

# Performance of Green Manures and Phosphorus Levels in Rice-Blackgram Cropping Sequence

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## ABSTRACT

A field experiment was conducted during 2015 and 2016 to study the effect of green manures and phosphorus levels in blackgram crop at Agricultural College Farm, Bapatla. The experiment was conducted in split-split plot design on sandy clay loam soil with three main treatments, three sub-treatments to *kharif* rice and three sub-sub treatments to *rabi* crop. The treatments consisted of *dhaincha* and sunnhemp as green manure crops and without green manure as main plot treatments and three phosphorus levels to rice crop comprising of 45 kg P<sub>2</sub>O<sub>5</sub> ha<sup>-1</sup>, 60 kg P<sub>2</sub>O<sub>5</sub> ha<sup>-1</sup> and 75 kg P<sub>2</sub>O<sub>5</sub> ha<sup>-1</sup> as sub-plot treatments and are replicated thrice. The *rabi* experiment was laid out on the same site in a split-split plot design without disturbing the soil for succeeding blackgram crop. Growth parameters, yield attributes and yield of blackgram were significantly higher which received *dhaincha* green manure incorporation with 75 kg P<sub>2</sub>O<sub>5</sub> ha<sup>-1</sup> to *kharif* rice crop and 100% RDP to *rabi* blackgram and it was on a par with sunnhemp green manure incorporation with 75 kg P<sub>2</sub>O<sub>5</sub> ha<sup>-1</sup> to *kharif* rice crop and 100% RDP to *rabi* blackgram.

**Keywords:** *Blackgram, Rice, Phosphorus levels*