

Studies on Growth and Yield of Groundnut as Influenced by Phosphorus Management Practices

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ABSTRACT

A field experiment was conducted during *rabi* 2016-17 and 2017-18, respectively on sandy loam soils at Agricultural College Farm, Bapatla to study growth and yield of groundnut as influenced by phosphorus management practices. The experiment was laid out in a Split-split plot design in *rabi* groundnut and the treatments were replicated thrice. The treatments consisted of four main plots residual effect of *khariif* sources and levels of phosphorus S₁: Inorganic fertilizer phosphorus through SSP, S₂: Green manuring *in-situ* with dhaincha @ 25 kg seed ha⁻¹, S₃: Biofertilizer (PSB) @ 750 ml ha⁻¹, S₄: Green manuring *in-situ* with dhaincha @ 25 kg seed ha⁻¹ + Biofertilizer (PSB) @ 750 ml ha⁻¹ and three subplots levels of phosphorus L₁: 50% Recommended dose of P, L₂: 100% Recommended dose of P and L₃: 150% Recommended dose of P. During *rabi* season with groundnut crop, each sub plot was divided into three sub-sub plots and total thirty six treatments were laid in a Split-split design. Results of the experiment showed that residual sources and levels of phosphorus to preceeding rice crop *i.e.*, *in-situ* green manuring + PSB showed superior performance in terms of yield and growth characters like plant height, drymatter accumulation, number of branches plant⁻¹ of groundnut but was on a par with that of application of *in-situ* green manuring and significantly superior over inorganic fertilizer through SSP and biofertilizer (PSB) during both the years and pooled data of study. During *rabi*, 100 % RDP showed significantly higher plant height, drymatter accumulation, number of branches plant⁻¹ and yield over control and it was on a par with 50 % RDP during both years and pooled data.

Key words: *Groundnut, Khariif phosphorus sources and levels, Yield and Growth characters.*