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Response of nitrogen and phosphorus levels on rice in partially reclaimed sodic soil of Uttar Pradesh

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ABSTRACT : A field experiment was planned and conducted in two consecutive *kharif* season 2010 and 2011 fixed lay out in sodic soil of NARP farm Dalipnagar, C.S.A. University of Agric. & Tech. Kanpur to evaluate the response various levels of nitrogen and phosphorus on the salt tolerant rice cultivar 'CSR-27'. Results of the experiment revealed that enhancing the levels of nitrogen from 90 to 150 kg/ha and phosphorus *viz.* 30 to 60 kg/ha markedly increased the yield and yield attributing characteristics, nutrient uptake and quality parameters of rice. Maximum grain and straw yield along with yield components were recorded at 150 kg N and 60 kg P_2O_5 /ha followed by nitrogen 120 kg/ha and phosphorus 45 kg/ha. Uptake of nutrients by grain and straw of rice showed similar trend as recorded in yield of rice. Though quality characteristics *viz.* Starch, protein and mineral matter content were beneficially improved from each levels of nitrogen and phosphorus addition but responses were not significantly differ. Yield and yield component, nutrient uptake and quality parameters of rice grains have denoted highly significant correlations among themselves.

Key Words: Rice, sodic soil, yield and yield attributes, nutrient uptake, quality parameter.