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Response of different levels of nitrogen on growth and yield of rice (*Oryza sativa* L.) varieties in direct seeded upland condition

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ABSTRACT : In order to study the effect of rice varieties with different levels of nitrogen in direct seeded upland condition a field experiment was conducted during *kharif* season of 2008 on silty clay loam soil at Agriculture College Farm, Rewa (M.P.). The experiment was laid out in split plot Design with 3 levels of nitrogen [N_1, 40 kg/ha; N_2, 80 kg/ha; N_3, 120 kg/ha] in main plots and 7 varieties (V_1, 'IET-20144'; V_2, 'IET-19836'; V_3, 'Annada'; V_4, 'Govinda'; V_5, 'Narendra-97'; V_6, 'Tulsi' and V_7, 'JR-201 Local') in subplots comprising 21 treatments combinations with 3 replications. The different treatments were allocated randomly in each replication. The soil was low in available nitrogen, medium in phosphorus and high in available potassium. The pH of the soil was nearly neutral. Combination of variety 'JR-201 Local' and 120 kg N/ha was found best in respect of most of the growth and yield attributing characters along with grain yield followed by N_3V_4 ('Govinda' sown with 120 kg N/ha). Variety 'Govinda' under 40 and 80 kg N/ha and variety 'JR-201 Local' under 120 kg N/ha produced highest grain yield over rest of the varieties and treatment combination N_3V_7 ('JR-201 Local' and 120 kg N/ha) resulted in significantly highest grain yield (40.47 q/ha) followed by N_3V_4 ('Govinda' sown with 120 kg N/ha) (40.20 q/ha) and N_3V_2 ('IET-19836' sown with 80 kg N/ha) (39.77 q/ha).

Key Words: Rice (*Oryza sativa* L.), varieties, nitrogen level, growth, yield.