

NEW VARIETY

Co 11015 (ATULYA): A RECENTLY NOTIFIED SUGARCANE VARIETY FOR TAMIL NADU

Co 11015 (Atulya) has been notified for cultivation in Tamil Nadu as a short duration variety in the 83rd meeting of Central Sub Committee on Crop Standards, Notification, Government of India. This variety combines high cane yield and high sucrose content right from 8 months to 12 months of crop age. Co 11015 is evolved from the cross CoC 671 and Co 86011 at ICAR- Sugarcane Breeding Institute, Coimbatore. The clone showed a remarkably good performance in the clonal trials with clear superiority over the standards Co 86032 and CoC 671. In station trials, it recorded a cane yield of 135.70 t ha⁻¹, sucrose of 21.46 % and sugar yield of 20.09 t ha⁻¹ at 360 days.

Performance of Co 11015 in varietal evaluation trials in Tamil Nadu: The variety was tested in ten locations (5 zones) of Tamil Nadu during 2017-2019 for two plant and one ratoon crops

along with 19 other entries and standards and emerged as the best entry combining high yield and juice quality. Overall mean performance of the clone was 142.72 t ha⁻¹ of cane yield, 20.22 % of sucrose and 20.16 t ha⁻¹ of sugar yield (Table 1). The per cent increase over the standard Co 86032 for cane yield, sucrose % and sugar yield were 10.23, 9.66 and 20.13 respectively. This is a consistent high yielding and high quality clone under varied agro-climatic conditions across Tamil Nadu indicating wider adaptability and stability in yield and quality performance. Co 11015 is a good ratooner and registered an increase of 18.57 % for sugar yield, 9.61% for cane yield, and 8.62% for sucrose content over the check Co 86032. This variety behaves as a short duration maturing clone with >17 % sucrose at 240 days to substantially improve the sugar recovery during the early

Table 1. Mean of two plant and ratoon crops performance of Co 11015 in Tamil Nadu during 2017-2019

Variety	Crop performance	Tamil Nadu					
		% improvement over Co 86032		% improvement over Co 86032		% improvement over Co 86032	
		Mean		Mean		Mean	
		Cane yield t/ha		Sugar yield t/ha		Sucrose %	
Co 11015	I Plant	148.26	10.95	20.93	19.16	20.16	9.05
	II Plant	152.51	10.64	22.42	23.73	20.77	12.31
	Average	150.38	10.79	21.66	21.49	20.47	10.68
	Ratoon	135.06	9.61	18.66	18.57	19.98	8.62
	Overall mean	142.72	10.23	20.16	20.13	20.22	9.66
Co 86032	I Plant	133.63		17.57		18.49	
	II Plant	137.84		18.12		18.50	
	Average	135.74		17.83		18.49	
	Ratoon	123.22		15.74		18.39	
	Overall mean	129.48		16.78		18.44	



Fig. 1. Field view of Co 11015 (Atulya)

crushing period as well as can fit well in realizing three crops in two years in regions with water scarcity. Further, as the juice quality improves upto 12 months, Co 11015 can be harvested from 8 to 12 months. Its suitability for special season planting and harvest (during July) was evaluated in plant and ratoon crops that showed an improvement of 8.98%, 6.93% and 9.15% in sucrose over the popular variety Co 86032 at 240, 300 and 360 days respectively.

Co 11015 has shown resistance (nodal method) and field tolerance to prevalent pathotypes / races of red rot in Tamil Nadu. No natural incidence of smut was observed during the evaluation period across Tamil Nadu. No major incidence of pests was noticed in the variety during evaluation at different locations. A few regular pests occurred in traces in some trials or places. This clone was

tolerant to drought conditions, a major yield limiting factor in Tamil Nadu.

This variety has distinct morphological characters (Fig 2); it has tall, semi erect, medium thick, light purple, wax coated canes with long internodes, prominent corky patches, green growth ring and light greenish brown dewlap. The canopy is light and open with tip droopy to curved and broad medium long leaves with self-stripping nature. The bud groove is indicated, buds are medium in size and oval in shape. Leaf sheath is light green with very few spines and transitional ligular process.

The variety is released at the time when continued monsoon failure and dip in water table have been posing problems to sugarcane farmers of Tamil Nadu. For sugar factories, this situation has resulted in low sugar recovery of below 9 percent, which is one of the lowest in the



Fig. 2. Morphological features of sugarcane short duration variety Co 11015

country. By virtue of its high and stable yield and quality performance over locations of Tamil Nadu, Co 11015 with popular name as Atulya is expected to benefit of farmers and sugar industry of the state. The spectacular feature of this clone for early sugar accumulation has made it possible to realize three crops in two years or to plant the crop in July and harvest in 8-9 months as a way to tide over the harsh summer months where water is a scarce input. Thus in normal as well as drought situations, Co 11015 with its high early sugar accumulating potential is expected to benefit the state by improving sugarcane productivity as well as sugar recovery.

Developers

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