

PHOSPHORUS FERTILIZATION TO RICE AS INFLUENCED BY FARM YARD MANURE

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A pot experiment with rice (IR 6) was conducted to evaluate the phosphorus use efficiency as influenced by farm yard manure (FYM). Three levels each of phosphorus (0, 50, 100 kg P_2O_5 ha⁻¹) and FYM (0, 10, 20 t ha⁻¹) were randomized in a Completely Randomized Design with nine treatment combinations and three repeats. Application of phosphorus @ 50 and 100 kg P_2O_5 ha⁻¹ alongwith 10 and 20 t FYM ha⁻¹ significantly increased the number of fertile tillers and paddy as well as straw yields of rice. The uptake of N, P, K, Zn and Fe was higher in the fertilizer treated pots compared to control. Post harvest soil analysis indicated higher P and K contents in case of FYM treated pots.

INTRODUCTION

Due to alkaline and calcareous nature of Pakistani soils most of the native and applied phosphorus becomes unavailable to the growing plants (Sharif, 1985). The low availability is because of its fixation either on colloidal complex or formation of sparingly soluble compounds such as carbonate-apatite, hydroxy-apatite and flour-apatite. Any measure which helps reducing the activity of calcium would ensure the enhanced availability of phosphorus to plants and thereby leads to increased fertilizer use efficiency. The efficient use of phosphate fertilizer also depends on rate, time, method of application and crops requirements. Organic manuring enhances the fertilizer use efficiency especially in soils low in organic matter

consisting of top 15 cm was collected from rice tract of Sheikhpura. The soil was air dried, ground and passed through 2 mm sieve. A representative soil sample was analysed for pH, EC_e , anions, cations, organic matter, (Richards, 1954), Kjeldahl-N (Bremner, 1965), Extractable-P (Watanabe and Olsen, 1965) and texture (Moodie *et al.*, 1965). Soil was deficient in nitrogen, phosphorus and organic matter. Textural class of the soil was loamy clay (Table 1).

Table 1. Original status of the soil used for the experiment

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