



Effect of Silicon and Nitrogen Application on Yield and Micronutrient Contents in Rice (*Oryza sativa* L.)

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Abstract: Field trials were conducted to study the effect of silicon and nitrogen application on yield and micronutrient contents of rice. The experiment was carried out in factorial randomized block design with three replications, encompassing four levels of silicon viz., 0, 200, 400 and 600 kg Si ha⁻¹ from calcium silicate and four levels of nitrogen viz., 0, 75, 100 and 125 kg N ha⁻¹ from ammonium sulphate. The highest grain and straw yields (6163 and 8536 kg ha⁻¹, respectively) of rice were recorded with Si application of 600 kg ha⁻¹ whereas, nitrogen application @ 125 kg ha⁻¹ gave 6445 and 8658 kg ha⁻¹, grain and straw yields, respectively. Silicon application had increased the Zn and Cu contents in grain by 14 and 12% over check, respectively. Nitrogen application had increased grain and straw contents by 18 and 16% over check, respectively. However, the silicon application significantly decreased the Fe and Mn contents in rice grain as well as straw. The effect of Si and N and their interaction was found significant for Fe, Mn, Zn and Cu contents in rice grain and straw.

Keywords: Rice, Silicon, Nitrogen, Yield, Micronutrient contents
