

ALL INDIA CO-ORDINATED RESEARCH PROJECT ON SUGARCANE

CROP IMPROVEMENT

Technical programme for the year 2023-24

East Coast Zone

B II - ZONAL VARIETAL TRIALS

Centres (6): Perumalapalle, Anakapalle, Cuddalore, Nayagarh, Nellikuppam and Vuyyuru

1. Initial Varietal Trial (Early)

Entries (6)	:	CoA 21321, CoC 21336, CoC 21337, CoV 21356, CoV 21357 and CoV 21358
Standards (3)	:	CoA 92081, CoC 01061, CoA 11321
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. Initial Varietal Trial (Midlate)

Entries (7)	:	Co 17004, Co 18009, CoA 21322, CoC 21338, CoC 21339, CoOr 21346 and CoV 21359
Standards (3)	:	CoV 92102, Co 86249, Co 06030
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	:	12 months
Data to be recorded	:	As per Annexure - III

3. Advanced Varietal Trial (Early)- I plant

Entries (6)	:	Co 11015, Co 09004, Co 14002, CoA 20321, CoA 20322, , CoC 20336
Standards (3)	:	CoA 92081,CoC 01061, CoA 11321
Design	:	Randomized Block Design
Replications	:	Three
Plot size	:	Gross :6.0 m x 8r x 0.90 m Net :5.0 m x 6r 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

4. Advanced Varietal Trial (Early) II Plant

Entries (4)	:	CoA 19321,CoC 19337, CoV 19356, CoV 19357
Standards (3)	:	CoA 92081, CoC 01061, CoA 11321
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

5. Advanced Varietal Trial (Early) Ratoon

Entries (4)	:	CoA 19321,CoC 19337, CoV 19356, CoV 19357
Standards (3)	:	CoA 92081, CoC 01061, CoA 11321
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
Date of rationing	:	After the harvest of first plant crop

Crop duration : 9 months
Data to be recorded : As per Annexure - II

6. Advanced Varietal Trial (Midlate)- I plant

Entries (7) : Co 15021, CoA 20325, CoA 20326, CoA 20327, CoC 20338, CoC 20339, CoOr 20346
Standards (3) : CoV 92102, Co 86249, Co 06030
Design : Randomized Block Design
Replications : Three
Plot size : Gross :6.0 m x 8r x 0.90 m
Net :5.0 m x 6r x 0.90 m
Seed rate : 12 buds per meter
Date of planting : 1st fortnight of January
Crop duration : 12 months
Data to be recorded : As per Annexure - I

7. Advanced Varietal Trial (Midlate)- II plant

Entries (5) : CoV 18358, CoA 19322, CoC 19339, CoV 19358, CoV 19359
Standards (3) : CoV 92102, Co 86249, Co 06030
Design : Randomized Block Design
Replications : Three
Plot size : Gross :6.0 m x 8r x 0.90 m
Net :5.0 m x 6r x 0.90 m
Seed rate : 12 buds per meter
Date of planting : 1st fortnight of November to end of December
Crop duration : 12 months
Data to be recorded : As per Annexure - III

8. Advanced Varietal Trial (Midlate)- II Ratoon

Entries (5) : CoV 18358, CoA 19322, CoC 19339, CoV 19358, CoV 19359
Standards (3) : CoV 92102, Co 86249, Co 06030

Design	:	Randomized Block Design
Replications	:	Three
Plot size	:	Gross :6.0 m x 8r x 0.90 m Net :5.0 m x 6r x 0.90 m
Seed rate	:	12 buds per meter
Date of rationing	:	After harvest of the crop
Crop duration	:	11 months
Data to be recorded	:	As per Annexure - IV

Seed multiplication of new entries

The following entries were accepted during the biennial workshop of AICRP(S) held at ICAR-IISR, Lucknow during 14th and 15th OCT, 2022. The concerned breeders are requested to supply seed material to all the centres of the zone for one-year multiplication. Breeders of all the centers of the zone may please ensure that seed material of new entries is received well in time for planting.

Early (4): CoA 22323 (2017A 236), CoC 22336 (C 17017), CoC 22337 (G 10045), CoV 22356 (2017 V 16)

Mid-late (8): CoA 22325 (2017A 73), CoA 22326 (2017A 205), CoA22327 (2017A 94), CoC 22338 (C 17043), CoC 22339 (C 17122), CoOr 22346, CoV 22357 (2017 V 42), PI 22376 (PI 17-206)

ALL INDIA COORDINATED RESEARCH PROJECT ON SUGARCANE

**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

ALL INDIA COORDINATED RESEARCH PROJECT ON SUGARCANE

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.
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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)

ALL INDIA COORDINATED RESEARCH PROJECT ON SUGARCANE

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

ALL INDIA COORDINATED RESEARCH PROJECT ON SUGARCANE

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

- Note :**
1. No gap filling should be done.
 2. Ratooning operation should be completed within 15 days after harvesting plant crop.
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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 330 days at harvest
 4. Cane yield (t/ha) after 330 days at harvest
 5. Stalk length (cm) after 330 days at harvest
 6. Stalk diameter (cm) after 330 days at harvest
 7. Single cane weight (kg) after 330 days at harvest
 8. Brix % after 330 days at harvest
 9. Sucrose % in juice after 330 days at harvest
 10. Purity % after 330 days at harvest
 11. CCS % after 330 days at harvest
 12. CCS t/ha after 330 days at harvest
 13. Extraction % after 330 days at harvest
 14. Fibre % after 330 days at harvest
 15. Pol % cane after 330 days at harvest
 16. Jaggery quality after 330 days at harvest (if facility available)
 17. Jaggery yield (t/ha) after 330 days at harvest (if facility available)