

## ECONOMIC VIABILITY OF SWEET CORN (*ZEA MAYS L. SACCHARATA*) CULTIVATION AS INFLUENCED BY INTEGRATED NUTRIENT MANAGEMENT

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**Abstract:** A field experiment entitled “Economic viability of Sweet corn (*Zea mays L. saccharata*) cultivation as influenced by integrated nutrient management” was conducted during the *kharif* season of 2019-20 at Research farm of Ambikapur. The experiment constituted of nine treatment combinations consisting three levels of organic manures (0 t, 3 t vermicompost and 5 t FYM) and three levels of inorganic fertilizers (50%, 75% and 100% RDF, where RDF is 120:60:40 kg ha<sup>-1</sup> N, P<sub>2</sub>O<sub>5</sub> and K<sub>2</sub>O) and replicated thrice. Growth and yield attributes, husked, dehusked cob and fodder yield were influenced significantly due to organic and inorganic sources of nutrients. Maximum cob yield and fodder yield were recorded with 3 t ha<sup>-1</sup> vermicompost followed by 5 t ha<sup>-1</sup> FYM, both were proved significantly superior to control. However 100% RDF recorded higher value of such parameters, which was significantly fair over 75% RDF and 50% RDF. Application of 5 t FYM ha<sup>-1</sup> and 100% recommended dose of nutrients was economically viable as these produced significantly more net return.

**Keywords:** Sweet corn, Vermicompost, Integrated nutrient management

### REFERENCES

- Kumar, M.A.M., Gali, S.K. and Hebsur, N.S.** (2007). Effect of different levels of NPK on growth and yield parameters of sweet corn. *Karnataka Journal Agricultural Science*, **20**(1): (at - 43).
- Arvadiya, L.K., Raj, V.C., Patel, T.U. and Arvadia, M.K.** (2012). Influence of plant population and weed management on weed flora and productivity of sweet corn (*Zea mays*). *Indian Journal of Agronomy* **57**(2): 162-167.
- Baharvand, Z.A., Zahedi, H. and Rafiee, M.** (2014). Effect of vermicompost and chemical fertilizers on growth parameters of three corn cultivars. *Journal of Applied Science and Agriculture* **9**(9):22-26.
- Bharti, B. and Sharma, R.P.** (2017). Long term effect of integrated nutrient management on soil properties and availability of nutrients in a Typic Hapludalfs under maize-wheat cropping. *International Journal of Environmental & Agriculture Research* **3**(6): 43-48.
- Gomez, K.A. and Gomez, A.A.** (1984). Statistical procedure for Agricultural Research., edn 2, John Wiley & Sons, New York : 241-271.
- Grazia, J.D., Tiltonell, P.A., Germinara, D and Chiesa, A.** (2003). Phosphorus and nitrogen fertilization in sweet corn (*Zea mays L. saccharata*). *Spanish Journal of Agricultural Research* **1**(2): 103-107.
- Keerthi, S., UpendraRao, A., Ramana, A.V. and Tejeswara Rao, K.** (2013). Effect of nutrient management practices on cob yield, protein content, NPK uptake by sweet corn and post harvest N, P<sub>2</sub>O<sub>5</sub> and K<sub>2</sub>O. *International Journal of Advanced Biological Research* **3**(4):553-555.
- Kour, J., Jain, N., Singh, P. and Himani** (2017). Effect of plant densities and integrated nutrient management on growth and productivity of sweet corn (*Zea mays L. Saccharata*). *International Journal of Scientific Engineering and Research* **6**(6): 54-56.
- Kumar, M.A.M., Gali, S.K. and Hebsur, N.S.** (2007). Effect of different levels of NPK on growth and yield parameters of sweet corn. *Karnataka Journal of Agricultural Sciences* **20**(1): 41- 43.
- Mathukia, R.K., Choudhary, R.P., Shivran, A. and Bhosale, N.** (2014). Response of rabi sweet corn to plant geometry and fertilizer. *Current Biotica* **7**(4): 294-298.
- Nath, K., Nepalia, V. and Singh, D.** (2009). Effect of integrated nutrient management on growth and yield of sweet corn (*Zea mays L. saccharata*). *Annals of Agricultural Research New Series* **30** (1& 2): 73-76.
- Pal, M.S. and Bhatnagar, A.** (2012). Productivity and profitability of pop corn, composites and hybrid maize (*Zea mays*) under low nitrogen stress in Mollisols of Uttarakhand. *Madras Agricultural Journal* **99**(4-6):259 - 262.
- 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.
- Sahoo, S.C. and Mahapatra, P.K.** (2005). Response of sweet corn (*Zea mays*) to fertility levels under on-farm situation. *Indian Journal of Agricultural Sciences* **75**(9):603-604.
- Sahoo, S.C. and Mahapatra, P.K.** (2007). Response of sweet corn (*Zea mays*) to plant population and fertility levels during rabi season. *Indian Journal of Agricultural Sciences* **77** (11):779-781.
- Sinha, A. K.** (2017). “Productivity and profitability influenced by plant geometry and integrated nutrient

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management in rainfed sweet corn (*Zea mays* Saccharata.) – horse gram (*Macrotyloma uniflorum* L.) cropping sequence.” *Maize Journal* 6(1& 2): 47-51 (April- October, 2017).

**Venkatesh, S., Sanjay, R. and Shekhar, J.C.** (2003). Sweet corn, Speciality corn Technical Series I, *Directorate of Maize Research, New Delhi*, : 1-3.