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**KERALA AGRICULTURAL UNIVERSITY**  
**Agricultural Research Station, Kallungal .P.O., Thiruvalla 689 102**

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No. SRS II/287/07

Dated: 13.06.2017

From,  
Professor and Head

To,  
Dr.S.K. Shukla  
Project Coordinator (Sugarcane)  
ICAR-IISR, Lucknow

Sir,  
Sub: - KAU-ARS- Thiruvalla- Annual report of AICRP on Sugarcane 2016-17 – crop improvement – forwarding –reg.

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I am forwarding herewith the soft copy of Annual report of AICRP on Sugarcane, Crop Improvement discipline, pertaining to this centre for the year 2016-17 for necessary action.

Yours faithfully,

Sd/-

Professor and Head

Encl.  
1. Report  
2. Replicated data of crop improvement

# KERALA AGRICULTURAL UNIVERSITY



## AICRP ON SUGARCANE

### ANNUAL REPORT CROP IMPROVEMENT 2016-2017

Agricultural Research Station, Kallunkal  
Thiruvalla, Kerala-689102

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**Agricultural Research Station**  
**All India Coordinated Research Project on Sugarcane**

**Annual Report 2016 – 2017**

**1. Initial Varietal Trial - Early**

Entries (8)	:	Co 13002, Co 13003, Co 13004, CoN 13071, CoN 13072, CoSnk 13101, CoSnk 13102 and MS 13081
Standards (3)	:	Co 85004, Co 94008 and CoC 671
Design	:	Randomized Block Design
Replications	:	Three
Plot size	:	Gross: 6m x 6r x 1.2 m Net : 5m x 4r x 1.2 m
Seed rate	:	12 buds per metre
Planting date	:	18/01/2016
Crop duration	:	10 months

**Results:**

**Top performing entries**

CCS (t/ha)	:	MS 13081	Co 13003	CoN 13072
Cane yield (t/ha)	:	MS 13081	Co 13003	CoN 13072
CCS % (10m)	:	Co 13003	Co 13002	CoSnk 13101
Sucrose % (10m)	:	Co 13003	Co 13002	CoSnk 13101
Brix % (10 m)	:	Co 13003	Co 13002	CoSnk 13101

**Sd/-**

**Signature of the Principal Investigator**

**Sd/-**

**Signature of the head of station**

## Peninsular Zone

### 1. Initial Varietal Trial (Early)

S. No.	Clone	CCS (t/ha)	Cane yield (t/ha)	CCS % (10m)	Sucrose % (10m)	Brix % (10 m)	Purity % (10m)	Pol % cane (10m)	Fibre % (10m)	Extracti on % (10m)	NMC at 10m ('000/ha)
1	Co 13002	7.78	56.76	13.71	19.64	21.77	89.47			59.93	57.87
2	Co 13003	8.74	63.52	13.76	19.72	21.90	89.30			63.45	68.43
3	Co 13004	6.83	54.17	12.59	18.01	19.93	89.56			63.74	43.89
4	CoN 13071	7.46	59.17	12.64	18.08	19.97	89.73			60.77	58.06
5	CoN 13072	7.87	61.76	12.74	18.25	20.23	89.39			62.08	57.50
6	CoSnk 13101	7.59	55.93	13.61	19.49	21.60	89.49			59.40	54.63
7	CoSnk 13102	6.33	50.56	12.55	17.95	19.83	89.67			65.64	41.39
8	MS 13081	9.97	75.74	13.19	18.90	20.97	89.39			63.34	59.91
Stds											
1	CoC 671	7.61	58.15	13.10	18.76	20.80	89.39			60.66	46.30
2	Co 94008	8.75	70.18	12.45	17.80	19.67	89.69			61.29	56.29
3	Co 85004	8.18	64.72	12.64	18.10	20.07	89.38			64.22	55.28
	SE	0.354	2.931	0.309	0.449	0.517	0.216			1.526	2.738
	CD	1.008	8.331	0.879	1.276	1.469	NS			4.337	7.784
	CV	7.752	8.326	4.120	4.180	4.341	0.417			4.247	8.702

S. No.	Clone	Stalk Length (cm)	Stalk Diameter (cm)	Single cane weight (kg)	CCS % (8 m)	Sucrose % (8 m)	Brix % (8 m)	Purity % (8 m)	No. of shoots ('000/ha) 240 days	No. of tillers ('000/ha) 120 days	Germination % (30 days)
1	Co 13002	186	2.75	1090	10.68	15.38	17.23	88.30	64.17	63.15	50.00
2	Co 13003	221	2.79	1233	10.62	15.29	17.17	88.16	76.67	68.80	60.59
3	Co 13004	225	2.74	1351	9.43	13.48	14.90	89.38	50.09	45.18	38.37
4	CoN 13071	214	2.78	1330	9.30	13.31	14.73	89.26	66.30	61.76	48.45
5	CoN 13072	207	2.71	1257	10.07	14.40	15.90	89.53	73.89	66.76	58.44
6	CoSnk 13101	211	2.69	1088	9.64	13.79	15.27	89.26	71.39	60.37	54.44
7	CoSnk 13102	211	3.07	1570	9.87	14.15	15.73	88.95	49.45	44.91	36.59
8	MS 13081	225	3.13	1618	9.90	14.16	15.67	89.38	66.67	60.28	50.44
Stds											
1	CoC 671	194	2.73	1289	10.50	15.08	16.83	88.66	58.15	55.37	42.52
2	Co 94008	214	2.78	1147	9.91	14.17	15.67	89.44	61.11	61.67	48.67
3	Co 85004	218	2.65	1230	9.47	13.54	14.97	89.40	63.42	62.41	56.00
	SE	6.058	0.107	75.291	0.296	0.422	0.468	0.268	2.993	2.669	2.301
	CD	17.220	NS	214.019	0.841	1.199	1.330	0.761	8.508	7.587	6.540
	CV	4.964	6.634	10.099	5.155	5.127	5.122	0.521	8.131	7.816	8.050

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**Annual Report 2016 – 2017**

**2. Advanced Varietal Trial ( Early) – I Plant**

Entries (5)	:	Co 11001, Co 11004, CoM 11081, CoM 11082 and CoM 11084
Standards (3)	:	Co 85004, Co 94008 and CoC 671
Design	:	Randomized Block Design
Replications	:	Three
Plot size	:	Gross: 6m x 8r x 1.2 m Net : 5m x 6r x 1.2 m
Seed rate	:	12 buds per metre
Planting date	:	08/01/2016
Crop duration	:	10 months

**Results:**

**Top performing entries**

CCS (t/ha)	:	Co 11004	Co 11001	CoM 11082
Cane yield (t/ha)	:	Co 11004	Co 11001	CoM 11084
CCS % (10m)	:	Co 11004	Co 11001	CoM 11084
Sucrose % (10m)	:	Co 11004	Co 11001	CoM 11084
Brix % (10 m)	:	Co 11004	Co 11001	CoM 11084

**Sd/-**

**Signature of the Principal Investigator**

**Sd/-**

**Signature of the head of station**

### 3. Advanced Varietal Trial (Early I Plant)

S. No.	Clone	CCS (t/ha)	Cane yield (t/ha)	CCS % (10m)	Sucrose % (10m)	Brix % (10 m)	Purity % (10m)	Pol % cane (10m)	Fibre % (10m)	Extraction % (10m)	NMC at 10m ('000/ha)
1	Co 11001	11.25	82.64	13.61	19.49	21.60	89.50			62.64	77.99
2	Co 11004	11.64	84.37	13.77	19.71	21.83	89.56			62.89	71.11
3	CoM 11081	8.36	64.24	13.01	18.60	20.57	89.67			62.34	64.03
4	CoM 11082	10.66	81.39	13.11	18.76	20.77	89.55			62.18	70.14
5	CoM 11084	11.02	82.57	13.39	19.19	21.33	89.20			63.28	71.25
Stds											
1	CoC 671	8.31	63.68	13.04	18.69	20.73	89.36			62.97	75.35
2	Co 94008	9.43	77.78	12.14	17.35	19.17	89.68			56.25	75.76
3	Co 85004	9.07	71.53	12.65	18.10	20.00	89.68			59.97	79.86
	SE	0.452	3.510	0.287	0.411	0.459	0.132			2.208	3.330
	CD	1.285	9.978	0.816	1.169	1.305	NS			NS	NS
	CV	7.854	7.997	3.800	3.803	3.833	0.255			6.130	7.882

S. No.	Clone	Stalk Length (cm)	Stalk Diameter (cm)	Single cane weight (kg)	CCS % (8 m)	Sucrose % (8 m)	Brix % (8 m)	Purity % (8 m)	No. of shoots ('000/ha) 240 days	No. of tillers ('000/ha) 120 days	Germination % (30 days)
1	Co 11001	241	2.44	1385	10.37	14.86	16.50	89.08	81.81	82.85	61.28
2	Co 11004	249	2.70	1575	10.34	14.84	16.53	88.83	69.23	71.94	48.78
3	CoM 11081	212	2.61	1388	10.10	14.48	16.07	89.13	67.99	71.59	51.83
4	CoM 11082	231	2.55	1317	10.39	14.93	16.67	88.62	82.08	85.41	59.67
5	CoM 11084	268	2.81	1573	9.87	14.16	15.73	88.99	80.00	82.29	55.50
Stds											
1	CoC 671	236	2.61	1470	10.30	14.71	16.23	89.64	80.42	80.97	56.50
2	Co 94008	243	2.70	1301	9.52	13.62	15.07	89.35	84.65	86.59	60.22
3	Co 85004	192	2.33	1049	10.04	14.33	15.80	89.69	86.67	90.35	71.06
	SE	9.779	0.122	76.404	0.223	0.332	0.399	0.264	3.681	3.608	2.269
	CD	27.797	NS	217.184	NS	NS	NS	NS	10.463	10.256	6.450
	CV	7.239	8.169	9.573	3.823	3.967	4.300	0.513	8.059	7.668	6.764



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**4. Advanced Varietal Trial ( Early) – II Plant**

- Entries (8) : Co 10004, Co 10005, Co 10006, Co 10024, Co 10026, Co 10027, CoT 10366 and CoT 10367
- Standards (3) : Co 85004, Co 94008 and CoC 671
- Design : Randomized Block Design
- Replications : Three
- Plot size : Gross: 6m x 8r x 1.2 m  
Net : 5m x 6r x 1.2 m
- Seed rate : 12 buds per metre
- Planting date : 05/02/2016
- Crop duration : 10 months

**Results:**

**Top performing entries**

CCS (t/ha)	:	Co 10004	Co 10005	Co 10006
Cane yield (t/ha)	:	Co 10024	CoT 10366	Co 10026
CCS % (10m)	:	CoT 10367	CoT 10367	Co 10026
Sucrose % (10m)	:	CoT 10367	Co 10027	Co 10004
Brix % (10 m)	:	CoT 10367	Co 10027	Co 10004

**Sd/-**

**Signature of the Principal Investigator**

**Sd/-**

**Signature of the head of station**

Advanced Varietal Trial (Early II Plant)

S. No.	Clone	CCS (t/ha)	Cane yield (t/ha)	CCS % (10m)	Sucrose % (10m)	Brix % (10 m)	Purity % (10m)	Pol % cane (10m)	Fibre % (10m)	Extraction % (10m)	NMC at 10m ('000/ha)
1	Co 10004	10.60	80.28	13.22	18.98	21.17	88.90			61.75	68.40
2	Co 10005	13.54	107.50	12.59	18.01	19.93	89.54			59.17	94.30
3	Co 10006	10.86	86.53	12.55	18.00	20.00	89.18			63.04	77.64
4	Co 10024	13.50	115.69	11.69	16.75	18.57	89.34			60.97	99.10
5	Co 10026	14.57	110.00	13.25	18.98	21.07	89.32			61.97	97.36
6	Co 10027	12.92	95.90	13.46	19.28	21.37	89.46			61.81	82.78
7	CoT 10366	13.36	111.25	12.01	17.20	19.07	89.37			60.24	94.51
8	CoT 10367	10.63	78.40	13.59	19.49	21.67	89.19			59.00	68.05
Stds											
1	CoC 671	11.73	91.04	12.86	18.39	20.33	89.67			61.47	78.40
2	Co 94008	11.86	95.35	12.45	17.80	19.67	89.69			58.76	83.96
3	Co 85004	12.48	90.62	13.75	19.70	21.87	89.36			59.66	89.24
	SE	0.59	4.349	0.273	0.381	0.404	0.265			3.157	4.388
	CD	1.67	12.364	0.777	1.084	1.148	NS			NS	12.474
	CV	8.25	7.799	3.681	3.585	3.425	0.513			4.833	8.954

S. No.	Clone	Stalk Length (cm)	Stalk Diameter (cm)	Single cane weight (kg)	CCS % (8 m)	Sucrose % (8 m)	Brix % (8 m)	Purity % (8 m)	No. of shoots ('000/ha) 240 days	No. of tillers ('000/ha) 120 days	Germination % (30 days)
1	Co 10004	246	2.68	1232	10.62	15.23	16.93	89.03	73.27	66.04	63.39
2	Co 10005	223	2.26	1190	10.62	15.23	16.93	89.03	97.36	92.64	62.78
3	Co 10006	216	2.58	1069	10.77	15.46	17.20	88.93	80.55	77.64	68.67
4	Co 10024	239	2.57	1048	9.69	13.86	15.30	89.49	103.33	99.30	70.44
5	Co 10026	223	2.55	1146	10.72	15.38	17.13	88.87	100.62	97.29	68.94
6	Co 10027	208	2.72	1317	10.86	15.54	17.20	89.40	84.93	80.69	80.28
7	CoT 10366	212	2.61	1159	9.46	13.55	15.03	89.09	100.21	96.18	64.95
8	CoT 10367	188	2.47	1017	10.73	15.38	17.07	89.15	71.11	67.92	66.78
Stds											
1	CoC 671	226	2.78	1212	9.88	14.17	15.77	88.87	81.11	76.60	75.05
2	Co 94008	222	2.49	1094	9.94	14.24	15.80	89.13	84.86	79.93	52.72
3	Co 85004	185	2.31	1048	11.05	15.83	17.57	89.18	94.17	90.97	97.89
	SE	6.863	0.079	47.818	0.307	0.445	0.512	0.352	4.145	3.679	3.380
	CD	19.510	0.224	135.926	0.873	1.266	1.455	NS	11.783	10.457	9.608
	CV	5.474	5.365	7.269	5.120	5.176	5.360	0.684	8.129	7.575	8.343

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**4. Advanced Varietal Trial ( Early) – Ratoon**

Entries (8) : Co 10004, Co 10005, Co 10006, Co 10024, Co 10026, Co 10027, CoT 10366 and CoT 10367

Standards (3) : Co 85004, Co 94008 and CoC 671

Design : Randomized Block Design

Replications : Three

Plot size : Gross: 6m x 8r x 1.2 m  
Net : 5m x 6r x 1.2 m

Ratooning date : After harvest of AVT – I Plant

Crop duration : 30/12/2016

**Results:**

**Top performing entries**

CCS (t/ha)	:	Co 10026	Co 10005	Co 10006
Cane yield (t/ha)	:	Co 10026	Co 10005	Co 10024
CCS % (10m)	:	CoT 10367	Co 10027	Co 10004
Sucrose % (10m)	:	CoT 10367	Co 10027	Co 10004
Brix % (10 m)	:	CoT 10367	Co 10027	Co 10004

**Sd/-**

**Signature of the Principal Investigator**

**Sd/-**

**Signature of the head of station**

5. Advanced Varietal Trial (Early - Ratoon)

S. No.	Clone	CCS (t/ha)	Cane yield (t/ha)	CCS % (9m)	Sucrose % (9m)	Brix % (9 m)	Purity % (9m)	Pol % cane (9m)	Fibre % (9m)	Extraction % (9m)	NMC at ('000/ha) (9m)
1	Co 10004	7.50	55.28	13.58	19.47	21.67	89.15			61.75	65.07
2	Co 10005	9.14	68.68	13.27	18.99	21.00	89.65			59.17	77.22
3	Co 10006	8.26	64.44	12.87	18.45	20.50	89.19			63.04	77.22
4	Co 10024	7.84	65.90	11.93	17.12	19.07	88.94			60.97	76.60
5	Co 10026	11.17	83.61	13.35	19.13	21.23	89.32			61.97	85.28
6	Co 10027	8.05	58.40	13.76	19.71	21.87	89.41			61.81	64.86
7	CoT 10366	7.24	58.75	12.32	17.65	19.57	89.38			60.24	69.10
8	CoT 10367	7.49	53.61	13.96	19.99	22.17	89.47			59.00	63.89
Stds											
1	CoC 671	8.63	66.74	12.96	18.54	20.50	89.65			63.03	76.32
2	Co 94008	8.55	67.15	12.76	18.24	20.17	89.66			58.76	68.96
3	Co 85004	8.67	61.32	14.13	20.22	22.37	89.68			59.66	66.94
	SE	0.497	3.538	0.269	0.381	0.421	0.227			1.709	4.016
	CD	1.412	10.056	0.764	1.084	1.196	NS			NS	11.416
	CV	10.229	9.576	3.533	3.502	3.485	0.440			4.865	9.668

S. No.	Clone	Stalk Length (m)	Stalk Diameter (cm)	Single cane weight (kg)	No. of tillers ('000/ha) 120 days	No. of tillers ('000/ha) 90 days
1	Co 10004	246	2.68	1532	68.75	76.87
2	Co 10005	223	2.26	1190	79.93	83.89
3	Co 10006	216	2.58	1369	79.44	81.39
4	Co 10024	239	2.57	1348	75.00	80.55
5	Co 10026	223	2.55	1446	85.83	92.71
6	Co 10027	208	2.72	1617	66.67	76.94
7	CoT 10366	212	2.61	1459	69.86	76.18
8	CoT 10367	188	2.47	1217	66.87	75.42
Stds						
1	CoC 671	219	2.77	1555	77.57	82.01
2	Co 94008	222	2.49	1294	73.61	77.43
3	Co 85004	185	2.31	1048	68.33	71.80
	SE	6.659	0.079	56.541	3.579	3.978
	CD	18.928	NS	160.723	10.173	NS
	CV	5.326	5.366	7.146	8.398	8.660

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**5. Initial Varietal Trial – Midlate**

- Entry (20) : Co 13005, Co 13006, Co 13008, Co 13009, Co 13011, Co 13013, Co 13014, Co 13016, Co 13018, Co 13020, CoM 13082 , CoN 13073 , CoN 13074, CoSnk 13103, CoSnk 13104 , CoSnk 13105 , CoSnk 13106, CoT 13366, PI 13131 and PI 13132
- Standards (2) : Co 86032 and Co 99004
- Design : Randomized Block Design
- Replications : Two
- Plot size : Gross: 6m x 6r x 1.2 m  
Net : 5m x 4r x 1.2 m
- Seed rate : 12 buds per metre
- Planting date : 16/01/2016
- Crop duration : 12 months

**Results:**

**Top performing entries**

CCS (t/ha)	:	Co 13016	Co 13008	Co 13014
Cane yield (t/ha)	:	Co 13006	PI 13132	Co 13013
CCS % (10m)	:	PI 13131	CoT 13366	Co 13016
Sucrose % (10m)	:	PI 13131	CoT 13366	Co 13016
Brix % (10 m)	:	PI 13131	CoT 13366	Co 13016

**Sd/-**

**Signature of the Principal Investigator**

**Sd/-**

**Signature of the head of station**

6. Initial Varietal Trial (Midlate)

S. No.	Clone	CCS (t/ha)	Cane yield (t/ha)	CCS % (12m)	Sucrose % (12m)	Brix % (12m)	Purity % (12m)	Pol % cane (12m)	Fibre % (12m)	Extraction % (12m)	NMC at 12m ('000/ha)
1	Co 13005	7.69	59.45	12.96	18.54	20.50	89.65			62.81	52.50
2	Co 13006	11.15	81.25	13.73	19.65	21.75	89.58			63.03	71.25
3	Co 13008	7.81	57.09	13.68	19.65	21.90	88.98			64.88	47.64
4	Co 13009	8.32	62.50	13.31	19.09	21.20	89.27			59.94	71.39
5	Co 13011	4.91	38.89	12.65	18.09	20.00	89.64			60.58	47.50
6	Co 13013	9.50	75.00	12.65	18.10	20.00	89.67			62.74	64.31
7	Co 13014	9.36	67.64	13.84	19.86	22.10	89.14			59.83	66.67
8	Co 13016	2.90	20.42	14.18	20.30	22.50	89.51			59.85	24.72
9	Co 13018	8.57	65.00	13.19	18.87	20.85	89.70			63.30	57.36
10	Co 13020	6.45	47.78	13.50	19.31	21.35	89.69			55.40	48.75
11	CoM 13082	7.06	56.39	12.50	17.88	19.75	89.69			62.41	52.92
12	CoN 13073	5.94	45.70	12.96	18.54	20.50	89.65			62.74	43.20
13	CoN 13074	6.61	47.08	14.02	20.08	22.25	89.52			56.79	39.17
14	CoSnk 13103	6.96	53.75	13.02	18.63	20.60	89.66			62.01	49.86
15	CoSnk 13104	4.05	32.50	12.47	17.88	19.85	89.25			62.01	29.73
16	CoSnk 13105	6.12	49.45	12.34	17.65	19.50	89.68			63.15	53.20
17	CoSnk 13106	5.69	41.25	13.78	19.74	21.90	89.40			62.81	56.67
18	CoT 13366	10.48	73.48	14.24	20.42	22.70	89.24			63.77	62.78
19	PI 13131	5.25	35.84	14.66	20.97	23.20	89.69			58.23	32.64
20	PI 13132	10.62	80.97	13.11	18.76	20.75	89.63			62.90	71.95
Stds											
1	Co 86032	10.30	76.39	13.47	19.31	21.45	89.27			62.02	61.11
2	Co 99004	8.75	66.67	13.11	18.76	20.75	89.63			63.06	70.83
	SE	0.481	3.242	0.298	0.432	0.497	0.189			1.993	3.186
	CD	1.368	9.216	0.847	1.229	1.412	NS			NS	9.058
	CV	9.100	8.171	3.159	3.203	3.321	0.298			4.579	8.429



S. No.	Clone	Stalk Length (cm)	Stalk Diameter (cm)	Single cane weight (kg)	CCS % (10 m)	Sucrose % (10 m)	Brix % (10 m)	Purity % (10 m)	No. of shoots (*000/ha) 240 days	No. of tillers (*000/ha) 120 days	Germination % (30 days)
1	Co 13005	207	3.21	1288	13.15	15.37	17.25	88.18	57.78	51.39	49.22
2	Co 13006	250	2.98	1392	13.12	15.16	16.85	89.02	75.84	67.50	46.23
3	Co 13008	226	2.71	1261	13.10	15.27	17.05	88.59	50.97	42.08	48.45
4	Co 13009	222	3.12	1311	12.94	14.95	16.60	89.08	73.61	67.92	61.78
5	Co 13011	199	2.92	1134	12.59	14.61	16.10	89.71	52.22	47.78	42.23
6	Co 13013	219	3.12	1292	11.94	14.11	15.75	88.61	68.75	63.89	49.89
7	Co 13014	204	2.49	1019	13.56	15.73	17.60	88.44	72.78	65.00	55.89
8	Co 13016	154	2.77	800	14.11	16.52	18.35	89.13	28.47	29.72	29.67
9	Co 13018	211	3.04	1230	11.89	13.78	15.25	89.27	64.72	61.25	48.34
10	Co 13020	193	2.64	1008	12.77	14.93	16.60	88.97	53.61	49.59	42.33
11	CoM 13082	169	3.18	1127	11.75	13.67	15.10	89.43	56.11	55.00	44.67
12	CoN 13073	194	2.76	1119	13.05	15.05	16.75	88.93	47.92	44.17	45.89
13	CoN 13074	210	2.87	1115	13.14	15.37	17.30	87.93	44.31	35.14	45.45
14	CoSnk 13103	217	3.01	1414	12.30	14.11	15.75	88.61	54.58	49.03	46.56
15	CoSnk 13104	191	3.60	1553	12.47	14.34	16.00	88.66	35.28	32.64	35.00
16	CoSnk 13105	198	2.87	1312	13.28	15.50	17.35	88.39	59.17	53.34	50.67
17	CoSnk 13106	186	2.86	987	13.19	15.48	17.25	88.83	62.50	57.78	49.34
18	CoT 13366	197	2.46	820	12.58	14.81	16.50	88.79	68.75	65.97	65.34
19	PI 13131	176	2.74	889	13.12	15.27	17.10	88.34	36.39	36.81	42.89
20	PI 13132	188	2.97	1075	13.83	16.18	18.00	88.95	77.78	72.50	65.89
Stds											
1	Co 86032	209	3.01	1117	12.66	14.82	16.50	88.87	66.53	64.72	64.78
2	Co 99004	203	2.97	1365	12.23	14.26	15.75	89.48	75.42	68.47	62.00
	SE	8.390	0.096	49.893	0.668	0.521	0.638	0.492	3.046	3.128	2.415
	CD	23.849	0.273	141.824	NS	NS	NS	NS	8.658	8.891	6.864
	CV	5.908	4.642	6.058	7.351	4.927	5.415	0.783	7.383	8.236	6.877

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**6. Advanced Varietal Trial (Midlate) – I Plant**

Entries (6)	:	Co 11005, Co 11007, Co 11012, Co 11019, CoM 11085 and CoM 11086
Standards (2)	:	Co 86032 and Co 99004
Design	:	Randomized Block Design
Replications	:	Three
Plot size	:	Gross : 6m x 8r x 1.2 m Net : 5m x 6r x 1.2 m
Seed rate	:	12 buds per metre
Planting date	:	15/01/2016
Crop duration	:	12 months

**Results:**

**Top performing entries**

CCS (t/ha)	:	CoM 11086	Co 11012	CoM 11085
Cane yield (t/ha)	:	CoM 11086	Co 11012	CoM 11085
CCS % (10m)	:	CoM 11085	Co 11007	Co 11019
Sucrose % (10m)	:	CoM 11085	Co 11007	Co 11019
Brix % (10 m)	:	CoM 11085	Co 11007	Co 11019

**Sd/-**

**Signature of the Principal Investigator**

**Sd/-**

**Signature of the head of station**

6. Advanced Varietal Trial (Midlate I Plant)

S. No.	Clone	CCS (t/ha)	Cane yield (t/ha)	CCS % (12m)	Sucrose % (12m)	Brix % (12m)	Purity % (12m)	Pol % cane (12m)	Fibre % (12m)	Extracti on % (12m)	NMC at 12m ('000/ha)
1	Co 11005	8.94	82.71	10.83	15.60	17.50	88.23			61.58	85.07
2	Co 11007	8.80	75.21	11.70	16.75	18.57	89.35			56.78	65.90
3	Co 11012	11.75	107.43	10.94	15.75	17.67	88.27			59.48	94.02
4	Co 11019	10.41	90.35	11.53	16.52	18.33	89.23			61.88	79.51
5	CoM 11085	11.18	94.65	11.84	16.97	18.83	89.23			61.78	84.65
6	CoM 11086	12.76	112.01	11.42	16.36	18.17	89.16			62.51	103.05
Stds											
1	Co 86032	13.89	106.32	13.07	18.69	20.67	89.66			62.70	94.65
2	Co 99004	12.38	110.28	11.24	16.14	18.00	88.75			63.71	97.36
	SE	0.391	4.160	0.268	0.363	0.354	0.321			2.159	3.226
	CD	1.113	11.824	0.762	1.030	1.006	NS			NS	9.169
	CV	6.018	7.400	4.012	3.783	3.319	0.625			6.102	6.347

S. No.	Clone	Stalk Length (m)	Stalk Diameter (cm)	Single cane weight (kg)	CCS % (10 m)	Sucrose % (10 m)	Brix % (10 m)	Purity % (10 m)	No. of shoots ('000/ha) 240 days	No. of tillers ('000/ha) 120 days	Germination % (30 days)
1	Co 11005	215	2.58	1262	8.64	12.38	13.73	88.98	90.76	94.58	88.78
2	Co 11007	232	2.58	1329	9.20	13.16	14.57	89.24	68.19	71.04	51.72
3	Co 11012	209	2.71	1352	8.70	12.46	13.80	89.11	96.25	103.75	68.33
4	Co 11019	205	2.69	1363	9.24	13.23	14.67	89.13	85.41	86.32	55.83
5	CoM 11085	213	2.97	1428	8.91	12.76	14.17	88.96	85.97	88.82	67.22
6	CoM 11086	234	2.54	1314	10.00	14.31	15.83	89.38	103.40	107.22	67.89
Stds											
1	Co 86032	195	2.79	1289	9.88	14.16	15.73	89.00	96.11	99.58	70.05
2	Co 99004	214	2.85	1609	9.13	13.08	14.50	89.08	104.51	107.08	80.83
	SE	9.386	0.104	64.053	0.222	0.308	0.323	0.207	4.281	4.621	2.862
	CD	NS	NS	182.075	0.630	0.877	0.917	NS	12.169	13.136	8.134
	CV	7.579	6.629	8.108	4.165	4.048	3.820	0.402	8.119	8.443	7.201

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**7. Advanced Varietal Trial (Midlate) – II Plant**

Entries (11)	:	Co 09009, Co 10015, Co 10017, Co 10031, Co 10033, CoM 10083, CoT 10368, CoT 10369, CoVC 10061, PI 10131 and PI 10132.
Standards (2)	:	Co 86032 and Co 99004
Design	:	Randomized Block Design
Replications	:	Two
Plot size	:	Gross : 6m x 8r x 1.2 m Net : 5m x 6r x 1.2 m
Seed rate	:	12 buds per metre
Planting date	:	06/01/2016
Crop duration	:	12 months

**Results:**

**Top performing entries**

CCS (t/ha)	:	Co 09009	CoT 10369	CoVC 10061
Cane yield (t/ha)	:	CoVC 10061	Co 10015	Co 09009
CCS % (10m)	:	CoT 10369	Co 09009	PI 10131
Sucrose % (10m)	:	CoT 10369	Co 09009	PI 10131
Brix % (10 m)	:	CoT 10369	Co 09009	PI 10131

**Sd/-**

**Signature of the Principal Investigator**

**Sd/-**

**Signature of the head of station**

7. Advanced Varietal Trial (Midlate II Plant)

S. No.	Clone	CCS (t/ha)	Cane yield (t/ha)	CCS % (12m)	Sucrose % (12m)	Brix % (12m)	Purity % (12m)	Pol % cane (12m)	Fibre % (12m)	Extracti on % (12m)	NMC at 12m ('000/ha)
1	Co 09009	11.73	83.65	14.02	20.08	22.25	89.52			59.50	97.92
2	Co 10015	10.92	85.21	12.81	18.32	20.25	89.67			61.97	106.04
3	Co 10017	6.65	48.23	13.78	19.75	21.90	89.41			60.69	64.48
4	Co 10031	9.48	69.06	13.73	19.65	21.75	89.58			61.98	58.23
5	Co 10033	10.44	81.67	12.78	18.32	20.35	89.23			61.55	75.94
6	CoM 10083	8.68	67.50	12.85	18.42	20.45	89.29			61.23	59.59
7	CoT 10368	6.24	47.60	13.12	18.77	20.75	89.66			62.49	65.63
8	CoT 10369	11.36	80.10	14.18	20.30	22.50	89.51			59.41	81.88
9	CoVC 10061	11.30	87.19	12.96	18.54	20.50	89.65			59.77	96.77
10	PI 10131	7.44	53.75	13.84	19.86	22.10	89.14			59.99	59.27
11	PI 10132	7.60	56.04	13.57	19.42	21.50	89.58			60.65	51.15
Stds											
1	Co 86032	9.10	70.00	13.00	18.65	20.75	89.08			60.50	80.73
2	Co 99004	12.19	98.75	12.34	17.65	19.50	89.68			60.96	105.94
	SE	0.667	4.401	0.274	0.384	0.411	0.243			1.747	4.837
	CD	1.897	12.511	0.778	1.091	1.170	NS			NS	13.750
	CV	9.960	8.713	2.907	2.849	2.755	0.384			4.0614	8.862

S. No.	Clone	Stalk Length (m)	Stalk Diameter (cm)	Single cane weight (kg)	CCS % (10 m)	Sucrose % (10 m)	Brix % (10 m)	Purity % (10 m)	No. of shoots ('000/ha) 240 days	No. of tillers ('000/ha) 120 days	Germination % (30 days)
1	Co 09009	221	2.23	1255	11.90	17.06	18.93	89.25	98.54	90.21	62.75
2	Co 10015	225	2.41	1184	11.11	15.95	17.79	88.79	109.17	112.71	79.75
3	Co 10017	226	2.74	1147	11.30	16.18	17.93	89.31	70.00	81.35	53.33
4	Co 10031	251	2.84	1505	11.05	16.28	19.15	84.28	68.02	103.65	60.75
5	Co 10033	213	2.93	1274	10.75	15.39	17.03	89.39	80.32	91.56	62.59
6	CoM 10083	253	2.60	1207	10.17	14.59	16.25	88.81	67.50	93.96	64.67
7	CoT 10368	238	2.68	1480	11.26	16.18	18.06	88.73	71.46	87.71	60.42
8	CoT 10369	228	3.00	1364	10.70	15.37	17.17	88.61	88.86	104.69	73.75
9	CoVC 10061	195	2.75	1010	10.43	14.93	16.53	89.36	100.73	108.02	73.50
10	PI 10131	219	2.93	1274	11.05	15.83	17.57	89.20	75.00	85.94	59.75
11	PI 10132	239	2.45	1415	11.52	16.53	18.40	88.94	60.94	88.02	59.92
Stds											
1	Co 86032	241	2.88	1453	11.21	16.18	18.22	87.93	91.04	102.82	66.50
2	Co 99004	215	2.54	1185	10.41	14.93	16.62	88.90	106.15	88.34	59.59
	SE	10.700	0.146	80.883	0.399	0.517	0.534	1.281	4.258	5.076	3.976
	CD	NS	NS	229.915	NS	NS	1.517	NS	12.102	14.428	11.302
	CV	6.704	7.680	8.878	5.137	4.629	4.274	2.045	7.196	7.532	8.731

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**8. Advanced Varietal Trial (Midlate) – Ratoon**

Entries (11)	:	Co 09009, Co 10015, Co 10017, Co 10031, Co 10033, CoM 10083, CoT 10368, CoT 10369, CoVC 10061, PI 10131 and PI 10132.
Standards (2)	:	Co 86032 and Co 99004
Design	:	Randomized Block Design
Replications	:	Two
Plot size	:	Gross : 6m x 8r x 1.2 m Net : 5m x 6r x 1.2 m
Ratooning date	:	05/01/2016
Crop duration	:	11 months

**Results:**

**Top performing entries**

CCS (t/ha)	:	Co 10017	Co 09009	CoVC 10061
Cane yield (t/ha)	:	Co 10017	Co 09009	CoVC 10061
CCS % (10m)	:	Co 10031	CoT 10369	Co 10015
Sucrose % (10m)	:	Co 10031	CoT 10369	PI 10131
Brix % (10 m)	:	Co 10031	CoT 10369	PI 10131

**Sd/-**

**Signature of the Principal Investigator**

**Sd/-**

**Signature of the head of station**



8. Advanced Varietal Trial (Midlate - Ratoon)

S. No.	Clone	CCS (t/ha)	Cane yield (t/ha)	CCS % (11m)	Sucrose % (11m)	Brix % (11 m)	Purity % (11m)	Pol % cane (11m)	Fibre % (11m)	Extraction % (11m)	NMC at ('000/ha) (11m)
1	Co 09009	8.22	64.06	12.87	18.42	20.40	89.51			61.45	69.38
2	Co 10015	5.80	43.85	13.24	18.98	21.10	89.19			65.53	49.38
3	Co 10017	8.27	66.35	12.46	17.88	19.90	89.02			56.55	66.15
4	Co 10031	5.52	39.90	13.84	19.84	22.05	89.25			59.73	41.77
5	Co 10033	3.52	30.94	11.39	16.30	18.05	89.41			62.08	29.69
6	CoM 10083	6.22	50.10	12.43	17.88	20.00	88.58			60.75	55.21
7	CoT 10368	4.54	36.04	12.61	18.10	20.15	89.04			59.68	37.71
8	CoT 10369	5.58	40.73	13.59	19.52	21.75	89.04			62.03	43.75
9	CoVC 10061	7.30	60.21	12.14	17.43	19.40	88.99			59.86	65.10
10	PI 10131	6.46	48.96	13.20	18.99	21.25	88.60			64.30	52.82
11	PI 10132	5.57	42.19	13.21	18.98	21.20	88.77			59.95	44.38
Stds											
1	Co 86032	7.58	56.67	13.38	19.21	21.40	88.99			64.80	60.31
2	Co 99004	9.02	70.42	12.80	18.32	20.25	89.65			60.81	74.27
	SE	0.514	3.622	0.362	0.535	0.639	0.300			2.685	3.486
	CD	1.461	10.295	1.028	1.520	1.815	NS			NS	9.910
	CV	11.302	10.237	3.979	4.099	4.399	0.476			6.191	9.291

S. No.	Clone	Stalk Length (m)	Stalk Diameter (cm)	Single cane weight (kg)	No. of tillers ('000/ha) 120 days	No. of tillers ('000/ha) 90 days
1	Co 09009	234	3.19	1267	75.42	79.38
2	Co 10015	219	2.97	1350	51.15	56.04
3	Co 10017	218	3.04	1133	72.29	74.90
4	Co 10031	152	3.00	1323	46.35	46.98
5	Co 10033	268	3.02	1202	33.44	34.90
6	CoM 10083	179	2.56	1223	60.94	67.30
7	CoT 10368	229	2.98	1320	38.96	41.04
8	CoT 10369	228	3.00	1300	46.88	45.94
9	CoVC 10061	214	2.93	1460	68.65	71.36
10	PI 10131	194	3.13	1170	54.27	59.27
11	PI 10132	232	2.83	1530	46.15	49.48
Stds						
1	Co 86032	218	2.77	1250	63.65	64.27
2	Co 99004	240	2.96	1520	78.86	81.67
	SE	14.132	0.075	78.761	3.957	3.555
	CD	40.173	0.213	NS	11.247	10.105
	CV	9.209	3.588	8.494	9.870	8.461

**Fluff 2016**

Date of receipt: 03/03/2017

Date of sowing: 27/03/2017

No. of Station Crosses: 17

No. of PCs: 7

No. of GCs: 9

Sl. No.	STATION CROSSES		Fluff weight(g)	No. of seedlings	No. of seedling per gram
1	ISH 100 X CoC 8001		19	0	0
2	Co 2000-10 X Co 1148		14.5	318	21.93
3	CoV 89101 X Co 775		32.5	192	5.91
4	CoTl 1153 X Co 1148		24	0	0.00
5	Co 98010 X Co 97015		8.5	238	28.00
6	CoN 05072 X CoC 8001		27	22	0.81
7	CoC 90063 X Co 8340		11.5	81	7.04
8	Co 94007 self		36.5	0	0.00
9	Co 6304 X CoA 7602		12.5	121	9.68
10	Co Or 03152 X Co 97015		38	76	2.00
11	Co 2000-10 X CoA 7802		13.5	147	10.89
12	Co 92007 X Co 775		15	125	8.33
13	Co 98006 X CoT 8201		48	206	4.29
14	Co 88025 X Co 775		13	120	9.23
15	Ms 68/47 X CoT 8201		27	207	7.67
16	Co 2000-10 X Co 775		19	54	2.84
17	CoC 671 X Co 88013		33.5	234	6.99
	<b>POLY CROSSES</b>				
	Female	Males			
1	CoV 89101	Co 775	8.5	290	34.12
2	CoA 7602	Co 99006	9	0	0.00
3	Co 2000-10	Co 86011	6	48	8.00
4	ISH 100	ISH 69	9	65	7.22
5	86 V 46	Co 94008	2	44	22.00
6	Co 85002	CoT 8201	1.5	16	10.67
7	Co 8371	CoV 92102	9.5	196	20.63
		Co 93009			
	<b>General Collections</b>				
1	CoTl 1153		27	212	7.85
2	Bo 91		44.5	610	13.71
3	Co 0238		38	82	2.16
4	CoM 9220		17	161	9.47
5	CoN 05071		19.5	0	0.00
6	C0 98008		7.5	75	10.00

7	CoV 89101	25	0	0.00
8	Co 88025	4	0	0.00
9	C 79218	4	1	0.25
	<b>Grand total</b>	625	3941	

<b>Details of clones developed under fluff exchange programme.</b>								
Sl.No.	Year sown	Crosses	PC / GC	No. of seedlings obtained initially	Seedlings transplanted	C1	CII	CIII
1	2016	17	16	3941				
2	2015	19	33	10757	6841			
3	2014	31	31	7112	2639	121		
4	2013	25	30	11290	5685	84	48	
5	2012	32	31	6262	4832	145	103	37

<b>Meteorological data during the crop period (January 2016 - December 2016)</b>				
2016	Max Temp (0°C)	Mini Temp (0°C)	Total Rain (mm)	No of rainy days
January	33.1	22.4	0	0
February	33.5	23.6	75.2	2
March	33.9	24.8	103	7
April	34.3	29.3	8	4
May	33.4	27.3	337.5	17
June	30.5	24.6	520	28
July	30.3	24.3	400.4	22
August	31.3	24.5	165.4	20
September	29.8	24.1	20.62	8
October	29.8	25.1	66.5	7
November	31.5	24.1	13.5	7
December	31.8	23.6	34	2
Total/ average	31.93	24.81	1744.12	124