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## RESEARCH PAPER

# Effect of phosphorus levels and bio-organic sources on growth and yield of rice (*Oryza sativa* L.)

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**Abstract :** A field experiment was conducted during rainy season of 2013 at Agricultural Research Farm, Institute of Agricultural Sciences, Banaras Hindu University, Varanasi to evaluate the effect of phosphorus levels and bio-organic sources on growth and yield of wetland rice cv. HUR-105. Factorial experiment was laid out in Randomized Complete Block Design involving four levels of phosphorus *viz.*, control, 50 per cent RDP, 75 per cent RDP and 100 per cent RDP and three bio-organic sources *i.e.* PSB, PSB + BGA and PSB + BGA + FYM (5 t ha<sup>-1</sup>) replicated thrice. Increase in the levels of phosphorus application upto 100 per cent RDP (60 kg P<sub>2</sub>O<sub>5</sub> ha<sup>-1</sup>) improved growth attributes, yield attributes, grain and straw yields. Combined use of PSB + BGA + FYM (5 t ha<sup>-1</sup>) proved superior to PSB alone and PSB + BGA. Economic analysis indicated that integration of moderate phosphorus level (75% RDP *i.e.* 45 kg ha<sup>-1</sup>) along with the use of PSB + BGA + FYM (5 t ha<sup>-1</sup>) gave highest net return and B:C ratio.

**Key Words :** Phosphorus levels, Bio-organics, FYM, BGA, PSB, Rice

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