

**UNIVERSITY OF AGRICULTURAL SCIENCES
DHARWAD**



AGRICULTURAL RESEARCH STATION SANKESHWAR

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

PLANT BREEDING EXPERIMENTAL

DATA 2015-16

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Meteorological data for the year 2015 at ARS, Sankeshwar

Month	Rainy days	Rainfall (mm)	Average rainfall in 31 years (mm)	Occurrence of pest and diseases
January	00	00	1.14	Thrips 2%
February	00	00	1.08	Thrips 3% Root grub 3% ESB 14%
March	02	31.4	9.59	Thrips 5% Root grub 5% ESB 16% Smut 5%
April	02	48.0	56.1	ESB-20%, Smut 5-6% Root grub 16%
May	07	71.0	63.21	ESB 20%, Smut 6-7% Root grub 18%
June	13	191.6	149.2	SWA 1 grade Rust 10-12 % Root grub 20%
July	13	47.0	148.9	SWA 1 grade-2, Rust 10-15 %, Root grub 25%
August	11	39.8	132.08	SWA 1-2 grade, Rust 15%, Root grub 25-30%
September	04	46.6	125.1	SWA 1-2 grade, White fly 5%, Root grub 25-30%
October	03	47.0	127.5	SWA1-2 grade, White fly 3%
November	01	11.2	31.52	SWA 1-2 grade,
December	00	00	5.27	SWA 2-3 grade,
Total	56	533.6	850.69	

Rainfall received during 2015 was (533.6) 317.09 mm deficit (37%) compared to the average rainfall of 31 years (850.69mm). Though sugarcane is irrigated crop the rainfall during March (31.4), April (48.0) May (71.0) and June (191.6) favored the sugarcane growth. While during July to October insufficient rainfall affected grand growth phase leading to moderate cane productivity. The lower rainfall during flower induction period (July- August) delayed flowering with lower intensity.

YEARLY RESEARCH PLAN FOR THE YEAR 2015-16

1. Project No. : a) D. R. No. 112
b) HOD. No. Bot.
2. Department. : Genetics and Plant Breeding
3. Project Title. : Varietal Improvement in Sugarcane
4. Experiment Title. : Initial Varietal Trial - Early
5. Project Leader. : Dr. S. B. Patil,
Professor and Head
ARS, Sankeshwar.
6. Location : ARS, Sankeshwar.
7. Experiment. : New
8. Year of start. : 2015-16
9. Likely year of completion. : 2018-19
10. Experimental details.

a) Varieties:

1	Co 12001		Standards
2	Co 12003	1	CoC 671
3	Co 12006	2	Co 94008
4	Co 12007	3	Co 85004
5	Co 12008		
6	CoM 12081		
7	CoM 12082		
8	CoM 12083		
9	CoN 12071		
10	CoN 12072		
11	CoT 12366		
12	CoT 12367		

- b) Design. : R. B. D.
- c) Replication : Two
- d) Plot size. : 7.2 (6 rows) x 6.0 m.
- e) Spacing. : 120 cm.
- f) Seed rate. : 12 eye buds/m.
- g) Fertilizers. : 250:75:188 NPK Kg/ha.
- h) Date of Planting : 09.01.2015

1. Initial Varietal Trial (Early)

SL NO	Varieties	CCS (t/HA)	Cane yield (t/ha)	CCS % (10 month)	Sucrose % (10 m)	Brix % (10 m)	Purity % (10 m)	Pol % cane (10m)	Fib re % (10 m)	JE %	NMC at 10 m (000/ha)
1	Co 12001	13.93	149.61	9.32	14.32	18.18	78.92	10.85	14.22	49.6	76.6
2	Co 12003	11.95	101.68	11.75	17.79	22.04	80.78	13.31	15.16	54.1	80.2
3	Co 12006	11.47	93.78	12.20	17.88	20.79	86.00	13.04	17.04	55.8	78.4
4	Co 12007	12.13	98.82	12.27	18.09	21.29	84.94	13.49	15.44	53	80.2
5	Co 12008	13.87	107.40	12.82	19.05	22.79	83.65	14.46	14.14	52.5	75.5
6	CoM 12081	17.32	147.38	11.69	17.31	20.54	84.38	12.97	15.06	61.5	107
7	CoM 12082	16.76	165.41	10.09	15.17	18.54	81.84	11.43	14.66	53.1	90.9
8	CoM 12083	14.18	123.70	11.41	16.68	19.29	86.50	12.76	13.50	55.7	72.4
9	CoN 12071	15.72	140.84	11.17	16.44	19.29	85.25	12.77	12.32	60.1	78.2
10	CoN 12072	13.87	135.53	10.22	15.37	18.79	81.78	11.54	14.92	54.8	74.2
11	CoT 12366	12.32	118.24	10.41	15.42	18.29	84.31	11.59	14.84	53.5	64.3
12	CoT 12367	12.59	107.87	11.78	17.32	20.29	85.41	13.06	14.60	51.9	68.3
Stds											
1	CoC 671	15.12	123.65	12.21	17.89	20.79	86.13	13.63	13.80	54	70.5
2	Co 94008	13.93	120.30	11.58	17.20	20.54	83.84	13.03	14.20	58.1	73.6
3	Co 85004	13.22	107.07	12.39	18.21	21.29	85.57	13.85	13.92	53.2	90.6
	S.Em.	1.47	11.18	0.42	0.45	0.36	1.85	0.35	0.19	2.55	2.82
	CD 5%	4.46	33.92	1.26	1.35	1.08	5.62	1.05	0.59	7.72	8.57
	CV %	14.98	12.88	5.14	3.73	2.51	3.12	3.82	1.89	6.58	5.08

Twelve entries and three standards were evaluated for cane and sugar yield parameters, wherein the only entry CoM 12082 (165.4 t/ha) recorded significantly superior cane yield over best standard CoC 671 (123.60 t/ha) followed by Co 12001 (149.6 t/ha). None of the entries found superior for CCS yield However, CoM 12081 (17.32 t/ha), CoM 12082 (16.76 t/ha) and CoN 12071 (15.72 t/ha) were numerically superior.

SL NO	Varieties	stalk length (m)	stalk diameter (cm)	single cane weight (kg)	CCS % (8 m)	Sucrose % (8m)	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 12001	2.33	3.11	1.96	5.85	9.62	13.61	70.37	80.27	86.05	58.79
2	Co 12003	1.69	2.95	1.27	9.07	13.55	16.36	82.72	82.24	88.70	65.72
3	Co 12006	1.92	2.47	1.20	8.33	12.54	15.36	81.61	89.28	94.59	46.78
4	Co 12007	2.20	2.71	1.23	10.09	14.75	17.06	86.36	90.21	94.94	70.80
5	Co 12008	1.85	3.07	1.42	9.66	14.26	16.81	84.78	78.89	85.35	52.21
6	CoM 12081	2.42	2.57	1.38	8.19	12.39	15.31	80.92	110.53	119.77	53.36
7	CoM 12082	2.79	2.81	1.83	6.85	10.73	14.11	75.98	91.48	95.63	59.71
8	CoM 12083	2.59	2.84	1.70	5.29	8.91	13.06	68.09	73.11	77.96	41.00
9	CoN 12071	2.15	3.16	1.80	7.28	11.20	14.26	78.19	81.89	86.39	58.79
10	CoN 12072	2.09	3.20	1.83	7.85	11.61	13.76	84.03	81.66	88.36	57.40
11	CoT 12366	2.42	3.06	1.84	6.47	10.15	13.36	75.96	67.80	71.49	39.73
12	CoT 12367	1.79	2.96	1.59	9.09	13.46	15.96	84.20	80.97	72.65	60.18
Stds											
1	CoC 671	2.12	3.09	1.75	10.22	14.77	16.71	88.42	74.38	73.92	42.85
2	Co 94008	2.07	3.03	1.63	7.22	11.18	14.41	77.01	78.89	82.81	61.22
3	Co 85004	1.99	2.72	1.18	8.23	12.19	14.46	84.11	90.90	98.29	56.13
	S.Em.	0.14	0.10	0.14	0.96	1.12	0.71	4.61	3.78	2.85	3.64
	CD 5%	0.41	0.31	0.42	2.92	3.41	2.16	13.98	11.46	8.66	11.03
	CV %	8.96	5.02	12.47	17.08	13.14	6.74	8.13	6.40	4.60	9.35

YEARLY RESEARCH PLAN FOR THE YEAR 2015-16

1. Project No. : a) D. R. No. 112
b) HOD. No. Bot.
2. Department. : Genetics and Plant Breeding
3. Project Title. : Varietal Improvement in Sugarcane
4. Experiment Title. : Advanced Varietal Trial – Early I plant
5. Project Leader. : Dr. S. B. Patil,
Professor and Head
ARS, Sankeshwar.
6. Location : ARS, Sankeshwar.
7. Experiment. : New
8. Year of start. : 2014-15
9. Likely year of completion. : 2016-17
10. Experimental details.

a) Varieties:

1	Co 10004	Standards	
2	Co 10005	1	CoC 671
3	Co 10006	2	Co 94008
4	Co 10024	3	Co 85004
5	Co 10026		
6	Co 10027		
7	CoT 10366		
8	CoT 10367		

- b) Design. : R. B. D.
- c) Replication : Three
- d) Plot size. : 7.2 (6 rows) x 6.0 m.
- e) Spacing. : 120 cm.
- f) Seed rate. : 12 eye buds/m.
- g) Fertilizers. : 250:75:188 NPK Kg/ha.
- h) Date of Planting : 04.01.2015

2. Advanced Varietal Trial (Early 1 plant)

SL NO	Varieties	CCS (t/HA)	Cane yield (t/ha)	CCS % (10 month)	Sucrose % (10 m)	Brix % (10 m)	Purity % (10 m)	pol % cane (10m)	fibre % (10 m)	JE%	NMC at 10 m (000/ha)
1	Co 10004	9.33	78.52	11.87	17.22	19.61	87.82	13.16	13.57	56.88	44.11
2	Co 10005	11.10	89.88	12.38	17.95	20.44	87.82	13.20	16.47	55.68	73.53
3	Co 10006	5.86	53.40	10.96	16.13	18.94	85.18	12.51	12.43	55.81	51.66
4	Co 10024	10.84	86.70	12.52	18.05	20.28	89.02	13.89	13.06	55.10	55.98
5	Co 10026	12.49	98.31	12.71	18.23	20.28	89.90	14.07	12.84	60.92	64.40
6	Co 10027	8.37	72.23	11.58	16.84	19.28	87.44	13.16	11.84	54.28	54.65
7	CoT 10366	8.65	78.00	11.18	16.40	19.11	85.76	12.46	14.09	47.09	67.86
8	CoT 10367	13.09	101.39	12.92	18.62	20.94	88.91	14.42	12.58	56.14	62.90
stds											
1	CoC 671	7.53	57.18	13.15	18.81	20.78	90.52	14.36	13.63	52.18	47.01
2	Co 94008	11.25	86.94	12.88	18.25	19.78	92.29	13.79	14.43	56.59	54.42
3	Co 85004	8.00	61.11	13.08	18.78	20.94	89.67	13.94	15.80	54.27	62.52
	S.Em.	0.57	3.99	0.29	0.33	0.29	1.26	0.29	0.63	0.85	4.07
	CD 5%	1.68	11.79	0.86	0.98	0.85	3.72	0.86	1.85	2.51	12.02
	CV %	10.21	8.81	4.10	3.25	2.49	2.47	3.73	7.94	2.68	12.14

Among eight test entries, the clone CoT 10367 recorded significantly superior cane (101.4 t/ha) and CCS yield (13.10 t/ha) over best standard Co 94008. None of the test entries recorded better juice qualities compared to best standard CoC 671.

SL NO	Varieties	stalk length (cm)	stalk diameter (cm)	single cane weight (kg)	CCS % (8 m)	Sucrose % (8m)	Brix % (8m)	Purity % (8 m)	No of shoots (000/ha) 240 days	No of tillers (000/ha) 120 days	Germination % (30 days)
1	Co 10004	208.67	3.12	1.77	8.18	12.50	15.75	79.41	49.74	49.28	41.50
2	Co 10005	199.00	2.45	1.22	7.77	12.21	16.11	76.00	85.32	83.31	44.35
3	Co 10006	159.00	2.79	1.03	8.01	12.40	15.95	77.75	54.98	55.29	30.34
4	Co 10024	216.67	3.02	1.57	7.97	12.25	15.61	78.52	67.22	70.92	42.89
5	Co 10026	226.67	2.82	1.53	8.51	13.09	16.67	78.54	75.46	69.15	50.13
6	Co 10027	145.33	3.25	1.32	7.58	11.93	15.77	75.58	62.06	61.37	39.35
7	CoT 10366	153.00	3.03	1.16	8.55	12.90	15.87	81.30	64.06	60.98	44.12
8	CoT 10367	192.00	3.11	1.62	8.55	12.97	16.11	80.47	64.76	70.76	60.98
stds											
1	CoC 671	154.67	3.10	1.23	10.34	15.21	17.84	85.24	59.98	59.06	41.04
2	Co 94008	183.00	3.18	1.59	6.33	10.41	14.74	70.43	68.30	67.14	56.06
3	Co 85004	183.67	2.74	0.98	8.41	12.80	16.01	79.92	85.86	80.85	56.52
	S.Em.	6.71	0.09	0.07	0.49	0.51	0.34	2.83	2.10	2.30	2.44
	CD 5%	19.81	0.26	0.22	1.44	1.51	1.00	8.34	6.20	6.79	7.19
	CV %	6.33	5.05	9.37	10.33	7.05	3.66	6.24	5.43	6.02	9.16

YEARLY RESEARCH PLAN FOR THE YEAR 2015-16

1. Project No. : a) D. R. No. 112
b) HOD. No. Bot.
2. Department. : Genetics and Plant Breeding
3. Project Title. : Varietal Improvement in Sugarcane
4. Experiment Title. : Advanced Varietal Trial – Early II plant
5. Project Leader. : Dr. S. B. Patil,
Professor and Head
ARS, Sankeshwar.
6. Location : ARS, Sankeshwar.
7. Experiment. : New
8. Year of start. : 2014-15
9. Likely year of completion. : 2015-16
10. Experimental details.

a) Varieties:

1	Co 09004	Standards	
2	Co 09007	1	CoC 671
3	CoN 09072	2	Co 94008
		3	Co 85004

- b) Design. : R. B. D.
- c) Replication : Three
- d) Plot size. : 7.2 (6 rows) x 6.0 m.
- e) Spacing. : 120 cm.
- f) Seed rate. : 12 eye buds/m.
- g) Fertilizers. : 250:75:188 NPK Kg/ha.
- h) Date of Planting : 10.01.2015

3. Advanced Varietal Trial (Early II Plant)

SL NO	Varieties	CCS (t/HA)	Cane yield (t/ha)	CCS % (10 month)	Sucrose % (10 m)	Brix % (10 m)	Purity % (10 m)	pol % cane (10m)	fib re % (10 m)	JE %	NMC at 10 m (000/ha)
1	Co 09004	14.90	119.43	12.46	18.12	20.78	87.26	13.75	14.17	55.39	73.07
2	Co 09007	14.24	118.71	12.02	17.31	19.44	89.06	13.17	13.97	53.34	69.84
3	CoN 09072	9.63	93.83	10.24	15.29	18.44	82.85	11.96	11.75	53.77	81.70
stds											
1	CoC 671	12.02	96.42	12.44	18.15	20.94	86.68	13.98	13.03	53.6	60.4
2	Co 94008	12.85	119.41	10.77	16.10	19.44	82.89	12.02	15.28	55.7	76.9
3	Co 85004	11.55	102.40	11.33	16.98	20.61	82.31	12.82	14.44	52.8	85.6
	S.Em.	1.00	7.81	0.45	0.51	0.44	1.94	0.41	1.07	1.61	2.88
	CD 5%	3.08	24.05	1.39	1.58	1.34	5.98	1.26	3.29	4.96	8.86
	CV %	13.17	11.92	6.73	5.20	3.77	3.94	5.43	13.78	5.16	6.64

SL NO	Varieties	stalk length (m)	stalk diameter (cm)	single cane weight (kg)	CCS % (8 m)	Sucrose % (8m)	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 09004	2.44	2.71	1.63	9.92	14.57	17.00	85.36	73.15	73.15	48.74
2	Co 09007	2.50	2.66	1.70	8.68	12.94	15.57	83.15	76.38	76.38	61.45
3	CoN 09072	2.10	2.36	1.15	6.96	11.14	15.17	73.45	87.16	87.16	34.34
stds											
1	CoC 671	2.02	3.03	1.60	8.72	13.12	16.07	81.59	67.07	67.07	40.19
2	Co 94008	2.15	2.87	1.56	8.03	12.22	15.27	79.85	80.77	80.77	56.44
3	Co 85004	2.25	2.50	1.20	9.23	13.68	16.27	83.21	94.56	94.56	53.36
	S.Em.	0.09	0.08	0.07	0.99	1.13	0.65	4.36	2.66	3.87	4.09
	CD 5%	0.28	0.25	0.22	3.06	3.47	1.99	13.44	8.19	11.93	12.60
	CV %	7.12	5.15	8.19	19.93	15.03	7.00	9.32	5.78	7.43	14.20

The entry Co 09004 recorded numerically superior CCS and Cane yield over best standard Co 94008 followed by Co 09007.

The entry Co 09004 also recorded better juice qualities compared to best standard CoC 671.

YEARLY RESEARCH PLAN FOR THE YEAR 2015-16

1. Project No. : a) D. R. No. 112
b) HOD. No. Bot.
2. Department. : Genetics and Plant Breeding
3. Project Title. : Varietal Improvement in Sugarcane
4. Experiment Title. : Advanced Varietal Trial – Early Ratoon
5. Project Leader. : Dr. S. B. Patil,
Professor and Head
ARS, Sankeshwar.
6. Location : ARS, Sankeshwar.
7. Experiment. : New
8. Year of start. : 2014-15
9. Likely year of completion. : 2015-16
10. Experimental details.

a) Varieties:

1	Co 09004	Standards	
2	Co 09007	1	CoC 671
3	CoN 09072	2	Co 94008
		3	Co 85004

- b) Design. : R. B. D.
- c) Replication : Three
- d) Plot size. : 7.2 (6 rows) x 6.0 m.
- e) Spacing. : 120 cm.
- f) Seed rate. : 12 eye buds/m.
- g) Fertilizers. : 250:75:188 NPK Kg/ha.
- h) Date of Ratooning : 10.03.2015

4. Advanced varietal Trial (Early-Ratoon)

SL NO	Varieties	CCS (t/HA)	Cane yield (t/ha)	CCS % (9 month)	Sucrose % (9 m)	Brix % (9 m)	Purity % (9 m)	Pol % cane (9m)	fib re % (9 m)	JE %	NMC at 9 m (000/ha)
1	Co 09004	14.72	91.33	16.09	22.94	25.18	91.09			53.11	80.78
2	Co 09007	14.85	94.00	15.80	22.04	23.01	95.83			54.60	77.03
3	CoN 09072	12.99	88.33	14.73	20.74	22.17	93.50			54.24	86.38
	stds										
1	CoC 671	11.67	69.33	16.82	23.46	24.51	95.80			51.71	95.54
2	Co 94008	13.36	84.67	15.77	21.91	22.67	96.59			56.10	81.48
3	Co 85004	10.61	66.67	15.96	22.43	23.85	94.12			53.38	73.90
	S.Em.	0.99	6.05	0.36	0.33	0.29	2.08			1.59	7.32
	CD 5%	3.12	19.07	1.15	1.04	0.93	6.56			5.01	23.06
	CV %	13.15	12.72	3.99	2.56	2.16	3.82			5.11	15.36

SL NO	Varieties	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 09004	2.03	2.74	1.14		
2	Co 09007	1.95	2.88	1.22		
3	CoN 09072	1.93	2.66	1.02		
	stds					
1	CoC 671	1.60	2.73	0.95		
2	Co 94008	1.57	3.00	1.05		
3	Co 85004	1.65	2.39	0.70		
	S.Em.	0.05	0.11	0.05		
	CD 5%	0.15	0.35	0.17		
	CV %	4.54	7.13	9.20		

The entries viz., Co 09004 and Co 09007 found numerically superior cane and CCS yield over best standard Co 94008. None of the test entries recorded better juice qualities over best quality standard CoC 671.

YEARLY RESEARCH PLAN FOR THE YEAR 2015-16

1. Project No. : a) D. R. No. 112
b) HOD. No. Bot.
2. Department. : Genetics and Plant Breeding
3. Project Title. : Varietal Improvement in Sugarcane
4. Experiment Title. : Initial Varietal Trial – Midlate
5. Project Leader. : Dr. S. B. Patil,
Professor and Head
ARS, Sankeshwar.
6. Location : ARS, Sankeshwar.
7. Experiment. : New
8. Year of start. : 2015-16
9. Likely year of completion. : 2018-19
10. Experimental details.

a) Varieties:

1	Co 12009	9	CoM 12084	Standards	
2	Co 12012	10	CoM 12085	1	Co 86032
3	Co 12014	11	Co M12086	2	Co 99004
4	Co 12016	12	CoN 12073		
5	Co 12017	13	CoN 12074		
6	Co 12019	14	CoT 12368		
7	Co 12021	15	VSI 12121		
8	Co 12024				

- b) Design. : R. B. D.
- c) Replication : Three
- d) Plot size. : 7.2 (6 rows) x 6.0 m.
- e) Spacing. : 120 cm.
- f) Seed rate. : 12 eye buds/m.
- g) Fertilizers. : 250:75:188 NPK Kg/ha.
- h) Date of Planting : 07.01.2015

5. Initial Varietal Trial (Midlate)

SL NO	Varieties	CCS (t/HA)	Cane yield (t/ha)	CCS % (12 month)	Sucrose % (12 m)	Brix % (12 m)	Purity % (12 m)	Pol % cane (12m)	Fib re % (12 m)	JE %	NMC at 12 m (000/ha)
1	Co 12009	29.11	173.40	16.81	23.62	25.11	94.07	18.10	13.38	46.15	85.59
2	Co 12012	23.41	156.91	14.91	21.41	23.86	89.81	16.16	14.48	47.07	107.88
3	Co 12014	17.58	120.37	14.59	20.95	23.36	89.69	15.90	14.10	44.59	74.27
4	Co 12016	21.36	151.84	13.97	20.06	22.36	89.69	15.18	14.24	45.85	70.46
5	Co 12017	22.82	171.67	12.98	18.73	21.11	88.56	14.21	14.15	50.88	74.38
6	Co 12019	11.01	74.86	14.71	21.07	23.36	90.21	16.09	13.64	48.60	73.69
7	Co 12021	24.18	160.00	15.10	21.52	23.61	91.14	16.57	12.98	51.11	79.46
8	Co 12024	20.79	134.25	15.49	21.91	23.61	92.83	16.61	14.18	46.05	85.70
9	CoM 12084	18.63	128.88	14.45	20.46	22.11	92.55	15.47	14.38	37.57	70.57
10	CoM 12085	25.53	174.77	14.48	20.63	22.61	91.20	15.47	15.00	52.25	76.46
11	Co M12086	22.17	147.61	15.01	21.51	23.86	90.13	16.17	14.80	46.58	84.43
12	CoN 12073	19.10	154.38	12.40	18.02	20.61	87.40	13.84	13.20	49.35	85.93
13	CoN 12074	12.09	97.18	12.45	18.07	20.61	87.70	13.70	14.20	42.86	46.55
14	CoT 12368	16.18	117.71	13.67	19.62	21.86	89.75	14.87	14.20	47.96	74.50
15	VSI 12121	26.03	173.48	14.95	21.31	23.36	91.23	16.11	14.40	50.25	86.86
stds											
1	Co 86032	20.32	136.99	14.84	21.19	23.36	90.72	16.02	14.40	48.55	90.55
2	Co 99004	20.21	129.19	15.64	22.19	24.11	92.04	16.86	14.00	50.30	81.43
	S.Em.	2.33	12.26	0.49	0.64	0.65	1.20	0.48	0.40	2.80	5.04
	CD 5%	6.98	36.76	1.46	1.91	1.95	3.60	1.44	1.21	8.40	15.10
	CV %	15.98	12.27	4.76	4.36	4.01	1.88	4.33	4.04	8.36	8.98

Among 15 test entries the clone Co 12009 found significantly superior for both sugar yield and juice qualities with better cane yield (173.4 t/ha) compared to best standard Co 86032. Another entry Co 12085 (174.8 t/ha) recorded significantly superior cane yield over best standard Co 86032 (137.0 t/ha) followed by VSI 12121 (173 t/ha) and Co 12009 (173 t/ha).

SL NO	Varieties	stalk length (m)	stalk diameter (cm)	single cane weight (kg)	CCS % (10 m)	Sucrose % (10m)	Brix % (10 m)	Purity % (10 m)	No of shoots (000/ha) 240 days	No of tillers (000/ha) 120 days	Germi nation % (30 days)
1	Co 12009	3.40	2.77	2.03	13.02	18.72	20.93	89.38	73.69	80.27	51.05
2	Co 12012	2.83	2.52	1.47	10.14	15.47	19.43	79.63	128.67	129.59	56.36
3	Co 12014	2.51	2.79	1.62	10.25	15.38	18.71	82.17	88.47	97.48	46.43
4	Co 12016	2.74	2.90	2.15	9.88	15.02	18.71	80.26	77.73	88.47	51.98
5	Co 12017	3.04	2.92	2.28	8.36	13.38	18.18	73.45	74.84	83.39	39.04
6	Co 12019	1.58	2.85	1.02	12.49	18.06	20.43	88.35	88.24	97.94	50.24
7	Co 12021	2.76	3.04	2.02	10.96	16.20	19.18	84.51	81.31	88.36	43.08
8	Co 12024	2.03	3.03	1.57	11.05	16.23	18.93	85.85	79.00	85.59	44.93
9	CoM 12084	2.28	3.11	1.83	10.77	16.16	19.68	82.11	71.15	76.11	52.90
10	CoM 12085	2.70	3.12	2.28	11.01	16.40	19.68	83.36	67.45	75.77	64.33
11	Co M12086	2.57	2.84	1.77	10.75	15.86	18.68	84.79	79.70	88.13	39.96
12	CoN 12073	2.70	3.02	1.81	9.53	13.95	16.18	86.07	75.31	80.04	33.84
13	CoN 12074	2.55	2.87	2.09	10.10	15.08	18.18	83.31	44.93	47.24	28.18
14	CoT 12368	2.27	2.96	1.57	10.68	15.86	18.93	83.69	65.26	75.77	51.28
15	VSI 12121	2.75	2.87	2.00	11.54	16.91	19.68	85.92	76.11	80.73	49.32
stds											
	Co 86032	2.51	2.57	1.51	11.20	16.44	19.18	85.69	83.85	97.48	46.78
	Co 99004	2.55	2.65	1.59	12.52	18.24	20.93	87.06	59.83	66.41	40.43
	S.Em.	0.11	0.09	0.11	0.73	0.86	0.75	2.99	4.06	4.62	3.47
	CD 5%	0.33	0.27	0.32	2.19	2.58	2.26	8.97	12.18	13.84	10.40
	CV %	6.03	4.49	8.35	9.52	7.56	5.56	5.05	7.42	7.71	10.55

YEARLY RESEARCH PLAN FOR THE YEAR 2015-16

1. Project No. : a) D. R. No. 112
b) HOD. No. Bot.
2. Department. : Genetics and Plant Breeding
3. Project Title. : Varietal Improvement in Sugarcane
4. Experiment Title. : Advanced Varietal Trial – Midlate I P lant
5. Project Leader. : Dr. S. B. Patil,
Professor and Head
ARS, Sankeshwar.
6. Location : ARS, Sankeshwar.
7. Experiment. : New
8. Year of start. : 2014-15
9. Likely year of completion. : 2016-17
10. Experimental details.

a) Varieties:

1	Co 9009	7	CoT 10368	Standards	
2	Co 10015	8	CoT 10369	1	Co 86032
3	Filler	9	CoVC 10061	2	Co 99004
4	Co 10031	10	PI 10131		
5	Co 10033	11	PI 10132		
6	CoM 10083				

- b) Design. : R. B. D.
- c) Replication : Three
- d) Plot size. : 7.2 (6 rows) x 6.0 m.
- e) Spacing. : 120 cm.
- f) Seed rate. : 12 eye buds/m.
- g) Fertilizers. : 250:75:188 NPK Kg/ha.
- h) Date of Planting : 05.01.2015

6. Advanced Varietal Trial (Midlate 1 plant)

SL NO	Varieties	CCS (t/HA)	Cane yield (t/ha)	ccs % (12 month)	sucrose % (12 m)	Brix % (12 m)	purity % (12 m)	pol % cane (12m)	fib re % (12 m)	JE%	NMC at 12 m (000/ha)
1	Co 9009	10.78	75.12	14.30	20.34	22.24	91.42	15.43	14.16	51.43	65.22
2	Co 10015	2.76	22.34	12.31	18.02	20.91	86.26	13.41	15.57	46.51	34.11
3	Filler										
4	Co 10031	10.13	74.96	13.51	19.47	21.91	88.92	15.02	12.87	49.66	46.43
5	Co 10033	18.00	132.50	13.45	19.13	20.91	91.55	14.59	13.73	48.76	52.28
6	CoM 10083	12.80	85.70	14.90	20.98	22.41	93.63	16.22	12.67	44.66	60.91
7	CoT 10368	10.77	83.86	12.86	18.51	20.74	89.28	13.94	14.69	48.98	59.03
8	CoT 10369	15.07	101.90	14.77	20.95	22.74	92.14	15.79	14.64	50.06	58.14
9	CoVC 10061	12.18	84.47	14.29	20.53	22.91	89.64	15.55	14.23	43.65	67.14
10	PI 10131	12.68	77.99	16.26	23.02	24.88	92.54	17.34	14.68	48.54	47.20
11	PI 10132	11.91	76.00	15.62	22.25	24.38	91.24	16.57	15.51	47.35	39.83
stds											
1	Co 86032	18.15	118.56	15.29	21.69	23.55	92.12	16.54	13.73	47.68	73.38
2	Co 99004	12.31	81.64	15.03	21.38	23.38	91.46	16.16	14.45	48.73	47.89
	S.Em.	0.98	8.62	0.34	0.33	0.23	1.82	0.26	0.36	2.14	5.07
	CD 5%	2.85	25.16	1.00	0.95	0.66	5.30	0.75	1.05	6.25	14.79
	CV %	13.53	16.92	4.11	2.75	1.74	3.45	2.86	4.36	7.73	15.58

Out of 10 test entries the only entry Co 10033 (132.5 t/ha) recorded numerically superior cane yield over best standard Co 86032 (118.5 t/ha). The clones viz., PI 10131 and PI 10132 recorded better juice qualities compared to both standards.

SL NO	Varieties	stalk length (m)	stalk diameter (cm)	single cane weight (kg)	ccs % (10 m)	sucrose % (10m)	Brix % (10m)	purity % (10m)	No of shoots (000/ha) 240 days	No of tillers (000/ha) 120 days	Germination % (30 days)
1	Co 9009	1.75	2.84	1.16	11.48	17.06	20.40	83.63	74.38	76.23	66.07
2	Co 10015	1.64	2.36	0.67	12.45	18.34	21.56	84.98	44.12	44.81	28.49
3	Filler										
4	Co 10031	1.71	3.35	1.62	12.01	17.62	20.56	85.72	57.44	52.75	39.66
5	Co 10033	2.71	3.57	2.52	10.57	15.79	19.06	82.81	61.45	68.61	41.20
6	CoM 10083	1.98	2.94	1.40	12.27	17.93	20.73	86.48	64.37	69.30	69.22
7	CoT 10368	2.17	2.89	1.41	10.53	15.79	19.23	82.11	64.91	64.45	37.81
8	CoT 10369	2.04	3.17	1.77	11.88	17.59	20.90	84.12	71.38	75.00	53.05
9	CoVC 10061	1.79	3.02	1.25	10.12	15.59	19.90	78.38	76.31	80.08	36.96
10	PI 10131	1.80	3.07	1.68	13.28	19.40	22.42	86.55	60.91	62.83	48.82
11	PI 10132	2.44	3.07	1.91	13.25	19.33	22.25	86.89	43.43	44.51	28.41
stds											
1	Co 86032	2.56	2.75	1.62	11.31	16.71	19.75	84.61	89.86	94.79	47.59
2	Co 99004	2.43	2.97	1.70	12.51	18.36	21.42	85.65	55.52	53.52	36.50
	S.Em.	0.07	0.09	0.07	0.37	0.44	0.35	1.28	2.33	2.72	2.77
	CD 5%	0.20	0.25	0.19	1.09	1.29	1.02	3.73	6.79	7.94	8.10
	CV %	5.62	4.92	7.35	5.50	4.40	2.93	2.63	6.28	7.17	10.77

Details of fluff Germination During 2015

2015- Fluff to be sown during end of June 2016 (stored under -18°C)

Year	Crosses	PC/GC	Self's	No. of seedlings	Present stage					
					C1	C2	C3	C4	C5	C6
2007	37	14	-	13024	697	98	54	08	08 (Proposed for IVT)	06 (Accepted for IVT) CoSnk 13103 released for Northern Karnataka
2008	30	44	-	41131	41131	1500	120	59	06 (Proposed for IVT)	03 (accepted for IVT)
2009	816	1297	--	2113	614	145	66	11	10 (Proposed for IVT)	04 (accepted for IVT)
2010		22	-	1936	314	62	38	17	10 (to be proposed for IVT)	-
2011	32	23	-	1262	800	86	11	10	To be submitted for RR testing	-
2012	41	26	-	3213	28	10	-	-	-	-
2013	28	25	-	3012	527	-	-	-	-	-
2014	24	8	-	4011	Under Evaluation					