

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

Crop Improvement Report

2014-15

&

Technical Programme
2015-16

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ANNUAL REPORT [CROP IMPROVEMENT]

All the 8 research trials programmed for the year 2014-15 conveyed by the Project Coordinator, AICRP(S), Lucknow were laid down as per the technical programmes and monitored by the team constituted by the Project Coordinator during Sept, 2014. The results of various trials received under crop improvement are detailed below:

1. Initial Varietal Trial Early (IVT-E)

Seven test clones and two standards were evaluated in this trial for different cane yield and quality traits and data generated is appended in (Table 1). Two test clones viz. CoH 11261 (66.90 t/ha) and CoH 11262 (67.09 t/ha) surpassed the high yielding standard Co 0238 (65.15t/ha) for cane yield. The other cane characters of these clones were stalk length (1.80, 1.65m), cane diameter (2.42, 2.55cm) and single cane weight (0.94, 0.96 kg), respectively. Two clones viz, CoH 11261 (8.67) and CoH11262 (7.83) were high scoring for commercial cane sugar (CCS t/ha). Clone CoLk 11201 recorded highest (18.84%) sucrose (10 m) followed by CoH 11261(18.43) and CoLk 11203 (18.24) comparable to standard CoJ 64 (18.66%). Similarly, CCS (%) was highest for CoLk 11201 (13.19%) closely followed by CoH 11261(12.97%). which is at par with standard CoJ 64 (13.07%).

2. Advance Varietal Trial Early I Plant (AVT-E I Plant)

In this trial, three test clones along with two standards were evaluated at for cane yield and quality traits (Table 2). Only one clone CoS 10231 was found superior for cane yield over standards. The clone CoS 10231 ranked 1st for cane yield (65.38 t/ha) followed by CoH10261 (59.38 t/ha). In this trial, clone Co 10035 recorded high sucrose (18.54%) , CCS% and pol% cane. However, CCS (t/ha) and fibre (%) were high for CoS 10231 to the tune of 8.14 and 14.33, respectively. Clone CoS10231 had highest stalk length (1.63m), cane diameter (2.32cm) and single cane wt. (0.72kg).

3. Advance Varietal Trial Early II Plant (AVT-E II Plant)

Among the clones and standards tested in this trial, CoPb 09181 ranked at 1st for cane yield (96.5 t/ha) followed by CoH 09262 having cane yield (76.83 t/ha), CoH 09263 (75.75 t/ha) and CoLk 09202 (72.25 t/ha). Clone CoPb 09181 recorded the highest cane length (1.99 m), cane diameter (2.82 cm) and single cane weight (1.18 kg). (Table3). For quality traits,

CoPb 9181 scored highest CCS t/ha (11.08) followed by CoH 09262 (9.18,). Clone CoS 09246 exhibited high sucrose (17.35%) and Pol % Cane (13.37) in 10 month crop which is comparable to high scoring standard Co J64.

4. Advance Varietal Trial Early Ratoon

In advance varietal trial early ratoon clone CoPb 09181 recorded the highest cane yield (84.31 t/ha), followed by CoLk 09202 (75.99 t/ha) and CoH 09263 (70.85 t/ha) while NMC 9 months ('000/ha) was highest for CoLk 09202 (94.88) followed by CoH 09263 (90.91). For quality traits clone CoPb 09181 (8.72) recorded the highest CCS (t/ha) followed by CoLk 09202 (8.02) and CoH 09262 (7.46) which is significantly higher than the standards. The promising clones for sucrose per cent were CoH 09262 followed by CoLk 09202 and CoPb 09181 (Table 4).

5. Initial Varietal Trial Mid-Late (IVT-M/L)

Thirteen test clones along with three standards were evaluated for cane yield and component traits in this trial. Among the test clones Co 11026 ranked 1st for cane yield (86.19 t/ha) followed by CoPb 11181 (72.29 t/ha), CoS 11232 (70.01 t/ha) and CoPb 11214 (69.25 t/ha). However, promising clones for single cane weight were Co 11026 (0.92 kg), CoLk 11206 (0.81 kg) and CoS 11232 (0.76 kg). All these clones were significantly superior to standards for cane yield attributes like stalk length, stalk diameter, single cane weight and NMC 12 months (Table 5). Among the test clones Co 11026 ranked 1st for CCS t/ha (11.36) followed by CoPb 11214 (9.03) and CoH 11264 (8.94). The clones Co 11026 (19.06) followed by CoH 11263 (18.94) and CoLk 11205 (18.90) were at par for sucrose per cent 12 months with standards.

6. Advance Varietal Trial Mid-Late I Plant (AVT-M/L I Plant)

This Trial consisted of five test clones and three standards evaluated for cane yield and quality attributes. Data appended in Table 6 showed that the top three clones for cane yield were CoH 10262 (82.47 t/ha), Co 10036 (71.30 t/ha) and CoPb 10182 (63.27 t/ha). High stalk diameter and single cane weight were recorded for clones CoPb 10181 (2.94 cm and 1.11 kg) and CoH 10262 (2.89 cm and 1.0 kg). Top three clones for CCS t/ha were CoH 10262 (10.57), Co 10036 (7.85) and CoPb 10182 (7.80) and for sucrose and CCS per cent 12

months were CoPant 10221 (18.23 and 12.89), CoH 10262 (18.20 and 12.82) and CoPb 10181 (18.05 and 12.59), respectively. Pol per cent cane recorded for CoPb 10182 (13.85) and CoPb 10181 (13.84) were comparable with the standard CoS 8436 (13.65).

7. Advance Varietal Trial Mid-Late II Plant (AVT-M/L II Plant)

In advance varietal trial mid-late II Plant, eight clones including five test and three standards were assessed for cane yield and quality parameters during 2014-15. The promising three clones for cane yield were CoLk 09204 (76.0 t/ha) followed by CoH 09264 (71.89 t/ha) and CoPb 09214 (71.15 t/ha). The cane diameter among clones ranged from 2.0 to 2.49 cm. The top three clones for single cane weight were CoH 09264 (0.94 kg) followed by CoLk 09204 (0.88 kg) and CoS 09232 (0.86kg), (Table 7). All the test clones were comparable to standards for other cane yield attributes like NMC ('000/ha), stalk length, stalk diameter and single cane weight. The highest CCS t/ha were recorded for CoLk 09204 (8.65) followed by Co 09022 (8.43) and clone CoS 09232 was promising that recorded sucrose % and Pol % cane (12m) 17.47 and 13.12, respectively.

8. Advance Varietal Trial Mid-Late Ratoon (AVT-M/L Ratoon)

Advance varietal trial mid-late -ratoon conducted with five test clones along with three standards showed that cane yield among clones ranged from 50.83 t/ha to 86.56 t/ha. The promising clones for cane yield were Co 09022 (86.56 t/ha) followed by CoS 09232 (79.98 t/ha) and CoPb 09214 (78.71 t/ha). The promising clones for cane length were CoH 09264 (2.42 m), Co 09022 (2.19 m) and CoS 09232 (2.16 m) while for cane diameter (cm) and single cane weight (kg) were CoS 09232 (2.54, 1.05), CoH 09264 (2.48, 1.03) and Co 09022 (2.34, 0.98), respectively. Clone CoS 09232 excelled significantly for CCS (t/ha) (8.96), sucrose % (16.03) and CCS% (11.28) in comparison to standard respectively (Table 8).

9. Fluff supply programme

Fluff received during 2014 was sown in the month of September and about 2500 seedlings were raised out of which 1800 survived during hardening and were transplanted in the field during Feb 2015. Finally, 1260 plantlets are successfully growing in field at present that will be assessed for HR brix and cane attributes during 2015 – 16 and will be rationed.

The fluff of different crosses received from SBI, Coimbatore during Feb 2015 was sown in the month of April – May and seedlings are being monitored for their germination, survival and growth parameters and will be transplanted in field during forth coming autumn season.

10. Technical program 2015 – 2016

During 2015 -2016 8 research trials programmed for the year conveyed by the Project Coordinator, AICRP(S), Lucknow were laid down as per the technical programme in the month of Feb – March, 2015. Due to unusual rains in the month of March germination of few trials was affected but managed. All trials are in progress and data on germination, tiller count has been recorded. The various trials received under crop improvement are detailed below:

S. No.	AICRP(S)Trial	No of entries
1.	Initial Varietal trial- Early	10+2
2.	Advance Varietal Trial –Early I Plant	4+2
3.	Advance Varietal Trial –Early II Plant	3+2
4.	Advance Varietal Trial – Early Ratoon	3+2
5.	Initial Varietal Trial-Mid late	15+3
6.	Advance Varietal Trial – Mid late I Plant	6+3
7.	Advance Varietal Trial – Mid late II Plant	5+3
8.	Advance Varietal Trial – Mid late Ratoon	5+3
Station Trials		
9.	Preliminary Yield Trial (PYT)	17+9
10.	Advanced Yield Trial (AYT)	16+9

11. ZVT Multiplication

Cane seed of 9 early and 13 mid/late clones as per proceeding of annual group meeting of AICRP(S) at IISR, Lucknow was collected from SBI, regional centre, Karnal and has been planted for their multiplication.

North West Zone, RRS, Kapurthala Centre

1. Initial Varietal Trial (Early)

S. No.	Clone	CCS (t/ha)	Cane yield (t/ha)	Brix % (10 m)	Sucrose % (10m)	Purity % (10m)	CCS % (10m)	Pol % cane (10m)	Extraction % (10m)	Fibre % (10m)	NMC at 10m ('000/ha)
1	CoH 11261	8.67	66.90	20.07	18.43	91.83	12.97	-	53.55	-	71.38
2	CoH 11262	7.83	67.09	18.82	16.80	89.34	11.68	-	55.05	-	69.94
3	CoLk 11201	6.86	51.93	20.74	18.84	90.83	13.19	-	50.66	-	73.81
4	CoLk 11202	6.21	50.93	19.56	17.43	88.87	12.10	-	51.06	-	72.64
5	CoLk 11203	6.15	48.37	20.25	18.24	90.04	12.72	-	47.15	-	61.82
6	CoPb 11211	7.47	64.54	18.22	16.53	90.78	11.58	-	52.33	-	87.87
7	CoPb 11212	7.13	64.60	20.64	16.71	80.99	11.05	-	52.42	-	102.29
Stds											
1	CoJ 64	7.33	56.05	20.10	17.67	87.93	13.07	-	52.34	-	92.20
2	Co 0238	7.94	65.15	20.52	18.66	90.94	12.19	-	56.84	-	67.95
	CD	1.20	8.63	1.19	1.42	4.36	1.18		NS		10.50
	CV	9.53	8.39	3.47	4.65	2.84	5.60		8.09		7.81

S.No.	Clone	Stalk Length (m)	Stalk Diameter (cm)	Single cane weight (kg)	Brix % (8 m)	Sucrose % (8 m)	Purity % (8 m)	CCS % (8 m)	No. of shoots ('000/ha) 240 days	No. of tillers ('000/ha) 120 days	Germination % (45 days)
1	CoH 11261	1.80	2.42	0.94	18.39	16.02	87.07	11.00	77.97	86.83	43.49
2	CoH 11262	1.65	2.55	0.96	18.39	15.22	82.79	10.19	76.40	85.08	40.89
3	CoLk 11201	1.32	2.47	0.70	20.12	18.04	89.70	12.57	80.63	89.79	46.35
4	CoLk 11202	1.33	2.39	0.70	19.60	17.31	88.33	11.97	79.35	88.37	43.27
5	CoLk 11203	1.71	2.14	0.79	19.39	17.23	88.87	11.94	67.54	75.21	37.16
6	CoPb 11211	1.76	2.33	0.74	20.61	15.99	77.70	10.33	95.99	106.89	41.97
7	CoPb 11212	1.61	2.09	0.63	19.88	15.58	78.36	10.12	111.74	124.44	53.70
Stds											
1	CoJ 64	1.53	2.43	0.61	20.20	16.61	82.31	11.08	100.72	112.16	43.55
2	Co 0238	1.63	2.58	0.96	20.16	17.39	86.28	11.89	74.23	82.66	40.98
	CD	0.23	0.28	0.07	0.86	0.44	3.07	0.39	11.48	12.79	7.55
	CV (%)	8.56	6.85	5.24	2.54	1.56	2.10	2.01	7.82	7.82	10.05

2. Advanced Varietal Trial (Early – I Plant)

S. No.	Clone	CCS (t/ha)	Cane yield (t/ha)	Brix % (10 m)	Sucrose % (10m)	Purity % (10m)	CCS % (10m)	Pol % cane (10m)	Extraction % (10m)	Fibre % (10m)	NMC at 10m ('000/ha)
1	Co 10035	7.24	55.47	20.22	18.54	91.70	13.04	13.28	49.58	13.13	79.64
2	CoH 10261	7.26	59.38	19.47	18.22	83.33	12.23	12.76	54.09	14.16	86.97
3	CoS 10231	8.14	65.38	19.29	18.37	84.89	12.45	13.09	53.70	14.33	90.33
Stds											
1	CoJ 64	7.57	57.50	20.34	18.69	91.92	13.17	13.00	53.06	14.63	91.51
2	CoPant 84211	7.87	63.58	18.26	17.62	91.03	12.36	12.39	54.52	14.57	98.89
	CD	NS	NS	0.38	0.26	1.79	0.26	NS	NS	0.70	6.66
	CV (%)	13.58	13.72	1.28	0.93	1.32	1.35	2.40	6.66	2.64	6.82

S.No.	Clone	Stalk Length (m)	Stalk Diameter (cm)	Single cane weight (kg)	Brix % (8 m)	Sucrose % (8 m)	Purity % (8 m)	CCS % (8 m)	No. of shoots ('000/ha) 240 days	No. of tillers ('000/ha) 120 days	Germination % (45 days)
1	Co 10035	1.57	2.01	0.70	20.49	17.43	85.07	11.83	84.6	89.1	40.07
2	CoH 10261	1.23	2.74	0.68	19.50	17.47	89.63	12.16	92.4	97.3	49.89
3	CoS 10231	1.63	2.32	0.72	19.54	16.73	85.61	11.39	96.0	101.0	68.28
Stds											
1	CoJ 64	1.50	2.30	0.63	20.00	17.86	89.31	12.41	97.2	102.3	49.93
2	CoPant 84211	1.62	2.29	0.65	17.75	16.25	91.56	11.42	105.1	110.6	50.38
	CD	0.22	0.28	NS	0.60	0.71	2.86	0.62	9.98	10.55	NS
	CV (%)	9.50	8.02	11.84	2.03	2.70	2.10	3.54	6.82	6.84	22.30

3. Advanced Varietal Trial (Early II Plant)

S. No.	Clone	CCS (t/ha)	Cane yield (t/ha)	Brix % (10 m)	Sucrose % (10m)	Purity % (10m)	CCS % (10m)	Pol % cane (10m)	Extraction % (10m)	Fibre % (10m)	NMC at 10m ('000/ha)
1	CoH 09262	9.18	76.83	19.09	17.13	89.78	11.94	13.07	58.15	13.58	109.33
2	CoH 09263	8.63	75.75	18.80	16.53	87.95	11.41	12.52	58.32	14.12	97.39
3	CoLk 09202	8.65	72.25	19.59	17.28	88.24	11.94	12.27	55.16	14.88	95.64
4	CoPb 09181	11.08	96.50	18.95	16.64	87.84	11.47	12.15	54.94	13.86	81.94
5	CoS 09246	7.57	62.74	19.33	17.35	89.82	12.09	13.37	63.09	14.02	99.30
Stds											
1	CoJ 64	7.76	60.60	20.23	18.32	90.55	12.81	13.59	55.12	14.55	91.41
2	CoPant 84211	8.09	66.82	18.87	17.23	91.30	12.10	13.02	58.98	14.36	100.33
	CD	1.62	14.38	0.65	0.52	NS	0.54	0.66	4.77	0.68	11.28
	CV (%)	10.51	11.06	1.91	1.70	2.39	2.56	2.89	4.65	2.72	6.57

S.No.	Clone	Stalk Length (m)	Stalk Diameter (cm)	Single cane weight (kg)	Brix % (8 m)	Sucrose % (8 m)	Purity % (8 m)	CCS % (8 m)	No. of shoots ('000/ha) 240 days	No. of tillers ('000/ha) 120 days	Germination % (45 days)
1	CoH 09262	1.67	2.18	0.70	18.96	16.73	88.24	8.8	100.85	102.99	51.57
2	CoH 09263	1.73	2.47	0.78	18.88	15.79	83.63	9.0	84.86	86.66	42.31
3	CoLk 09202	1.97	2.27	0.76	18.39	16.26	88.45	8.7	102.83	105.01	36.52
4	CoPb 09181	1.99	2.82	1.18	19.10	15.84	82.93	11.0	113.22	115.62	40.64
5	CoS 09246	1.56	2.28	0.63	18.68	16.31	87.35	7.5	99.04	101.14	41.52
Stds											
1	CoJ 64	1.53	2.36	0.67	19.77	17.49	88.49	7.3	103.91	106.11	38.93
2	CoPant 84211	1.28	1.91	0.67	17.97	15.73	87.51	8.6	94.67	96.68	32.59
	CD	0.41	0.29	0.13	0.38	0.75	Ns	1.62	11.67	11.90	8.28
	CV (%)	13.76	7.01	9.93	1.14	2.59	2.77	10.51	6.57	6.56	11.47

4. Advanced Varietal Trial (Early Ratoon)

S. No.	Clone	CCS (t/ha)	Cane yield (t/ha)	Brix % (9 m)	Sucrose % (9 m)	Purity % (9 m)	CCS % (9 m)	Pol % cane (9m)	Extraction % (9 m)	Fibre % (9 m)
1	CoH 09262	7.46	67.19	17.47	15.86	90.79	11.10	-	52.67	-
2	CoH 09263	6.74	70.85	16.25	13.98	85.97	9.54	-	57.28	-
3	CoLk 09202	8.02	75.99	17.17	15.20	88.55	10.52	-	56.79	-
4	CoPb 09181	8.72	84.31	17.10	15.01	87.80	10.35	-	53.59	-
5	CoS 09246	5.38	53.55	17.93	14.95	83.35	10.04	-	58.68	-
Stds										
1	CoJ 64	5.94	48.52	19.72	17.63	89.40	12.26	-	57.35	-
2	CoPant 84211	5.90	50.52	18.19	16.63	91.44	11.69	-	61.03	-
	CD	1.60	14.93	0.47	0.50	2.18	0.44		NS	
	CV (%)	13.09	13.03	1.49	1.82	1.39	2.31		6.46	

S. No.	Clone	NMC at 9 months ('000/ha)	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	CoH 09262	75.01	1.69	2.33	0.90	87.22	94.30
2	CoH 09263	90.91	1.86	2.25	0.78	105.71	114.28
3	CoLk 09202	94.88	2.07	2.08	0.79	110.33	119.27
4	CoPb 09181	73.85	1.84	2.38	1.14	85.87	92.84
5	CoS 09246	85.10	1.59	2.15	0.63	98.95	106.98
Stds							
1	CoJ 64	69.39	1.34	2.02	0.70	80.68	87.23
2	CoPant 84211	62.60	1.65	2.13	0.81	72.79	78.70
	CD	13.09	NS	NS	0.17	15.22	16.46
	CV (%)	9.34	15.39	12.52	11.81	9.34	9.34

5. Initial Varietal Trial (Midlate)

S. No.	Clone	CCS (t/ha)	Cane yield (t/ha)	Brix % (12 m)	Sucrose % (12 m)	Purity % (12 m)	CCS % (12 m)	Pol % cane (12m)	Extracti on % (12 m)	Fibre % (12 m)	NMC at 12 m ('000/ha)
1	Co 11026	11.36	86.19	21.69	19.06	87.89	13.15	-	57.63	-	93.08
2	Co 11027	6.59	51.31	20.22	18.33	90.65	12.83	-	50.51	-	68.92
3	CoH 11263	8.84	60.70	20.93	18.94	90.51	13.25	-	55.75	-	87.54
4	CoH 11264	8.94	68.62	20.68	18.68	90.35	13.06	-	59.17	-	100.45
5	CoLk 11204	8.88	68.93	20.53	18.45	89.85	12.86	-	49.99	-	102.90
6	CoLk 11205	7.66	58.11	20.99	18.90	90.07	13.19	-	55.22	-	81.52
7	CoLk 11206	6.74	53.84	20.04	17.98	89.72	12.52	-	50.30	-	66.07
8	CoPb 11181	8.83	72.29	19.82	17.63	88.91	12.23	-	59.01	-	100.61
9	CoPb 11182	8.9	63.64	19.97	18.15	90.91	12.72	-	54.56	-	86.82
10	CoPb 11213	7.37	57.03	20.56	18.52	90.08	12.92	-	62.57	-	86.98
11	CoPb 11214	9.03	69.26	19.08	18.20	95.41	13.03	-	52.67	-	103.54
12	CoS 11231	8.01	60.73	20.88	18.87	90.34	13.18	-	45.48	-	93.08
13	CoS 11232	8.78	70.01	20.07	18.07	90.02	12.60	-	56.15	-	91.26
Stds											
1	CoS 767	7.64	57.78	20.84	18.88	90.57	13.21	-	55.89	-	83.26
2	CoS 8436	9.21	70.46	20.65	18.68	90.45	13.06	-	51.70	-	99.02
3	CoPant 97222	8.68	64.74	20.96	19.13	91.28	13.43	-	55.73	-	103.85
	CD	1.83	14.96	0.84	0.80	1.63	0.61		8.51		18.25
	CV(%)	13.17	13.89	2.47	2.61	1.09	2.83		9.37		12.09

S. No.	Clone	Stalk Length (c)	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 % (45 days)
1	Co 11026	1.76	2.55	0.92	20.15	18.21	90.37	12.72	99.92	103.37	43.31
2	Co 11027	1.53	2.35	0.75	18.59	16.55	89.01	11.48	73.99	76.54	36.78
3	CoH 11263	1.29	2.49	0.70	18.16	16.37	90.13	11.43	93.97	97.21	31.64
4	CoH 11264	1.36	2.51	0.68	18.20	16.30	89.57	11.35	107.83	111.55	32.83
5	CoLk 11204	1.35	2.27	0.67	18.78	16.50	87.87	11.38	110.47	114.28	43.02
6	CoLk 11205	1.38	2.38	0.71	18.43	16.84	91.39	11.83	87.51	90.53	36.97
7	CoLk 11206	1.53	2.48	0.81	19.47	16.94	86.99	11.62	70.92	73.37	37.71
8	CoPb 11181	1.51	2.24	0.72	17.16	15.61	90.96	10.94	108.00	111.73	40.24
9	CoPb 11182	1.59	2.39	0.74	18.65	17.48	93.75	12.42	93.20	96.42	44.19
10	CoPb 11213	1.41	2.04	0.65	19.17	16.98	88.57	11.76	93.37	96.60	39.87
11	CoPb 11214	1.41	2.25	0.67	18.46	17.08	92.55	12.07	111.15	114.98	45.08
12	CoS 11231	1.20	2.25	0.65	18.69	16.56	88.61	11.47	99.92	103.37	37.96
13	CoS 11232	1.73	2.38	0.76	18.33	16.60	90.56	11.61	97.97	101.35	37.22
Stds											
1	CoS 767	1.55	2.27	0.70	19.23	17.52	91.13	12.29	89.38	92.46	40.12
2	CoS 8436	1.37	2.48	0.71	18.68	17.10	91.56	12.02	106.30	109.97	38.14
3	CoPant 97222	1.63	2.20	0.62	19.57	17.71	90.47	12.38	111.49	115.33	38.08
	CD	Ns	Ns	0.09	0.84	0.80	1.63	0.61	19.59	20.26	3.55
	CV	14.15	8.52	8.35	2.47	2.61	1.09	2.83	12.09	12.09	12.63

6. Advanced Varietal Trial (Midlate I Plant)

S. No.	Clone	CCS (t/ha)	Cane yield (t/ha)	Brix % (12 m)	Sucrose % (12 m)	Purity % (12 m)	CCS % (12 m)	Pol % cane (12m)	Extracti on % (12 m)	Fibre % (12 m)	NMC at 12 m ('000/ha)
1	Co 10036	7.85	71.30	18.43	16.04	87.05	11.01	12.19	55.75	15.17	80.56
2	CoH 10262	10.57	82.47	19.78	18.20	92.07	12.82	13.64	57.31	14.97	78.86
3	CoPant 10221	7.03	54.61	19.65	18.23	92.74	12.89	13.32	49.22	13.91	84.18
4	CoPb 10181	7.55	60.03	20.06	18.05	90.04	12.59	13.84	55.54	13.92	62.96
5	CoPb 10182	7.80	63.27	19.18	17.56	91.55	12.35	13.85	58.40	13.87	83.64
Stds											
1	CoS 767	6.87	57.24	20.08	17.50	87.14	12.02	13.01	56.05	15.55	80.25
2	CoS 8436	7.26	58.09	20.20	18.00	89.14	12.50	13.65	54.35	15.36	85.42
3	CoPant 97222	6.93	53.70	20.66	18.56	89.83	12.94	13.50	56.25	15.50	82.79
	CD	1.11	9.56	0.71	0.45	2.58	0.37	0.53	4.12	0.42	NS
	CV (%)	8.22	8.73	2.07	1.46	1.64	1.73	2.27	4.25	1.66	16.43

S. No.	Clone	Stalk Length (m)	Stalk Diameter (cm)	Single cane weight (kg)	Brix % (10 m)	Sucrose % (10 m)	Purity % (10 m)	CCS % (10 m)	No. of shoots ('000/ha) 240 days	No. of tillers ('000/ha) 120 days	Germina tion % (45 days)
1	Co 10036	1.43	2.18	0.90	19.17	15.59	85.64	10.61	83.96	87.57	43.10
2	CoH 10262	1.59	2.89	1.05	19.17	17.28	90.13	12.06	82.19	85.72	41.73
3	CoPant 10221	1.28	2.33	0.65	18.57	16.15	87.01	11.09	87.74	91.51	40.30
4	CoPb 10181	1.59	2.94	0.98	18.62	16.85	90.51	11.79	65.63	68.44	43.00
5	CoPb 10182	1.56	2.37	0.76	18.71	16.46	88.02	11.36	87.18	90.92	43.23
Stds											
1	CoS 767	1.41	2.26	0.72	19.60	16.81	85.74	11.45	83.64	87.23	39.07
2	CoS 8436	1.35	2.60	0.69	18.58	16.44	88.46	11.37	89.03	92.85	39.40
3	CoPant 97222	1.50	2.21	0.65	18.67	16.22	86.90	11.13	86.30	90.00	38.53
	CD	Ns	0.40	0.17	0.63	0.46	Ns	0.48	Ns	Ns	Ns
	CV (%)	13.31	9.27	12.71	1.94	1.60	2.38	2.44	16.43	16.43	5.49

7. Advanced Varietal Trial (Midlate II Plant)

S. No.	Clone	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	Co 09022	8.43	69.67	18.44	16.72	90.66	11.70	11.97	54.66	15.25	83.33
2	CoH 09264	7.52	71.89	17.42	15.53	89.15	10.78	12.05	55.32	14.76	76.12
3	CoLk 09204	8.65	76.00	18.22	16.34	89.66	11.38	11.60	58.42	15.23	86.87
4	CoPb 09214	8.14	71.15	18.49	16.46	89.03	11.43	11.84	55.32	15.38	111.67
5	CoS 09232	7.76	63.62	19.31	17.47	90.47	12.22	13.12	58.26	15.46	73.52
Stds											
1	CoS 767	6.72	51.85	20.35	18.51	90.63	12.95	13.69	57.07	15.64	85.99
2	CoS 8436	6.45	68.04	18.50	17.26	90.95	12.10	12.53	56.31	15.07	111.67
3	CoPant 97222	8.30	53.34	19.56	17.52	89.59	12.20	12.14	56.69	15.41	80.48
	CD	NS	12.81	0.42	0.43	0.99	1.28	0.57	NS	NS	16.17
	CV (%)	11.75	11.14	1.28	1.48	0.63	1.66	2.66	3.39	2.12	10.39

S. No.	Clone	Stalk Length (m)	Stalk Diameter (cm)	Single cane weight (kg)	Brix % (10 m)	Sucrose % (10 m)	Purity % (10 m)	CCS % (10 m)	No. of shoots ('000/ha) 240 days	No. of tillers ('000/ha) 120 days	Germination % (45 days)
1	Co 09022	1.72	2.43	0.84	17.10	15.32	87.83	10.56	86.13	90.63	38.93
2	CoH 09264	1.99	2.28	0.94	15.59	14.51	77.53	9.36	78.67	82.79	41.47
3	CoLk 09204	2.22	2.38	0.88	16.81	15.22	91.04	10.67	89.79	94.49	40.47
4	CoPb 09214	1.98	2.00	0.64	16.99	15.14	89.42	10.53	115.43	121.46	44.07
5	CoS 09232	1.62	2.49	0.86	18.46	16.30	92.19	11.50	75.99	79.97	43.43
Stds											
1	CoS 767	1.57	2.07	0.61	19.43	17.55	92.02	12.37	88.88	93.52	38.57
2	CoS 8436	1.66	2.17	0.61	17.46	15.94	91.62	11.21	115.43	121.46	39.17
3	CoPant 97222	1.57	2.23	0.66	17.04	15.84	91.12	11.12	83.19	87.54	39.83
	CD	0.29	0.20	0.12	0.62	0.75	2.93	0.83	16.67	17.55	17.88
	CV (%)	9.26	5.26	9.49	2.02	2.75	1.88	3.31	10.39	10.39	4.04

8. Advanced Varietal Trial (Midlate - Ratoon)

S. No.	Clone	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	Co 09022	8.67	86.56	16.30	14.46	88.69	10.02	-	58.17	-
2	CoH 09264	7.43	73.65	17.11	14.76	86.25	10.09	-	60.54	-
3	CoLk 09204	5.63	61.56	16.39	13.68	83.45	9.20	-	51.87	-
4	CoPb 09214	7.81	78.71	16.43	14.37	87.47	9.89	-	52.86	-
5	CoS 09232	8.96	79.98	17.45	16.03	91.83	11.28	-	60.68	-
Stds										
1	CoS 767	5.46	52.12	17.04	15.14	88.87	10.50	-	56.12	-
2	CoS 8436	6.92	62.77	17.22	15.68	91.07	11.00	-	56.80	-
3	CoPant 97222	5.67	50.83	17.47	15.90	91.01	11.15	-	58.62	-
	CD	1.79	16.64	0.56	0.91	4.09	0.82		NS	
	CV	14.50	13.92	1.92	3.47	2.64	4.56		8.01	

S. No.	Clone	NMC at 11 months ('000/ha)	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	Co 09022	88.04	2.19	2.34	0.98	98.93	107.83
2	CoH 09264	72.00	2.42	2.48	1.03	80.90	88.18
3	CoLk 09204	74.92	1.89	2.10	0.82	84.18	91.75
4	CoPb 09214	99.51	2.10	2.06	0.79	111.81	121.87
5	CoS 09232	77.47	2.16	2.54	1.05	87.04	94.88
Stds							
1	CoS 767	72.97	1.83	2.24	0.72	81.99	89.37
2	CoS 8436	86.67	1.51	2.38	0.72	97.38	106.14
3	CoPant 97222	72.55	1.65	2.01	0.70	74.02	80.69
	CD	12.71	0.44	NS	0.24	13.83	15.07
	CV (%)	9.02	13.03	10.83	16.56	8.82	8.52