



**Research Paper**

# Yield and economics of rice crop as influenced by green manures and phosphorus levels

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**ABSTRACT :** A field experiment was conducted during *Kharif* 2015 and 2016 to study the effect of green manures and phosphorus levels to rice crop at Agricultural College Farm, Bapatla. The experiment was conducted in split plot design on sandy clay loam soil with three main treatments and three sub-treatments. The treatments consisted of *Dhaincha* green manure crop, sunnhemp green manure crop and without green manure as main plot treatments during *Kharif* season and three phosphorus levels to rice crop @ 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. Significantly the highest grain yield of rice was recorded with *Dhaincha* green manure incorporated treatment (5592 and 5587 kg ha<sup>-1</sup>) when compared to control. Among the phosphorus levels applied to rice crop the highest grain yield (5545 and 5567 kg ha<sup>-1</sup>) was recorded with 75 kg P<sub>2</sub>O<sub>5</sub> ha<sup>-1</sup> and it was on a par with 60 kg P<sub>2</sub>O<sub>5</sub> ha<sup>-1</sup> during both the years of study. *Dhaincha* green manure incorporation to rice crop recorded maximum gross returns (Rs. 88724 and Rs. 88703), net returns (Rs. 36024 and Rs. 36003) and benefit cost ratio (1.68 and 1.7) and significantly the maximum gross returns (Rs. 88014 and Rs. 88443), net returns (Rs. 35005 and Rs. 34585), benefit cost ratio (1.67 and 1.7) were observed, which received 75 kg P<sub>2</sub>O<sub>5</sub> ha<sup>-1</sup> treatment during both the years of study.

**KEY WORDS :** Sunnhemp, Dhaincha, Phosphorus

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