

Co 12009 (SANKALP)



Varietal Features

Parentage:	[[{(Co7201x(Co 62174 x SES91))*Co 88037}]] x Co 62198
Maturity:	12 months
Adaptability Zone :	Peninsular Zone
Cane yield:	119.65 t/ha
Sugar yield:	17.31 t/ha
Details of the variety:	Co 12009 (Sankalp) was evolved through hybridization of [[{(Co 7201 x (Co 62174 x SES 91))} x Co 88037)]] x Co 62198. This is a midlate maturing clone, identified as Co cane during the year 2012 from ICAR-Sugarcane Breeding Institute, Coimbatore. The clone was evaluated during early generation of selection at SBI, RC, Agali and in subsequent clonal stages at ICAR- SBI, Coimbatore during the period of 2004-2012. The clone was tested in IVT (2015-16) in 14 centres of Peninsular zone and in AVT during 2017-2019 (two plant and one ratoon crops). The AVT I

Plant was conducted in 13 centres during 2017–18 and AVT II Plant and ratoon trials were conducted during 2018-2019 in 14 and 12 centres respectively. Based on its superior performance, this variety was notified in the 84th meeting of Central Sub-Committee on Crop Standards' Notification and release of varieties for cultivation in the States of Andhra Pradesh, Chhattisgarh, Gujarat, Karnataka, Kerala, Maharashtra, Madhya Pradesh, Tamil Nadu and Telengana of Peninsular Zone.

The entry performed well across the zone for cane yield, sugar yield, sucrose % and pol % cane. Co 12009 with an overall mean of 119.65 t/ha of cane yield, 17.31 t/ha of Commercial Cane Sugar, 19.91 % of juice sucrose and 15.47 % of Pol in cane at 360 days of harvest and performed well across the zone for both cane yield and sugar yield in comparison with three zonal checks viz., Co 86032 (Midlate), CoC 671 (Early) and CoSnk 05103 (Early). It's sugar yield of 17.31 t/ha at 360 days indicated an overall improvement of 10.40 %, 18.08 % and 15.32 % over the standards Co 86032, CoC 671 and CoSnk 05103 respectively. With cane yield of 119.65 t/ha, it showed an improvement of 9.03 %, 7.92 %, and 23.42 % in comparison with the standards Co 86032 (109.73 t/ha), CoSnk 05103 (110.85 t/ha), and CoC 671 (96.93 t/ha) respectively. Co 12009 recorded 19.91 sucrose %, registering 1.80 and 6.99 percent increase over the midlate standard Co 86032 and early standard CoSnk 05103 respectively. The mean Pol % in cane in Co 12009 was 15.47 % which was 2.25 and 6.84 per cent increase over the standards Co 86032 and CoSnk 05103 respectively. Co 12009 showed 1.97 per cent

	<p>improvement in Pol % in cane over the qualifying variety CoM 12085 (15.17 %) in the trial. Co 12009 is an excellent ratooner with an improvement of 13.70 % and 10.43 % for sugar yield and cane yield respectively over the midlate standard Co 86032. It recorded 30.12 % and 34.19 % improvement for sugar yield and cane yield respectively over the early standard CoC 671. Co 12009 also performed well under 125 % RDF (recommended dose of fertilizer) condition and wide row spacing for cane yield and was superior to all the three standards viz., CoC 671, Co 86032 and CoSnk 05103. Under wide row spacing of 120 cm, Co 12009 recorded cane yield of 158.83 t/ha with an improvement of 16.24 %, 11.61 % and 10.41 % over CoC 671, Co 86032 and CoSnk 05103 respectively.</p>
<p>Special features:</p>	<p>Co 12009 has a new genetic base involving the <i>S. spontaneum</i> clone SES 91. This is a third back cross of the F1 hybrid involving Co 62174 and SES 91 and back crossed with three commercial hybrids viz Co 7201, Co 88037 and Co 62198 at three stages of nobilization. Co 12009 is moderately resistant to red rot and exhibits excellent field habits like early vigorous growth, tall, thick and erect canes with long internodes. Internodes are yellowish green, wax coated, long and cylindrical to bobbin shaped with prominent bud groove. It has ovate buds, yellow orange growth ring, green leaf sheath and light yellow dewlap.</p>

Table 1: Mean Performance of Co 12009 in 2 Plant and one ratoon crops in the Peninsular zone at harvest (360 days)

Entry	CCS t/ha	Cane yield t/ha	Sucrose %	Pol % cane
Co 12009	17.31	119.65	19.91	15.47
Standards				
Co 86032	15.68	109.73	19.55	15.13
CoC 671	14.66	96.93	20.80	16.20
CoSnk 05103	15.04	110.85	18.61	14.48
% imp. over Co86032	10.40	9.09	1.80	2.25
% imp. over CoC 671	18.08	24.08	-4.30	-4.51
% imp. over CoSnk 05103	15.32	7.93	6.99	6.84

Table 2 Morphological Description of Co 12009

S. No	Name of variety	Co 12009
1.	Parentage	[(Co7201x(Co 62174 x SES91))*Co 88037)] x Co 62198
2.	Stool habit	Erect
3.	Stem colour (E)	Light green (Yellow green)
4.	Stem colour (UE)	Light green (Yellow green)
5.	Ivory marks	Absent
6.	Corky patches	Absent
7.	Internode shape	Cylindrical – Bobbin
8.	Internode alignment	Straight - slightly zigzag
9.	Internode diameter	2.9 cm
10.	Splits	Absent
11.	Wax	Heavy
12.	Node swelling	Absent
13.	Root zone colour (E)	Green
14.	Root zone colour (UE)	Yellow green
15.	No. of root eye rows	Three
16.	Arrangement	Irregular
17.	Bud size	Small
18.	Bud shape	Oval, pointed
19.	Bud cushion	Absent
20.	Germ pore position	Apical
21.	Bud groove	Deep, near bud prominent
22.	Growth ring colour	Yellow orange
23.	Leaf length	1.4 m
24.	Leaf width	6.0 cm
25.	Lamina colour	Green
26.	Leaf carriage	Open, tip droopy
27.	Leaf sheath colour	Green
28.	Leaf sheath waxiness	Medium
29.	Leaf sheath spines	Very light
30.	Leaf sheath clasping	Tight
31.	Dewlap colour	Light yellow
32.	Ligular process	Transitional on one side and short lanceolate on other side
33.	Shape of ligule	Straight with lozenge
34.	Flowering	30%
35.	Salient characteristics	Greenish, wax coated, long internodes, prominent bud groove, tall canes, closed droopy canopy and slightly bobbin shaped canes.