

## RESPONSE OF RAINFED MAIZE (ZEAMAYS) AS INFLUENCED BY VARIOUS INTEGRATED NUTRIENT MANAGEMENT PRACTICES

Lalit Kumar and A.K.Sinha\*

RMD Collage of Agriculture and Research Station, Indira Gandhi Krishi Vishwavidyalaya  
Ambikapur, Surguja- 497001 (Chhattisgarh)  
Email: amitksinha11@gmail.com

Received-08.07.2020, Revised-29.08.2020

**Abstract:** A field experiment was conducted at Research farm, Ambikapur during the *kharif* season of 2018-19 to study the various integrated nutrient management practices on production and profitability of maize. The experiment was conducted in randomized block design and replicated thrice. The eleven nutrient combinations 100% RDF (150:80:60 NPK kg ha<sup>-1</sup>), 75% RDF, 50% RDF excluding and including FYM and used *Azotobacter* and legume intercropping in three treatments and compared with state practice. Amongst the various nutrient management practices, the higher grain yield was recorded with application of 100% RDF + FYM 5 t ha<sup>-1</sup> (7846.7 kg ha<sup>-1</sup>) was significantly superior over all other treatments. However, it was on par with 100% RDF + Zn 5 kg ha<sup>-1</sup> (7313.3 kg ha<sup>-1</sup>) and 100% RDF (6717.8 kg ha<sup>-1</sup>). Stover yield, shelling percentage and harvest index was recorded significantly higher with 100% RDF + FYM 5 t ha<sup>-1</sup>. Again 100% RDF + FYM 5 t ha<sup>-1</sup> was the best treatment with the highest net return (₹ 68814.9) and benefit cost ratio (1.58) found at par with 100% RDF + Zn 5 kg ha<sup>-1</sup> (₹ 64138.2 and 1.56, respectively) and 100% RDF (₹ 55957.4 and 1.38, respectively)

**Keywords:** Integrated nutrient management, Maize, Net return

### REFERENCES

Jat, S.L., Parihar, C.M., Singh, A.K., Jat, M.L., Sinha, A.K., Mishra, B.N., Meena, H., Paradkar, V.K., Singh, C.S., Singh, D. and Singh, R.N. (2013). Integrated nutrient management in quality protein maize (*Zea mays*) planted in rotation with wheat (*Triticum aestivum*): effect on productivity and nutrient use efficiency under different agro-ecological conditions. *Indian Journal of Agricultural Sciences*, 83(4): 391-396.

Kumar, A., Gautam, R.C., Singh, R. and Rana, K.S. (2005). Growth, yield and economics of maize (*Zea mays*)-wheat (*Triticum aestivum*) cropping sequence as influenced by integrated nutrient management. *Indian Journal of Agricultural Sciences*, 75(10): 709-711.

Mahesh, L.C., Kalyanamurthy, K.N., Ramesha, Y.M., Shivakumar, K.M., Yogeeshappa, H. and

Siddaram (2010). Effect of integrated nutrient management on nutrient uptake and economics of maize (*Zea mays* L.). *International Journal of Agricultural Sciences*, 6(1): 327-329.

Rao, A.S., Chand, S. and Srivastava, S. (2002). Opportunities for integrated plant nutrient supply system for crops/ cropping system in different agro-eco regions. *Fertilizer News*, 47(12): 75-78.

Shakunthala, L., Madhavi Lata, A., Ch. Ramulu and Saritha, J.D. (2018). Influence of integrated nutrient management practices on growth and yield parameters of sweet corn. *International Journal of Pure & Applied Bioscience*, 6(4): 36-41.

Singh, R., Sharma, A.R., Dhyani, S.K. and Dube, R.K. (2011). Tillage and mulching effects on performance of maize (*Zea mays*)- wheat (*Triticum aestivum*) cropping system under varying land slopes. *Indian Journal of Agricultural Sciences*, 81(4): 330-335.

\*Corresponding Author