

ALL INDIA CO-ORDINATED RESEARCH PROJECT ON SUGARCANE

CROP IMPROVEMENT

Technical programme for the year 2019-20

East Coast Zone

B II - ZONAL VARIETAL TRIALS

Centres (5): Anakapalle, Cuddalore, Nayagarh, Nellikuppam and Vuyyuru

1. Initial Varietal Trial (Early)

Entries (4)	:	CoA 17321, CoA 17322, CoA 17323, CoC 17336
Standards (3)	:	CoA 92081, CoC 01061, CoOr03151
Design	:	Randomized Block Design
Replications	:	Three
Plot size	:	Gross : 6.0 m x 6r x 0.90 m Net : 5.0 m x 4r x 0.90 m
Seed rate	:	12 buds per meter
Date of planting	:	1 st fortnight of January
Crop duration	:	10 months
Data to be recorded	:	As per Annexure - I

2. Advanced Varietal Trial (Early) I Plant

Entries (4)	:	CoA 16321, CoC 16336, CoC 16337, CoV 16356
Standards (3)	:	CoA 92081, CoC 01061 and CoOr 03151
Design	:	Randomized Block Design
Replications	:	Three
Plot size	:	Gross : 6.0 m x 8r x 0.9 m Net : 5.0 m x 6r x 0.9 m
Seed rate	:	12 buds per meter
Date of planting	:	1 st fortnight of January
Crop duration	:	10 months
Data to be recorded	:	As per Annexure - I

3. Advanced Varietal Trial (Early) – II Plant

Entries (3)	:	CoC 15336,CoC 15338 and CoV15356
Standards (3)	:	CoA 92081, CoC 01061, CoOr 03151
Design	:	Randomized Block Design
Replications	:	Four
Plot size	:	Gross : 6.0 m x 8r x 0.9 m Net : 5.0 m x 6r x 0.9 m
Seed rate	:	12 buds per meter
Date of planting	:	1st fortnight of January
Crop duration	:	10 months
Data to be recorded	:	As per Annexure - I

4. Advanced Varietal Trial (Early) – Ratoon

Entries (3)	:	CoC 15336,CoC 15338 and CoV15356
Standards (3)	:	CoA 92081, CoC 01061, CoOr 03151
Design	:	Randomized Block Design
Replications	:	Four
Plot size	:	Gross : 6.0 m x 8r x 0.9 m Net : 5.0 m x 6r x 0.9m
Date of ratooning	:	After harvest of the crop
Crop duration	:	9 months
Data to be recorded	:	As per Annexure - II

5. Initial Varietal Trial (Midlate)

Entries (5)	:	CoA 17324, CoC 17337, CoOr 17346, PI 17376, PI 17377
Standards (3)	:	CoV 92102, Co 86249, Co 06030
Design	:	Randomized Block Design
Replications	:	Three
Plot size	:	Gross : 6.0 m x 6r x 0.9 m Net : 5.0 m x 4r x 0.9 m
Seed rate	:	12 buds per meter
Date of planting	:	2 nd fortnight of November to end of December
Crop Duration	:	12 months
Data to be recorded	:	As per Annexure - III

6. Advanced Varietal Trial (Midlate) – I plant

Entries (5)	:	CoC 15339, CoOr 15346, CoC 16338, CoC 16339, CoV 16357
Standards (3)	:	CoV 92102, Co 86249, Co 06030
Design	:	Randomized Block Design
Replications	:	Three
Plot size	:	Gross : 6.0 m x 8r x 0.9 m Net : 5.0 m x 6r x 0.9 m
Seed rate	:	12 buds per meter
Date of planting	:	2 nd fortnight of November to end of December
Crop duration	:	12 months
Data to be recorded	:	As per Annexure - III

Seed multiplication of new entries

The following entries were accepted during the biennial workshop of AICRP(S) held at UAS, Bengaluru in 2018. The concerned breeders are requested to supply seed material to all the centres of the zone for one-year multiplication. Breeders of all the centres of the zone may please ensure that seed material of new entries is received well in time for planting.

Early (3) :CoV 18436, CoV 18357, CoOr 18346

Midlate (1):CoV 18358

B.III - Evaluation and identification of climate resilient ISH and IGH genetic stocks

Seed multiplication of commercial clones: Drought tolerance

Participating centre: Anakapalle

The following 12 commercial clones are under multiplication at ICAR - Sugarcane Breeding Institute, Coimbatore and ICAR-Indian Institute of Sugarcane Research, Lucknow during the year 2018-19. The participating centre should depute their staff to lift the material to ICAR-SBI, Coimbatore while Lucknow centre will dispatch 4 clones (CoLk 14203, CoLk 15204, CoLk 15206, CoLk 15207) to Anakapalle centre. These 12 clones will be multiplied for one year during the year 2019-20 at the participating centre.

S.No	Clone	S.No	Clone
1	Co 09022	7	Co 15026
2	Co 12029	8	Co 15027
3	Co 13034	9	CoLk 14203
4	Co 14034	10	CoLk 15204
5	Co 15023	11	CoLk 15206
6	Co 15024	12	CoLk 15207

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**Characters on which data to be recorded in Initial Varietal Trial (IVT)
and Advance Varietal Trial (AVT) in Early(Plant crop)**

1. Germination % at 30 days for tropics and 45 days for sub-tropics
2. No. of tillers (thousand/ha) at 120 days
3. No. of shoots (thousand/ha) at 240 days
4. Cane yield (t/ha) after 10 months at harvest
5. Number of millable canes (thousand/ha) after 10 months at harvest
6. Stalk length (cm) after 10 months at harvest
7. Stalk diameter (cm) after 10 months at harvest
8. Single cane weight (kg) after 10 months at harvest
9. Brix % at 8 and 10 months
10. Sucrose % in juice at 8 and 10 months
11. Purity % at 8 and 10 months
12. CCS % at 8 and 10 months
13. CCS t/ha after 10 months at harvest
14. Extraction % after 10 months at harvest
15. Fibre % after 10 months at harvest
16. Pol % cane after 10 months at harvest
17. Jaggery quality after 10 months at harvest (if facility available)
18. Jaggery yield (t/ha) after 10 months at harvest (if facility available)

Morphological characters

1. Lodging : Erect, lodging, snapping, heavy lodging
2. Leaf sheath spines : Absent (A), present (P), medium (M), heavy (H)
3. Flowering : Absent (A), present (P)
4. Canopy structure and colour : Green, light green, yellowish green, dark green
5. Bud size : Big (B), small (S), medium (M)
6. Pithiness : Absent (A), present (P), less (L), heavy (H)
7. Internode splits : Absent (A), present (P), low (L), moderate (M), heavy (H)
8. Natural incidence of diseases and pests

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Characters on which data to be recorded in AVT (Early – Ratoon)

- Note :**
1. No gap filling should be done.
 2. Ratooning operation should be completed within 15 days after harvesting plant crop.
1. Number of tillers (thousand/ha) before giving full earthing up (90 days)
 2. Number of cane formed tillers (thousand/ha) after 180 days
 3. Number of millable canes (thousand/ha) after 270 days at harvest
 4. Cane yield (t/ha) after 270 days at harvest
 5. Stalk length (cm) after 270 days at harvest
 6. Stalk diameter (cm) after 270 days at harvest
 7. Single cane weight (kg) after 270 days at harvest
 8. Brix % after 270 days at harvest
 9. Sucrose % in juice after 270 days at harvest
 10. Purity % after 270 days at harvest
 11. CCS % after 270 days at harvest
 12. CCS t/ha after 270 days at harvest
 13. Extraction % after 270 days at harvest
 14. Fibre % after 270 days at harvest
 15. Pol % cane after 270 days at harvest
 16. Jaggery quality after 270 days at harvest (if facility available)
 17. Jaggery yield (t/ha) after 270 days at harvest (if facility available)

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Characters on which data to be recorded in IVT and AVT (Midlate –Plant crops)

1. Germination % at 30 days for tropics and 45 days for sub-tropics
2. No. of tillers (thousand/ha) at 120 days
3. No. of shoots (thousand/ha) at 240 days
4. Cane yield (t/ha) after 12 months at harvest
5. Number of millable canes (thousand/ha) after 12 months at harvest
6. Stalk length (cm) after 12 months at harvest
7. Stalk diameter (cm) after 12 months at harvest
8. Single cane weight (kg) after 12 months at harvest
9. Brix % at 10 and 12 months
10. Sucrose % in juice at 10 and 12 months
11. Purity % at 10 and 12 months
12. CCS % at 10 and 12 months
13. CCS t/ha after 12 months at harvest
14. Extraction % after 12 months at harvest
15. Fibre % after 12 months at harvest
16. Pol % cane after 12 months at harvest
17. Jaggery quality after 12 months at harvest (if facility available)
18. Jaggery yield (t/ha) after 12 months at harvest (if facility available)

Morphological characters

1. Lodging : Erect, lodging, snapping, heavy lodging
2. Leaf sheath spines : Absent (A), present (P), medium (M), heavy (H)
3. Flowering : Absent (A), present (P)
4. Canopy structure and colour : Green, light green, yellowish green, dark green
5. Bud size : Big (B), small (S), medium (M)
6. Pithiness : Absent (A), present (P), less (L), heavy (H)
7. Internode splits : Absent (A), present (P), low (L), moderate (M), heavy (H)
8. Natural incidence of diseases and pests