Agronomic Efficiency of Phosphate rock Enriched FYM in Soybean (*Glycine max* (l.) Merrill) Production

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ABSTRACT

Field experiment was carried out at the Agricultural College Farm, Bapatla, Andhra Pradesh during *rabi* 2005-06 to study the efficiency of phosphate rock enriched organic manure in soybean. The treatments consisted of six phosphate rich organic manure (PROM) treatments of incubated rock phosphate (34/74) of recommended dose (RD) and double the recommended dose (DRD) of P_2O_5 for soybean with FYM in three ratios (1:2, 1:3 and 1:4), a normal practice of phosphorus application through SSP and a control. These were arranged in RBD and replicated thrice. Application of PROM made of DRD of P_2O_5 in 1:4 ratio recorded the maximum plant height and produced significantly higher drymatter compared to that of PROM made of RD of P_2O_5. The maximum number of nodules per plant was observed with RD of P_2O_5 through SSP closely followed by the treatments of PROM with higher proportions of FYM. Nodule dry weight was maximum with the application of PROM made of DRD of P_2O_5 in 1:4 ratio. The number of days taken to maturity was significantly reduced by phosphorus application through PROM and SSP over no phosphorus application. Yield parameters like number of pods per plant, number of seeds per pod and grain yield were significantly higher with PROM made either with RD or DRD of P_2O_5 in 1:4 over those of lower proportions of phosphate rock and FYM. Overall the results of the study indicated that PROM made of RD of P_2O_5 for soybean with FYM in 1:4 proportion is as effective as application of RD of P_2O_5 through SSP.

Key words : FYM, Growth, Phosphate rock, PROM, Soybean,Yield.

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