

Effect of Phosphate Rich Organic Manure on Growth, Nutrient Uptake, Quality and Economics in Soybean [*Glycine max* (L.)Merrill]

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ABSTRACT

A field experiment was conducted on clay loam soils of the Agricultural College Farm, Bapatla, to study the effect of phosphate rich organic manure (PROM) on growth, nutrient uptake, quality and economics of soybean [*Glycine max* (L.)Merrill] during *rabi* 2005-06. Phosphate rich organic manure (PROM) made of double the recommended dose (DRD) of P_2O_5 in 1:4 ratio recorded the maximum drymatter production at maturity and found significantly superior to all other treatments of PROM made of recommended dose (RD) of P_2O_5 . The highest P uptake by both grain and stover was observed by PROM with DRD of P_2O_5 in 1:4 ratio. However, it was comparable to PROM of DRD of P_2O_5 in 1:2 and 1:3 ratios, RD of P_2O_5 in 1:4 ratio and 60 kg P_2O_5 through SSP. The highest protein content was recorded with the application of PROM made of double the recommended dose of P_2O_5 in 1:4 ratio. The increase in available phosphorus status in soil was recorded with the treatment PROM made of DRD of P_2O_5 over the treatments of PROM with RD of phosphorus. The highest benefit cost ratio was obtained with the application of PROM made of RD of P_2O_5 in 1:4 ratio followed by PROM made of DRD of P_2O_5 in 1:4 ratio.

Key words : Economics, Growth, Nutrient Uptake, PROM, PR, FYM, Quality, Soybean