

Co 09004



Co 09004 is a high yielding, high quality and early maturing sugarcane variety suitable for cultivation in Peninsular zone comprising parts of Tamil Nadu, Telengana, Karnataka, Maharashtra, Gujarat, Madhya Pradesh, Chhattisgarh and Kerala. The variety was selected from progenies of the cross CoC 671 x CoT 8201 and was identified as Co cane during the year 2009 from ICAR-Sugarcane Breeding Institute, Coimbatore.

This variety recorded cane yield of 109.85 t/ha, sugar yield of 14.56 t/ha, Pol % cane of 14.50% and juice sucrose of 18.94% at 300 days across the zone (Table 1). It showed 17.89% and 17.84% improvement over the best standard CoC 671 for sugar and cane yield, respectively. This clone was numerically superior to the best standard for sucrose %. Co 09004 has the ideal plant characters of tall canes (250 cm), early fast growing, high tillering, medium thick canes, non-flowering and non-lodging. This variety is an excellent ratooner and recorded 18.60% improvement for cane yield in ratoon crop over the best standard CoC 671.

Co 09004 is moderately resistant to red rot and resistant to smut. This variety is less susceptible to top borer in all the AICRP(S) locations tested. It was less to

moderately susceptible for early shoot borer, internode borer and scale insect. This variety is tolerant to drought and salinity conditions, the major yield limiting abiotic stress in Peninsular zone. It possesses A1 quality jaggery of golden yellow colour. Co 09004 is expected to improve productivity under normal production condition and also in red rot and smut prone regions of Peninsular zone.

Co 09004 recorded cane yield upto 139 t/ha at Pugalur, 140 t/ha at Sirugamani (Tamil Nadu) and 198 t/ha at Sameedwadi, 145 t/ha at Sankeshwar (Karnataka), 152 t/ha at Basmathnagar (Maharashtra).

Table1. Performance of Co 09004 across 17 locations in Peninsular zone

Entry/Std	Cane yield (t/ha)	CCS t/ha	Sucrose % in juice	Pol % in cane
Co 09004	109.85	14.56	18.94	14.50
Standards				
CoC 671	93.22	12.35	18.90	14.24
Co 94008	93.62	11.31	17.59	12.57
Co 85004	91.98	11.70	18.47	13.58
% improvement over the standards				
CoC 671	17.84	17.89	0.21	1.83
Co 94008	17.34	28.74	7.67	15.35
Co 85004	19.43	24.44	2.54	6.77

Package of practices for cultivation of the variety Co 09004

1. Land preparation: A green manure crop (Dhaincha or Sesbainia) has to be raised prior to sugarcane and incorporated at flowering stage by disc plough or a rotavator. After about two weeks, one or two deep ploughing followed by harrowing to bring the soil to good tilth should be done. In the absence of green manuring, farm yard manure or compost (25 t/ha) need to be applied before last ploughing or in the furrows.

2. Sett treatment: Setts should be soaked for 10 minutes in a solution prepared by dissolving 125 g of Bavistin and 2.5 kg urea in 200 litres of water.

3. Season of planting: January to March. The variety can be planted as adsali crop (July to September) in Maharashtra state.

4. Sett selection and planting: Sugarcane setts should be obtained from seed nursery of around 8 months age. Two bud setts are preferable. Setts should have healthy buds and free of diseases and pests. About 75,000 two bud setts/ha is recommended. Ridges and furrows are formed with row to row spacing of 90 cm. Wider spacing of 120 cm may be followed in fertile soils and where irrigation water is plenty. The furrows should be 30 cm deep.

5. Fertilizer doses with time of application

Basal manuring: The entire dosage of phosphorus (63 kg P₂O₅ per ha) should be applied in the furrows and mixed with the soil.

Top dressing: 50% of the nitrogen doses (140 kg N per ha) and 50% of potassium (60 kg K₂O per ha) are dressing should be done at 90 days after planting with remaining 50% of nitrogen (140 kg N per ha) and 50% of Potassium (60 kg K₂O per ha) and full earthing up must be given.

6. Weed control measures: On 3rd or 4th day after planting Atrazine should be sprayed @ 2.0 kg a.i. /ha using a knapsack sprayer. This should be followed by hand hoeing and weeding around 40-45 days (before first top dressing). Before second top dressing, hand weeding may be done.

7. Disease and pest control: Integrated management of sugarcane disease should be practiced by using disease free seed setts and subjects them to heat therapy (52° C for 30 min). Spraying Chlorpyrifos @ 4ml/lit with 1000 lit of water per hectare is recommended to control early shoot borer. Plant protection measure should be need based.

8. Irrigation: Irrigation schedule varies with the type of soil. In general, irrigation should be given at 7 days interval during germination phase (upto 30 days), 10 days interval during tillering phase (31st to 120th day), 7 days interval during grand growth phase (121st to 240th day) and 15 days interval during maturity phase (241st to 300th day).

9. Harvesting: Harvesting should be done at 10 months age. Clean cane should be supplied to the mill or used for jiggery making.