

Research Article

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Effect of nitrogen, phosphorus and potassium fertilizer on growth and yield of drought tolerant rice genotypes

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Summary

The present investigation was carried out at the Instructional Farm, Indira Gandhi Krishi Vishwavidyalaya, Raipur (C.G.) during *Kharif* season, 2012. The experiment was conducted in *Vertisol* field. The Soil of experimental field's soil exhibited neutral reaction (pH 7.34), EC 0.26 (dSm^{-1}), medium status of organic C (0.58 %), low in available N (273 kg ha^{-1}), medium in P (14.78 kg ha^{-1}), high in K status (616 kg ha^{-1}) and sufficient level in micronutrients (Fe, Mn, Cu and Zn). The experiment was laid out in Split Plot Design having three fertility levels as main plots and twelve rice genotypes as sub plot. Treatments were replicated thrice. The fertility levels were taken as low fertility level ($00:00:00 \text{ kg ha}^{-1} \text{ N:P:K}$), medium fertility level ($45:30:20 \text{ kg ha}^{-1} \text{ N:P:K}$) and high fertility level ($90:60:40 \text{ kg ha}^{-1} \text{ N:P:K}$) and treatments under sub plots as rice genotypes namely IR-83388-B-B-108-3, IR-83388-B-B-129-3, IR-82589-B-B-84-3, IR-83383-B-B-129-4, R-RF-65, IR-83377-B-B-93-3, R-RF-69, IR-83383-B-B-141-2, IBD-I (Local entry), R-RF-85 (Local entry), IR-64 and MTU-1010. Yield of different rice genotypes significantly increased with increasing level of fertility from low to high. Rice genotypes, R-RF-65, IR-83383-B-141-2, IR-83377-B-B-93-3, IR-83383-B-B-129-4, IR-83388-B-B-129-3, IR-83388-B-B-108-3, R-RF-69, MTU-1010, IR-64 and IR-82589-B-B-84-3 were recorded higher growth and yield attributes for grain and straw yields.

Key words : Soil fertility, Drought tolerant rice genotypes

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