

Annual Report 2014-15

All India Coordinated Research Project on Sugarcane

(i) **Period under report:** 1.4.2014 to 31.3.2015

(ii) **Staff position:** 4 (2 Scientists & 2 Technical assistants)

Name of the sanctioned Post	Name of incumbent	Date of joining
Senior Breeder	Dr. R.S.Singh	10.10.2002 to 20.01.2015
Senior Agronomist	Dr. Kuldeep Singh	28.04.1998
Technical Assistants	Sh. Sukhdev Singh	01.03.2004
	Sh. Beant Singh	01.02.2011

(iii) **Details of Financial allocation and expenditure 2014-15**

Particulars	Amount(Rs.)
Total Expenditure 2014-15	49,23,809
ICAR Share (75%)	36,92,857
Opening Balance (as on 01.04.2014)	(+) 8,76,694
Expenditure 2014-15 (ICAR Share)	38,92,857
Total grant received from ICAR (2014-15)	36,77,000
Closing balance (as on 31.03.2015)	(+) 8,60,837

All India Coordinated Research Project on Sugarcane
ANNUAL REPORT 2014-15
FARIDKOT CENTRE

INTRODUCTION

Sugarcane is an important agro industrial crop, which occupied about 89 thousand hectares in Punjab during 2013-14. The average cane yield was 75.0 tonnes per hectare. The average sugar recovery was 9.4 per cent.

Realizing the importance of sugarcane crop in the State Indian Council of Agricultural Research sanctioned sugarcane research station, Faridkot under the All India Coordinated Research Project on Sugarcane during 1995. Faridkot Station is working as coordinating Centre for conducting Zonal trials in breeding and agronomy disciplines in North West Zone.

The major thrust area is to develop sugarcane varieties and production technologies suitable for North West Zone with special emphasis to the local needs of Punjab state. During the year 2014-15, a total of 636 q Breeder Seed of newly released variety CoPb 09181 has been produced and distributed to sugar mills and progressive cane growers. The centre contributed five entries CoPb 14181 and CoPb 14182 (Early) and CoPb 14183, CoPb 14184 and CoPb 14185 (Mid late) for testing in Zonal Varietal Trials of North West Zone. Twelve parental stocks (CoPb 11181, CoPb 11182, CoPb 12181, CoPb 12182, CoPb 13181, CoPb 13182, CoPb 13183, CoPb 14181, CoPb 14182, CoPb 14183, CoPb 14184, CoPb 14185) have also been contributed to the National Hybridization Garden to give impetus to sugarcane crop improvement programme. A new project entitled “Evaluation and identification of climate resilient ISH genetic stocks” has been initiated to identify elite ISH clones tolerant to drought in Faridkot location. Dr. Kuldeep Singh, Agronomist & member of monitoring team did monitoring work in North Central and North Eastern Zone. Organized AICRP(S) Inter Zonal Sugarcane Breeders and Pathologists’ Meet at PAU Regional Station, Gurdaspur on February 06 & 07, 2015 and Regional Kisan Melas on September 18, 2014 and March 12, 2015. A competitive research project entitled “Resource use efficiency and biomass production in sugarcane under low nitrogen conditions” funded by University Grants Commission with a budget of Rs.8, 05,000/- has been granted and taken up for three years duration (2012-13 to 2014-15).

WEATHER AT FARIDKOT

Meteorological data was recorded during the crop season 2014-15 and is given in Table 1. The highest rainfall (214.9 mm) was in September 2014 followed by 123.0 mm in July, 2014 and there was 80.0 mm rain in June 2014, respectively. The highest values of maximum temperature (39.6 °C) in June 2014 followed by May (36.8 °C) and the lowest values (16.4 °C) were in January, 2015. The highest values of minimum temperature (27.6 °C) in July 2014 followed by June (27.3 °C) and the lowest values (5.8 °C) were in December, 2014. Early shoot borer, Top borer, Root borer, termite and wilt incidence was noticed under field conditions.

Table 1. Meteorological Data for 2014-2015
North West Zone
Location – FARIDKOT

Month	Temperature (°C)		R.H. %		Rainfall (mm)	No. of rainy days	Pest/Disease incidence
	Max.	Min.	Max.	Min.			
February 2014	18.6	8.2	NA	44	4.5	0	
March 2014	24.5	12.8	NA	38	38.0	3	Termite, wilt
April 2014	32.3	17.7	60	22	33.0	2	Termite, wilt
May 2014	36.8	23.4	60	27	38.8	2	Shoot borer
June 2014	39.6	27.3	63	32	80.0	3	Shoot borer
July 2014	34.8	27.6	29	NA	123.0	6	Top borer
August 2015	34.4	27.0	25	NA	15.0	1	Top borer
September 2014	32.9	24.3	54	33	214.9	3	Top borer
October 2014	32.2	18.3	83	45	2.3	0	Top borer
November 2014	28.1	9.9	85	35	1.5	0	Termite
December 2014	18.9	5.8	86	54	1.5	0	Root borer
January 2015	16.4	6.9	88	68	9.2	2	Root borer
February 2015	22.9	10.6	83	51	48.9	3	Termite, wilt

Note: Data from February 2014 to September 2014 has been recorded from automatic weather station and from October onwards has been recorded from surface Agrometeorological Observatory

ZONAL VARIETAL TRIALS

1. Initial Varietal Trial (Early)

The experiment was conducted with seven entries and two checks viz; CoH 11261, CoH 11262, CoLk 11201, CoLk 11202, CoLk 11203, CoPb 11211 and CoPb 11212 checks- CoJ 64, Co 0238 in RBD with three replications. Entries CoH 11262, CoH 11261 and CoLk 11202 were significantly superior to the best check CoJ 64 (84.07 t/ha and 9.81 t/ha) in cane and sugar yield (Table 2).

Conclusion: CoH 11262, CoH 11261 and CoLk 11202 were found promising in cane and sugar yield.

2. Advanced Varietal Trial (Early) I Plant

The experiment was conducted with three entries and two checks viz; Co 10035, CoH 10261, CoS 10231 checks- CoJ 64, CoPant 84211 in RBD with four replications. None of the entries was significantly superior to the best check CoJ 64 (100.56 t/ha and 12.25 t/ha) in cane and sugar yield (Table 3). However, the highest cane (97.22 t/ha) and sugar yield (11.95 t/ha) was recorded in CoH 10261 which was at par with the best standard CoJ 64.

Conclusion: CoH 10261 was found promising in cane and sugar yield.

3. Advanced Varietal Trial (Early) II Plant

The experiment was conducted with five entries and two checks viz; CoH 09262, CoH 09263, CoLk 09202, CoPb 09181, CoS 09246 checks- CoJ 64, CoPant 84211 in RBD with three replications. Test entry CoPb 09181 (102.59 t/ha and 11.25 t/ha) was significantly superior to the best check CoJ 64 (80.0 t/ha and 9.43 t/ha) in cane and sugar yield (Table 4).

Conclusion: CoPb 09181 was found promising in cane and sugar yield.

4. Advanced Varietal Trial (Early) Ratoon

The experiment was conducted with five entries and two checks viz; CoH 09262, CoH 09263, CoLk 09202, CoPb 09181, CoS 09246 checks- CoJ 64, CoPant 84211 in RBD with three replications. Test entry CoH 09262 (71.85 t/ha and 9.48 t/ha), CoPb 09181 (70.74 t/ha and 9.11 t/ha) and CoH 09263 (67.78 t/ha and 6.93 t/ha) was significantly superior to the best check CoPant 84211 (56.29 t/ha and 6.79 t/ha) in cane and sugar yield (Table 5).

Conclusion: CoH 09262, CoPb 09181 and CoH 09263 was found promising in cane and sugar yield.

Table 2. Initial Varietal Trial (Early) 2014-15

Location – FARIDKOT (North West Zone)

Design: RBD, Replications: 3, Date of Planting: 13.02.2014, Plot Size: 6 rows X 6m X 75cm

Sl.	Variety	Ger (%)	No. of shoots 000/ha	NMC 000/ha	Cane yield t/ha	Stalk length h (cm)	Stalk dia. (cm)	Single Cane wt (Kg)	November				January				CCS (t/ha)	Ext. (%)
									Brix (%)	Sucr. (%)	Purity (%)	CCS (%)	Brix (%)	Sucr. (%)	Purity (%)	CCS (%)		
1	CoH 11261	30.90	159.07	108.89	100.37	288.0	2.65	1.473	16.43	14.97	91.13	10.51	16.87	15.87	94.30	11.30	11.34	54.90
2	CoH 11262	28.82	159.26	101.85	112.22	231.7	2.80	1.323	16.20	14.68	90.62	10.27	16.83	15.67	93.10	11.10	12.48	54.80
3	CoLk 11201	28.82	151.48	92.78	63.70	201.7	2.76	1.153	18.20	16.52	90.75	11.57	18.47	17.21	93.20	12.20	7.77	54.03
4	CoLk 11202	27.20	135.56	92.41	102.22	262.3	2.94	1.733	16.57	14.82	89.57	10.32	16.73	15.62	93.43	11.10	11.34	53.50
5	CoLk 11203	33.20	125.56	105.00	74.07	267.7	2.54	1.333	18.53	16.65	89.66	11.60	18.70	16.84	90.30	11.73	8.68	52.83
6	CoPb 11211	27.66	148.89	96.30	60.74	243.7	2.44	1.073	16.26	14.88	91.45	10.46	16.43	15.62	95.23	11.20	6.81	49.73
7	CoPb 11212	29.52	194.63	125.74	67.78	225.3	2.41	0.913	16.60	14.98	90.26	10.46	17.20	15.87	92.26	11.17	7.57	48.93
Standards																		
1	CoJ 64	34.72	156.85	108.33	84.07	220.7	2.57	1.080	17.90	15.76	88.05	10.88	18.40	16.68	90.67	11.67	9.81	52.13
2	Co 0238	40.63	151.67	107.78	80.74	266.7	2.62	1.070	16.13	14.24	88.32	9.84	16.80	15.35	91.37	11.77	8.68	57.67
	CD (5%)	6.65	20.68	15.07	10.80	27.6	0.19	0.208	1.25	1.39	NS	NS	1.31	0.86	NS	0.71	1.48	4.39
	CV (5%)	12.3	7.78	8.35	7.53	6.5	4.16	9.69	4.27	5.26	2.35	5.97	4.34	3.1	3.35	3.59	9.13	4.77

Table 3. Advanced Varietal Trial (Early) I Plant 2014-15

**Location – FARIDKOT (North West Zone), Design: RBD, Replications: 4,
Date of Planting: 15.02.2014, Plot Size: 8 rows X 6m X 75cm**

Sl .	Variety	Ger. (%)	No. of shoots 000/ha	NMC 000 /ha	Cane yield t/ha	Stalk length h (cm)	Stalk dia. (cm)	Single Cane wt. (Kg)	November				January				CCS (t/ha)	Ext. (%)
									Brix (%)	Sucr. (%)	Purity (%)	CCS (%)	Brix (%)	Sucr. (%)	Purity (%)	CCS (%)		
1	Co 10035	24.04	151.94	108.89	72.22	240.0	2.38	0.961	18.42	16.98	92.14	11.97	19.05	17.56	92.15	12.38	8.92	52.19
2	CoH 10261	36.63	185.42	130.56	97.22	221.5	2.71	1.301	17.85	16.58	92.91	11.74	18.18	17.23	94.89	12.30	11.95	59.02
3	CoS 10231	32.55	177.22	134.44	89.17	221.5	2.74	1.086	18.13	16.91	93.32	11.99	18.55	17.36	93.73	12.33	10.99	56.12
Standards																		
	CoJ 64	36.20	159.58	123.61	100.56	225.3	2.55	1.108	18.62	16.97	91.14	11.91	19.05	17.34	91.06	12.17	12.25	52.80
	CoPant 84211	40.10	164.86	116.39	76.94	235.5	2.37	1.07	18.23	16.77	92.03	11.82	19.18	17.67	92.3	12.47	9.58	49.99
	CD (5%)	4.91	NS	NS	13.83	NS	0.25	0.148	NS	NS	NS	NS	NS	NS	NS	NS	1.66	2.05
	CV (5%)	9.4	13.17	11.33	10.29	6.06	6.47	8.69	2.22	1.48	1.42	1.5	4.19	2.37	3.09	2.44	10.02	2.46

Table 4. Advanced Varietal Trial (Early) II Plant 2014-15

Location – FARIDKOT (North West Zone)

Design: RBD, Replications: 3, Date of Planting: 1.02.2014, Plot Size: 8 rows X 6m X 75cm

Sl .	Variety	Ger (%)	No. of shoots 000/ha	NMC 000/ha	Cane yield t/ha	Stalk length h (cm)	Stalk dia. (cm)	Single Cane wt (Kg)	November				January				CCS (t/ha)	Ext. (%)
									Brix (%)	Sucr. (%)	Purity (%)	CCS (%)	Brix (%)	Sucr. (%)	Purity (%)	CCS (%)		
1	CoH 09262	32.4	147.41	99.07	75.18	2.42	2.69	1.41	17.33	15.12	87.2	10.4	17.86	15.55	87.10	10.67	7.99	55.24
2	CoH 09263	30.77	151.11	105.19	88.52	2.27	2.74	1.18	14.9	13.17	88.43	9.1	15.40	14.04	91.13	9.87	8.73	51.12
3	CoLk 09202	33.83	174.82	132.22	94.44	2.42	2.57	1.19	16.26	14.25	87.57	9.83	16.53	14.37	86.90	9.87	9.28	50.53
4	CoPb 09181	31.4	150.56	89.81	102.59	2.63	3.09	1.63	16.87	14.22	84.63	9.6	17.64	15.76	89.37	10.97	11.25	54.97
5	CoS 09246	31.6	152.04	95.74	95.18	2.25	2.67	1.17	16.66	14.25	85.47	9.7	18.33	15.85	86.50	10.87	10.35	57.60
Standards																		
1	CoJ 64	30.33	153.33	101.10	80.00	2.14	2.57	1.1	17.63	15.66	88.8	10.83	18.14	16.71	92.17	11.80	9.43	52.82
2	CoPant 84211	33.67	169.63	95.56	72.22	2.30	2.43	1.03	17.23	15.46	89.8	10.77	18.17	16.27	89.57	11.33	8.20	49.59
	CD (5%)	NS	14.15	11.97	11.24	0.29	0.32	0.37	NS	NS	NS	NS	1.11	0.87	NS	0.68	1.10	4.46
	CV (5%)	8.07	5.46	7.07	7.54	6.89	6.75	15.97	5.65	6.22	3.96	7.31	3.63	3.22	2.49	3.64	6.86	4.87

Table 5. Advanced Varietal Trial (Early) Ratoon 2014-15

Location – FARIDKOT (North West Zone)

Design: RBD, Replications: 3, Date of Ratooning: 13.02.2014, Plot Size: 8 rows X 6m X 75cm

Sl .	Variety	No. of shoots 000/ha	NMC 000/ha	Cane yield t/ha	Stalk length h (cm)	Stalk dia. (cm)	Single Cane wt (Kg)	December (270 days)				CCS (t/ha)	Ext. (%)
								Brix (%)	Sucr. (%)	Purity (%)	CCS (%)		
1	CoH 09262	118.52	80.55	71.85	186.3	2.43	0.959	20.13	18.66	92.73	13.19	9.48	52.09
2	CoH 09263	178.00	90.93	67.78	181.1	2.52	0.89	17.07	16.04	93.97	11.41	6.93	53.52
3	CoLk 09202	141.85	75.74	52.96	203.3	2.48	0.881	17.67	16.41	92.83	11.61	6.12	51.31
4	CoPb 09181	167.22	62.04	70.74	224.1	2.95	1.486	18.93	18.04	95.27	12.91	9.11	57.34
5	CoS 09246	112.41	61.11	41.85	151.0	2.52	0.816	18.6	17.42	93.67	12.37	5.15	49.2
Standards													
1	CoJ 64	117.41	72.78	48.89	181.6	2.48	0.797	18.77	17.41	92.73	12.31	6.03	53.99
2	CoPt 84211	142.04	88.89	56.29	193.9	2.21	0.867	18.43	17.06	92.6	12.06	6.79	48.99
	CD (5%)	42.25	11.9	9.79	16.1	0.21	0.224	1.02	1.19	NS	0.98	1.09	4.85
	CV%	16.97	9.43	9.91	14.38	4.61	13.29	3.12	3.91	2.04	4.51	8.92	5.28

5. Initial Varietal Trial (Mid late)

The experiment was conducted with thirteen entries and three checks viz; Co 11026, Co 11027, CoH 11263, CoH 11264, CoLk 11204, CoLk 11205, CoLk 11206, CoPb 11181, CoPb 11182, CoPb 11213, CoPb 11214, CoS 11231 and CoS 11232 checks- CoS 767, CoS 8436 and CoPant 97222 in RBD with three replications. Test entry CoPb 11213 (122.59 t/ha & 15.67 t/ha) gave the highest cane and sugar yield followed by CoLk 11204 (116.30 t/ha & 14.11 t/ha), CoLk 11205 (109.26 t/ha & 13.67 t/ha) which was at par with the best check CoPant 97222 (121.10 t/ha & 14.77 t/ha) (Table 6).

Conclusion: CoPb 11213 and CoLk 11204, CoLk 11205 was found promising in cane and sugar yield.

6. Advanced Varietal Trial (Mid late) I Plant

The experiment was conducted with five entries and three checks viz; Co 10036, CoH 10262, CoPt 10221, CoPb 10181, CoPb 10182 and checks- CoS 767, CoS 8436 and CoPant 97222 in RBD with three replications. Test entry CoPb 10181 (129.63 t/ha & 15.97 t/ha) was significantly superior to the best check CoPant 97222 (109.23 t/ha & 13.37 t/ha) in cane yield and sugar yield (Table 7).

Conclusion: CoPb 10181 was found promising in cane and sugar yield.

7. Advance Varietal Trial (Mid late) II Plant

The experiment was conducted with five entries and three checks viz; Co 09022, CoH 09264, CoLk 09204, CoPb 09214, CoS 09232 checks- CoS 767, CoS 8436 and CoPant 97222 in RBD with three replications. Test entries CoH 09264 gave the highest cane and sugar yield (98.52 t/ha & 12.05 t/ha) followed by CoPb 09214 (94.45 t/ha & 11.40 t/ha) which was at par to the best check CoS 767 (87.41 t/ha & 10.29 t/ha) in cane and sugar yield (Table 8).

Conclusion: CoH 09264 and CoPb 09214 was found promising in cane and sugar yield.

8. Advanced Varietal Trial (Mid late) Ratoon

The experiment was conducted with five entries and three checks viz; Co 09022, CoH 09264, CoLk 09204, CoPb 09214, CoS 09232 checks- CoS 767, CoS 8436 and CoPant 97222 in RBD with three replications. Test entry CoPb 09214 gave the highest cane and sugar yield (93.70 t/ha & 9.98 t/ha) followed by CoH 09264 (71.85 t/ha & 7.83 t/ha) which was at par to the best check CoPant 97222 (86.67 t/ha & 9.45 t/ha) in cane and sugar yield (Table 9).

Conclusion: CoPb 09214 and CoH 09264 was found promising in cane and sugar yield.

Table 6. Initial Varietal Trial (Mid late) 2014-2015
Location – FARIDKOT (North West Zone)
Design: RBD, Replications: 3, Date of Planting: 20.02.2014, Plot Size: 6 rows X 6m

Sl.	Variety	Ger (%)	No. of shoots 000/ha	NMC 000/ha	Cane yield t/ha	Stalk length (cm)	Stalk dia. (cm)	Single Cane wt (Kg)	January				March				CCS (t/ha)	Ext. (%)
									Brix (%)	Sucr. (%)	Purity (%)	CCS (%)	Brix (%)	Sucr. (%)	Purity (%)	CCS (%)		
1	Co 11026	27.78	139.44	96.11	93.33	234.9	2.47	1.140	16.37	14.88	90.93	10.43	19.13	17.71	92.58	12.51	11.63	57.36
2	Co 11027	16.90	75.19	56.30	66.30	232.0	2.57	1.133	16.50	15.17	91.93	10.68	19.17	17.80	92.88	12.60	8.33	51.43
3	CoH 11263	16.09	97.22	69.07	86.67	188.1	2.62	1.117	16.93	15.37	90.73	10.76	19.03	17.77	93.38	12.60	10.89	53.79
4	CoH 11264	23.50	135.19	87.22	96.30	189.8	2.60	1.020	17.00	15.55	91.53	10.93	19.37	18.27	94.32	13.02	12.56	58.06
5	CoLk 11204	29.28	154.44	107.59	116.30	238.3	2.44	1.296	16.27	14.62	89.87	10.19	18.63	17.18	92.24	12.12	14.11	54.89
6	CoLk 11205	33.22	193.15	111.85	109.26	242.5	2.49	1.067	15.53	14.18	91.30	9.95	18.77	17.63	93.95	12.54	13.67	55.81
7	CoLk 11206	32.99	133.33	87.41	94.81	228.5	2.53	1.107	16.70	15.16	90.80	10.62	18.37	17.04	92.74	12.05	11.41	52.77
8	CoPb 11181	37.03	161.48	104.07	98.52	221.9	2.43	1.053	16.00	14.89	93.20	10.55	17.83	16.86	94.56	12.02	11.85	55.36
9	CoPb 11182	30.44	148.70	97.41	103.70	228.0	2.63	1.186	16.80	15.09	89.93	10.52	17.13	15.85	92.43	11.20	11.67	59.45
10	CoPb 11213	32.18	157.59	101.30	122.59	249.9	2.35	1.357	16.47	15.25	92.63	10.78	19.03	17.95	94.32	12.79	15.16	56.65
11	CoPb 11214	24.54	155.74	90.19	81.11	207.6	2.41	0.890	16.07	14.39	89.57	10.02	18.47	16.93	91.74	11.91	9.67	49.7
12	CoS 11231	22.80	132.04	82.22	90.37	216.7	2.72	1.297	17.33	15.69	90.50	10.97	19.10	17.54	91.84	12.35	11.19	57.27
13	CoS 11232	26.27	160.19	108.52	88.15	250.9	2.30	0.973	16.17	14.01	86.53	9.60	18.50	17.58	95.04	12.56	11.11	56.69
Standards																		
1	CoS 767	28.70	150.18	99.26	96.30	218.9	2.37	0.973	16.40	14.93	90.97	10.47	19.00	17.60	92.64	12.44	12.00	59.46
2	CoS 8436	27.43	134.29	90.37	91.11	189.8	2.80	1.057	16.77	15.19	90.63	10.63	19.00	17.46	91.90	12.30	11.19	56.08
3	CoPt 97222	31.48	165.56	112.96	121.10	229.5	2.70	1.283	16.60	15.11	91.00	10.59	18.53	17.22	92.95	12.19	14.77	59.17
	CD (5%)	3.19	20.58	18.84	13.06	28.6	0.27	0.225	NS	NS	NS	NS	0.81	0.82	NS	0.74	1.83	3.21
	CV %	6.95	8.61	12.04	8.06	7.7	6.39	12.05	3.88	4.78	3.24	5.75	2.6	2.83	2.68	3.63	9.14	3.44

Table 7. Advanced Varietal Trial (Mid late) I Plant 2014-2015
Location–FARIDKOT (North West Zone) Design: RBD, Replications: 3,
 Date of Planting: 15.02.2014, Plot Size: 8 rows X 6m

Sl.	Variety	Ger (%)	No. of shoots 000/ha	NMC 000/ha	Cane yield t/ha	Stalk length (cm)	Stalk dia. (cm)	Single Cane wt (Kg)	January				March				CCS (t/ha)	Ext. (%)
									Brix (%)	Sucr. (%)	Purity (%)	CCS (%)	Brix (%)	Sucr. (%)	Purity (%)	CCS (%)		
1	Co 10036	28.02	184.07	97.78	101.85	261.30	2.26	1.177	16.36	14.86	90.86	10.41	17.37	15.70	90.45	10.96	11.17	55.70
2	CoH 10262	33.33	171.67	102.41	122.59	272.23	2.46	1.397	16.73	15.10	90.26	10.55	18.37	16.91	92.05	11.91	14.60	56.69
3	CoPant 10221	36.52	221.29	129.63	101.48	262.23	2.41	1.000	16.53	14.91	90.15	10.41	17.03	15.76	92.54	11.13	11.29	55.53
4	CoPb 10181	33.51	203.89	119.63	129.63	233.00	2.53	1.396	17.33	16.06	92.66	11.35	18.57	17.25	94.69	12.31	15.97	60.00
5	CoPb 10182	37.41	186.85	113.33	116.67	290.00	2.51	1.340	16.70	15.43	92.37	10.89	18.43	17.24	93.51	12.23	14.28	62.42
Standards																		
1	CoS 767	32.80	175.00	97.04	88.15	246.67	2.56	1.057	17.43	15.88	91.18	11.14	18.17	16.62	91.49	11.68	10.31	57.70
2	CoS 8436	38.13	185.56	100	97.41	183.53	2.80	1.093	16.86	15.30	90.73	10.71	17.56	17.25	93.32	12.23	11.93	56.39
3	CoPant 97222	30.14	164.82	102.22	109.23	250.00	2.46	1.157	15.93	14.97	94.11	10.64	17.73	17.14	94.89	12.24	13.37	60.56
	CD (5%)	4.18	27.72	17.97	19.26	53.97	0.26	0.241	1.16	1.05	NS	0.85	0.77	0.55	NS	0.45	2.51	NS
	CV %	7.13	8.51	9.53	10.20	12.43	6.12	11.68	3.94	3.92	2.79	4.48	2.46	1.89	2.04	2.18	11.17	5.76

Table 8. Advanced Varietal Trial (Mid late) II Plant 2014-2015
Location–FARIDKOT (North West Zone) Design: RBD, Replications: 3,
 Date of Planting: 11.2.2014, Plot Size: 8 rows X 6m

Sl.	Variety	Ger (%)	No. of shoots 000/ha	NMC 000/ha	Cane yield t/ha	Stalk length (cm)	Stalk dia. (cm)	Single Cane wt (Kg)	January				March				CCS (t/ha)	Ext. (%)
									Brix (%)	Sucr. (%)	Purity (%)	CCS (%)	Brix (%)	Sucr. (%)	Purity (%)	CCS (%)		
1	Co 09022	30.67	151.67	94.63	87.78	212.22	2.43	0.927	16.23	14.98	92.34	10.58	18.17	16.91	93.1	11.98	10.52	56.83
2	CoH 09264	36.11	183.70	90.92	98.52	257.22	2.64	1.260	16.20	14.40	88.89	9.98	19.03	17.41	91.52	12.23	12.05	54.72
3	CoLk 09204	24.19	133.33	82.22	85.56	247.77	2.62	1.253	16.63	14.48	86.94	9.95	17.4	16.4	94.29	11.68	9.99	56.67
4	CoPb 09214	31.83	189.44	92.22	94.45	221.33	2.13	0.823	16.47	14.62	88.8	10.13	18.27	17.01	93.16	10.05	11.40	47.77
5	CoS 09232	31.94	178.89	80.56	82.56	223.22	2.57	1.240	17.57	15.78	89.8	10.99	18.57	16.96	91.35	11.91	9.84	51.92
Standards																		
1	CoS 767	30.56	142.41	87.96	87.41	204.56	2.61	1.036	17.73	15.86	89.44	11.03	18.47	16.78	90.86	11.76	10.29	57.04
2	CoS 8436	30.56	119.26	82.04	71.11	183.33	2.91	1.166	17.73	16.42	92.59	11.60	19.03	17.09	89.8	11.91	8.56	53.72
3	CoPt 97222	24.08	153.7	94.81	80.00	222.99	2.59	1.15	16.37	14.89	91.1	10.44	18.57	17.06	91.87	12.01	9.62	55.94
	CD (5%)	4.16	27.86	NS	12.35	37.06	0.32	0.227	1.09	1.29	NS	NS	0.71	NS	NS	NS	1.54	5.67
	CV %	7.92	10.16	11.12	8.21	9.55	7.16	11.71	3.69	4.85	3.33	5.94	2.18	2.38	1.68	2.82	8.57	5.96

Table 9. Advanced Varietal Trial (Mid late) Ratoon 2014-2015
Location–FARIDKOT (North West Zone) Design: RBD, Replications: 3
 Date of Ratooning: 14.02.2014, Plot Size: 8rows X 6m

Sl.	Variety	No. of shoots 000/ha	NMC 000/ha	Cane yield t/ha	Stalk length (cm)	Stalk dia. (cm)	Single Cane wt (Kg)	January (330 days)				CCS (t/ha)	Ext. (%)
								Brix (%)	Sucr. (%)	Purity (%)	CCS (%)		
1	Co 09022	183.89	88.33	72.22	233.70	2.43	0.998	18.17	16.86	92.81	11.92	7.76	55.00
2	CoH 09264	194.44	85.93	71.85	237.77	2.50	1.125	18.17	17.04	93.8	12.11	7.83	54.30
3	CoLk 09204	143.70	67.41	55.56	226.33	2.54	1.012	17.63	16.51	93.72	11.73	5.87	57.23
4	CoPb 09214	204.63	144.07	93.70	238.37	2.10	0.795	17.97	16.73	93.19	11.85	9.98	47.43
5	CoS 09232	144.82	69.81	48.15	171.67	2.57	0.939	18.27	17.00	93.08	12.04	5.21	58.07
Standards													
1	CoS 767	163.52	68.52	49.63	182.97	2.50	0.883	18.00	16.72	92.89	11.83	5.29	55.83
2	CoS 8436	120.37	85.18	57.04	149.57	2.62	0.826	18.30	16.72	91.35	11.74	6.04	52.53
3	CoPt 97222	155.93	95.74	86.67	202.00	2.62	1.019	18.13	17.04	93.98	12.12	9.45	60.60
	CD (5%)	26.08	21.30	16.63	33.07	0.26	NS	NS	NS	NS	NS	1.83	4.95
	CV %	9.08	13.67	13.78	9.29	5.95	5.29	2.54	2.15	2	2.52	14.15	5.29

