

# The Cane Man

The scientist behind a blockbuster variety



Bakshi Ram with cane farmers.

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IF THERE'S one person to be credited no less for the UP sugar industry's turnaround in fortunes, it is Bakshi Ram, director of the Sugarcane Breeding Institute (SBI) at Coimbatore. The 56-year-old has bred Co 0238, the wonder cane variety covering about 5.25 lakh hectares (lh) in the 2015-16 sugar season. That includes 4.03 lh in UP, 0.60 lh Punjab, 0.36 lh in Haryana, 0.17 lh in Bihar and 0.08 lh in Uttarakhand.

Co 0238 has been a major contributor to sugar recovery from cane crushed by UP mills rising to an average 10.6 per cent this season, from 9.3 per cent over the preceding 10 years. The increase would be even more — between 1.5 to 2 percentage points — for factories where this variety constitutes a significant share of the total cane crushed.

A one percentage point rise in recovery rate isn't small. For mills in UP expected to crush roughly 670 lakh tonnes (lt) in 2015-16, it translates into 6.7 lt of additional sugar. That, at Rs 30 per kg, is worth Rs 2,010 crore.

But it isn't higher sugar recovery alone. Before Co 0238, the most widely cultivated cane variety, CoS 767, yielded 60-65 tonnes per hectare on most farmers' fields. Co 0238, by contrast, gives upwards of 75 tonnes, with many farmers harvesting 100 tonnes and more. Even taking a 10-15 tonnes yield gain, the extra income to the farmer, at the state advised price of Rs 280/quintal, works out to Rs 28,000-42,000 per hectare.

Bakshi Ram developed Co 0238 while heading SBI's regional station at Karnal. The variety was released in 2009. What makes Co 0238 different is that it is a 'medium-thick' variety. The average thickness of each cane stick is about 2.6 cm, going up to 3 cm. This was as opposed to the varieties hitherto grown in North India, which were all 'medium thin', ranging from 2 to 2.25 cm.

"I was clear from the start that cane yields in the North cannot go up without increasing thickness to the 2.5 cm levels of Maharashtra," recalls Bakshi Ram. This wasn't easy because higher yields by augmenting thickness also meant lower sugar recovery. "Breaking this negative correlation and breeding a variety combining both high yields as well as recovery was a challenge. Further, the variety had to be resistant to red rot (a major fungal disease that drastically retards yields and also juice content in the cane). The traditional medium-thin varieties are relatively red rot-resistant," he points out.

Co 0238 achieved the seemingly impossible by combining high yields with high recovery, alongside resistance to red rot. Moreover, it is early-maturing, attaining 18 per cent sucrose and 85 per cent juice purity even at 10 months. The last comparable variety North India had was Coj 64, released in 1977-78 and which farmers stopped growing after its susceptibility to red rot.