

STUDY THE EFFECT OF JATROPHA CAKE AND ITS COMBINATION WITH FERTILIZER ON SOIL FERTILITY

Anup Kumar, K. Tedia and Pradip Kumar

Indira Gandhi Krishi Vishwavidyalaya, Raipur (C.G.) 492006 India

Abstract: The present investigation was carried out during *khariif* season of 2006-07 at the Instruction Farm, Indira Gandhi Krishi Vishwavidyalaya, Raipur (C.G.). The experiment was laid out in randomized block design (RBD) and replicated thrice with ten treatments consist of Jatropha cake and chemical fertilizer doses and there combinations to evaluate effect on rice productivity. N, P and K uptake by rice was the highest with application of 100% NPK + 2 t ha⁻¹ cake. The micronutrients content (Fe, Zn, Cu and Mn) in grain and straw of rice were increased significantly with applications of full dose of fertilizer in combination with 1 or 2 t ha⁻¹ cake over control and was maximum with 100% NPK + 2 t ha⁻¹ cake. Total uptake of micronutrients by the crop was similar between 100% NPK + 2 t ha⁻¹ cake, and 100% NPK + 1 t ha⁻¹ treatments but significantly highest was observed with 100% NPK 2 t ha⁻¹ cake compared to rest of the treatments. The Jatropha cake additions with recommended dose of chemical fertilizer also improved the soil organic carbon, soil available major (nitrogen, phosphorus and potash) and micronutrients (iron, copper zinc and manganese), thus sustainable soil health can be maintained by long term use of the cake in crop production.

Keywords: Rice, Jatropha cake, Fertilizer, Fertility status, nutrient uptake

REFERENCES

- Bokhtiar, S. M. Paul, G. C. Rashid, M. A. and Rahman, A.B.M.** (2001). Effect of press mud and inorganic nitrogen on soil fertility and yield of sugarcane.
- Chakradhar, T. and Jauhri, K. S.** (2004). Development and evaluation of bioorganic fertilizer. *J. Indian Microbiology*. 44(4): 291-293
- Devadas, V. S. and Kuriakose, K. P.** (2005). Evaluation of different organic manures on yield and quality of pineapple var. Mauritius. *Crop Res. Hisar*. 31(1): 22-25.
- Goramnagar, H. B. Gondane, S. U. Sorte, P. N. Refeekher, M. and Kute, U. D.** (2001). Effect of integrated nutrient management on nutrient status of leaf and soil under orange orchard. *J. Soils and Crops*. 11(2): 226-228.
- More, N. B. Bhalerao, V. P. Patil, A. V. and Bhoi, P. G.** (2005). Integration of nutrient sources for sustaining crop production and its effect on soil, yield and quality of seasonal sugarcane. *Indian Sugar*. 55(6): 21-28.
- Mutharaju, M. Ravi, M. V. and Siddaramappa, R.** (2005). Enriched pressmud as source of nutrients and organic matter. *J. Mysore Agri. Sci.* 39(1): 134-136.
- Vijay, Kumar and Verma, K S.** (2001). Effect of N, P, K, Zn fertilizers and organic manure on plant and ratoon crops of sugarcane and soil fertility under continuous cropping. *Proce. 63rd Annual Convention Sugar Tech. Assoc. India, Jaipur, India, 25th-27th-Aug. A135-A145.*