EFFECT OF OPTIMAL, SUB-OPTIMAL AND INTEGRATED NUTRIENT MANAGEMENT ON SOIL PROPERTIES AND NUTRIENT UPTAKE ON RICE (ORYZA SATIVA)

Chandra Shekhar Khare*, S. Chitale, Kamal Narayan, Jitendra Kumar Khare and Hemkanti

Indira Gandhi Krishi Vishwavidyalaya, Raipur (C.G.)
*Email:-khare.chandrashekhar@rediffmail.com

Abstract: The present investigation entitled “Effect of optimal, sub optimal and integrated nutrient management on soil properties and nutrient uptake on rice (Oryza sativa)” was carried out at the Research Cum Instructional Farm IGKV., Raipur (C.G.) during kharif season of 2010. The soil of experimental field was ‘Inceptisols’ locally known as Matasi. It was neutral in reaction, low in nitrogen, medium in available phosphorus and potassium. The experiment was laid out in randomized block design with 3 replications. The results revealed that amongst the different optimal, sub-optimal and integrated nutrient management practices using green manure, farmyard manure and chemical fertilizers, T10 consisting of 50% RDF + 50% N through green manuring recorded the highest growth, energy output (178.38 MJ x 10³) and NPK content in soil. Application of 100% RDF (80:60:40 kg NPK ha⁻¹) also proved superior over other integrated nutrient management systems consisting farmyard manure and rice residues for energy output (176.75 MJ x 10³). Sub-optimal doses of nutrients failed to provide considerable yield advantage and build-up of nutrients in soil as compared to optimal level or integrated nutrient management options.

Keywords: Nutrient management, Nutrient uptake, Soil properties, Energy

REFERENCES


