

Research Article

Integrated nutrient management and continuous cropping for a decade on soil properties in a terraced land

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Summary

The effect of integrated nutrient management practices on some important soil properties on terraced land under continuous cultivation after a decade were studied in a field experiment conducted on the experimental farm of the School of Agricultural Sciences and Rural Development under rainfed conditions. Twelve treatments involving N, P and K (NPK) fertilizers, FYM, poultry litter, forest litter incorporated and burned, *Azospirillum* and Zn either alone or in combinations were applied for 10 years and rice crop cultivated continuously. The organic C content, available K, WHC and per cent aggregation increased significantly in all the treatments whereas, CEC and MWD increased significantly in all the treatments except $\frac{1}{2}$ N+ PK and forest litter burned+ $\frac{1}{2}$ FYM over control. The rate of build up of available N, P and K in various nutrient management practices was estimated to be 0.97 to 24.46 kg N ha⁻¹ yr⁻¹ with an average of 13.51 kg N ha⁻¹ yr⁻¹, 0.07 to 1.60 kg P ha⁻¹ yr⁻¹ with an average of 0.75 kg P ha⁻¹ yr⁻¹ and 2.4 to 8.2 kg K ha⁻¹ yr⁻¹ with an average of 4.7 kg K ha⁻¹ yr⁻¹, respectively. Addition of FYM, poultry litter and forest litter with NPK increased 8.4, 16.7 and 7.6 per cent in aggregates >0.25 mm, respectively as compared to NPK alone.

Key words : Nutrient management, Soil properties, Terraced land

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