



## RESEARCH PAPER

# Effect of different levels of phosphorus on the yield and yield components of maize under agro-climatic zone- II of Bihar

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**Abstract :** An explorative experimental trial was conducted to study the effect of different levels of phosphorus on the yield and yield components of maize in North-East Alluvial plains of Bihar, was conducted at Regional Research Station, Agwanpur, Saharsa (India). The experiment was laid out in Randomized Complete Block Design with three replications having a plot size of 5.40 m x 6.7 m with row to row distance of 0.75 m and plant to plant distance of 0.25 m. The levels of phosphorus were 0 (control), 50, 100, 150 and 200 kg ha<sup>-1</sup>. Results indicated that the different levels of phosphorus significantly affected maize plant height, number of cobs plant<sup>-1</sup>, number of grains cob<sup>-1</sup> and grain yield, however, the effect was non-significant on number of plants m<sup>-2</sup>, thousand grain weight and biological yield of maize. Application of phosphorus at the rate of 100 kg ha<sup>-1</sup> resulted in maximum plant height (161 cm), number of cobs plant<sup>-1</sup> (1.25), number of grain cob<sup>-1</sup> (343), thousand grain weight (253 g), grain yield (2535 kg ha<sup>-1</sup>) and biological yield (8398 kg ha<sup>-1</sup>) as compared to the minimum values in control plots *i.e.* 148cm, 0.88, 290, 197 g, 1370 kg ha<sup>-1</sup> and 6041 kg ha<sup>-1</sup>, respectively. It is concluded that phosphorus should be applied at the rate of 100 kg ha<sup>-1</sup> for best grain yield in the agro-climatic conditions of Bihar.

**Key Words :** Phosphorus, *Zea mays* L., Plant height, Grain yield

**View Point Article :** Kumar, Ajeet and Kumar, Mukul (2017). Effect of different levels of phosphorus on the yield and yield components of maize under agro-climatic zone- II of Bihar. *Internat. J. agric. Sci.*, **13** (2) : 266-270, DOI:10.15740/HAS/IJAS/13.2/266-270.

**Article History :** Received : 20.02.2017; Revised : 15.04.2017; Accepted : 29.04.2017

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