,719.50	34	24	8	22,303	11,245	50.42	315	38/252	11/20	9/20	Early-6 Midlate-3
2003-04	1,329.00	23	21	11	11,869	7,590	63.95	131	62/315	16/38	6/11	Early-3 Midlate-3
2004-05	1698.90	24	42	5	12389	9792	79.04	175	30/131	23/62	9/16	Early-6 Midlate-3
2005-06	1136.65	29	41	-	31235	12152	38.91	317	44/175	11/30	11/23	Early-6 Midlate-5
2006-07	1177.99	39	29	-	15424	11560	74.95	220	40/317	24/44	9/11	Early-5 Midlate-4
2007-08	1313.40	46	19	-	17311	13692	79.61	520	52/220	17/40	14/24	Early-5 Midlate-9
2008-09	1744.39	49	37	10	15005	9193	61.27	472	114/520	18/52	7/17	Early-7
2009-10	1102.70	42	19	4	9588	5260	54.86	519	66/472	23/114	7/18	Early-4 Midlate-3
2010-11	1748.77	40	35	12	14337	4537	31.65	321	100/519	21/66	15/23	Early-9 Midlate-6
2011-12	1941.22	54	38	12	16228	11620	71.60	357	91/321	41/100	12/21	Early-6 Midlate-6
2012-13	1142.99	30	23	13	14213	6250	43.97	369	104/357	25/91	12/41	Early-6 Midlate-6
2013-14	2144.50	39	44	11	9403	6888	73.25	355	93/369	22/104	14/25	Early-7 Midlate-7
2014-15	2074.50	41	24	12	11,336	8539	75.33	300	115/369	26/93	12/22	Early-6 Midlate-6

ANNEXURE – II

Meteriological Data during Crop Period (2014 – 15)

S.No	Years	Temp (0^0C)		R.H. Per cent		Rain fall m.m	No. of Rainy days	Sun shine hours	Evaporation	Insect Pest/disease incidence
		Max	Min	Max	Min					
1	Januray,2014	29.5	14.6	94	52	0	0	6.1	2.9	Insect pest like Early shoot borer, Internodal borer and scale insect pest and mite infestation diseases like yellow leaf disease were recorded during the crop season.
2	February,2014	31.1	14.1	94	44	0	0	7.6	3.9	
3	March,2014	34.6	18.2	88	41	0	0	7.3	5.1	
4	April,2014	37.0	22.2	85	49	0	0	6.9	5.8	
5	May,2014	36.7	22.9	84	58	115.8	6	7.4	5.5	
6	June,2014	37.8	24.4	84	54	49.0	4	5.1	5.3	
7	July,2014	33.2	22.8	94	73	100.4	8	2.0	2.8	
8	August,2014	33.6	22.2	96	75	255.6	13	4.5	3.2	
9	September,2014	33.0	22.1	93	68	116.0	8	4.5	3.5	
10	October,2014	32.6	21.4	88	61	316.4	10	5.3	3.8	
11	November,2014	31.9	19.8	86	53	30.6	3	5.3	3.1	
12	December,2014	30.9	17.6	84	46	25.8	2	5.8	3.5	
13	January,2015	31.2	17.2	85	44	0.2	0	7.5	3.3	
14	February,2015	33.5	17.6	87	42	0	0	7.9	4.6	
15	March,2015	35.7	23.2	85	45	0	0	7.7	5.6	
16	April, 2015	35.7	25.9	82	59	87	4	7.1	6.1	