

PERFORMANCE OF SUGARCANE VARIETIES AND INTEGRATED NUTRIENT MANAGEMENT ON PRODUCTIVITY, PROFITABILITY AND QUALITY OF SUGARCANE UNDER NORTHERN HILL ZONE OF CHHATTISGARH

Ramakant Singh Sidar*, S.S. Tuteja¹ and V.K.Singh²

Department of Agronomy,

¹RMD College of Agriculture and Research Station, Ambikapur (C.G.) – 497001

² College of Agriculture Raipur, Indira Gandhi Krishi Vishwavidyalaya, Raipur (C.G.)

Email: sidarrks@gmail.com

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Abstract: A field experiment was conducted during cropping seasons of 2015–16 and 2016-17 at Instructional cum research farm RMD CARS Ambikapur to evaluate sugarcane mid-late varieties (Co 86032, Co 62175, CoT 8201) under 6 levels of nutrient management (N₁) RDF (250:80:80 NPK Kg ha⁻¹), (N₂) 125% RDF (N₃) 150% RDF, (N₄) RDF+FYM @10 t ha⁻¹, (N₅) RDF+ Poultry manure @ 2.0 ha⁻¹ (N₆) RDF +Vermicompost @2.5 t ha. Higher growth in terms of shoots (121.46 x10³ ha⁻¹), millable cane length 238.05 (cm), total dry matter yield (41.80 t ha⁻¹) and yield attributes Viz. number of millable cane (87.62 x10³ ha⁻¹), cane weight cane yield (109.25 t ha⁻¹) and CCS yield (11.61 t ha⁻¹) were recorded highest with Co 86032, respectively. Variety 'Co 86032' showed non significantly values on quality parameters of brix%, pol %, purity % in juice across the planting season. Variety 'Co 86032' gave the maximum net returns (Rs 256867.61 ha⁻¹) and benefit: cost ratio (3.64). Genotype Co 86032 gave better yield, Significantly higher shoots (122.65 thousand/ha), millable cane length (250.79 cm), dry matter yield (43.14 t ha⁻¹), cane girth (8.35 cm), number of millable canes (93.15 x10³ ha⁻¹) and cane yield (113.74 t ha⁻¹) net returns (Rs 273943.00 ha⁻¹) and benefit: cost ratio (4.07) obtained with the application of 150% RDF respectively.

Keywords: Sugarcane, Nutrient, Management, Northern hill

REFERENCES

Aravinth, V. and Wahab, K. (2011). Studies on the evaluation of varieties for growth and yield of sugarcane. *Plant Archives*, 11(1): 89-90.

ISMA. 2011. Indian Sugar Mills Association. *Indian Sugar* 61(7):66–68.

Kadam, B.S., More, S.M., Veer, D.M. and Nale, V.N. (2008). Response of promising sugarcane genotypes with different levels of nutrients under vertisol for south Maharashtra. *Cooperative Sugar*, 40(2): 51-54.

Manickam, G., Panneerselvam, R., Jayachandran, M., Karunanidhi, K. and Rajendran, B. (2008). Effect of varied levels of NPK fertilization on growth and yield of sugarcane (*Saccharum officinarum*) genotypes. *Cooperative Sugar*, 39(9): 35-37.

Pandey, M.B. and Shukla, S.K. (2003). Growth-cum-tillering pattern and its effect on productivity of sugarcane (*Saccharum spp.* Hybrid complex) genotypes under different planting seasons and

nitrogen levels in subtropical India. *Indian J. of Agricultural Sciences*, 73(1): 23–28

Sinare, B. Sinha, U. P., Singh, H. and Singh, B. K. (2005). Effect of genotypes and fertility levels on growth, yield and quality of sugarcane under rainfed condition. *Indian Sugar*, 55(7): 23-26.

Sinha, U.P., Singh, H. and Singh, B.K. (2005). Effect of genotypes and fertility levels on growth, yield and quality of sugarcane under rainfed condition. *Indian Sugar* 55(7): 23–26.

Spencer, G.L. and Meade, G.P. (1964). Cane sugar handbook, Edition 2nd, p. 433-437. John Wiley and Sons. Srinivas, D., Rao, B.R.B., Suresh, M., Vijay Kumar, M. and Reddy, L. K. (2003). Influence of level of nitrogen on the yield and quality of early-maturing sugarcane varieties. *Cooperative Sugar*, 34(6): 479-482.

Virdia, H. M. and Patel, C.L. (2010). Integrated nutrient management for sugarcane (*Saccharum spp.* hybrid complex) plant-ratoon system. *Indian Journal of Agronomy*, 55 (2): 147-151.

*Corresponding Author