

## EFFECT OF NITROGEN AND SULPHUR LEVELS ON GROWTH, YIELD AND NUTRIENT UPTAKE OF HYBRID RICE IN INCEPTISOL

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**Abstract:** A field experiment was conducted at the Instructional Farm of the Narendra Deva University of Agriculture and Technology, Kumarganj, Faizabad (U.P.) during *kharif* season, 2010 and 2011 to evaluate the nitrogen and sulphur requirement of hybrid rice in Inceptisol. The Sixteen treatments comprising 4 levels each of N (0, 80, 160 & 240) and S (0, 20, 40 & 60 kg ha<sup>-1</sup>) were laid out in randomized block design with three replications. Hybrid rice variety PHB-71 was taken as test crop. The experimental soil was silt loam in texture having bulk density 1.38 M gm<sup>-3</sup>, water holding capacity 23.11 %, pH (1:2.5) 8.80, EC 0.41 dSm<sup>-1</sup>, Organic carbon 2.7 g kg<sup>-1</sup>, exchangeable sodium percentage 29.9, available N 203, P<sub>2</sub>O<sub>5</sub> 15.25, K<sub>2</sub>O 265 and S 13.38 kg ha<sup>-1</sup>. The required quantity of fertilizer was applied through urea and sulphur with elemental sulphur before transplanting. The growth, yield and yield attributes increased with increasing nitrogen and sulphur doses up to 240 kg ha<sup>-1</sup> and 60 kg ha<sup>-1</sup>, respectively. Maximum yield, yield attributes were recorded with the application 240 kg ha<sup>-1</sup>, which was significantly superior over 80 kg N ha<sup>-1</sup> and at par with 160 kg N ha<sup>-1</sup>. Likewise maximum yield and yield attributing parameter and nutrient uptake were recorded with 60 kg S ha<sup>-1</sup> which was significantly superior over 20 kg S ha<sup>-1</sup> and statistically at par 40 kg S ha<sup>-1</sup>. The maximum net return (Rs. 54559.72) and cost benefit ratio (1.874) were obtained by applying 160 kg N ha<sup>-1</sup> with 40 kg S ha<sup>-1</sup> by PHB-71 in Inceptisol of Uttar Pradesh.

**Keywords:** Hybrid Rice, Nitrogen, Sulphur

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