

Effect of Phosphorus Management Practices on Nutrient Uptake, Soil Fertility Status and Economics of Pearl millet in Pearl millet-Pulse Sequence

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ABSTRACT

A field experiment was conducted during *khariif* and *rabi* seasons of 2017-18 and 2018-19 at Agricultural College Farm, Bapatla to evaluate the direct effect of phosphorus management practices on pearl millet and residual effect on pulses (blackgram, greengram and chickpea). In *khariif* season, seven treatments consisted of T₁: No P, T₂: 50% RDP, T₃: 75 % RDP, T₄: 100 % RDP, T₅: 50 % RDP + seed inoculation with PSB, T₆: 75 % RDP + seed inoculation with PSB, T₇: 100 % RDP + seed inoculation with PSB with RBD design. While in *rabi*, each *khariif* treatment plots were subdivided into three plots to accommodate three different pulses. Thus, for *rabi* season study, residual phosphorus management practices were considered as main plot treatments and the three crops as sub plot treatments. The results revealed that significantly the highest nitrogen, phosphorus and potassium uptake were recorded with application of 100 % RDP + seed inoculation with PSB but remained statistically on par with the treatment which received 100 % RDP during both years of experimentation and in pooled data. Similarly maximum net returns were also obtained in those treatments.

Key words: *pearl millet-pulses, phosphorus management practices, PSB, uptake and returns*