Influence of Silicon on Alleviation of Salinity Effect in Rice

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ABSTRACT

A pot culture experiment was conducted to study the influence of silicon on alleviation of salinity on rice during *kharif,* 2016 at Saline Water Scheme, Agricultural College Farm, Bapatla. In this study soils of similar characteristics but variable salinity (2,5 and 10 dS m^{-1} of ECe) were collected from Nizampatnam were tested along with four different sources of silica *viz.,* potassium silicate, calcium silicate, paddy straw, paddy husk and one control (no silica) treatment in a split plot design with three replications. In this experiment salinity levels were taken as a main plots whereas silica sources taken in sub plots. Significant influence of salinity levels was observed on yield attributes, yield and nutrient uptake of rice crop. The data pertaining to grain yield revealed a significant influence of soil salinity levels and source of silica. The maximum grain yield (15.66 g $plant^{-1}$) was observed at a salinity level of 2 dS m^{-1} and it was significantly superior to rest of tha salinity levels. Among different sources of silica, potassium silicate recorded significantly higher grain yield (14.69 g $plant^{-1}$) as compared to no silica treatment (10.9 g $plant^{-1}$). The highest grain yield (16.67 g $plant^{-1}$) was recorded in treatment combination of potassium silicate with a salinity level of 2 dS m^{-1}.

Keywords: *Pot culture, Rice, Salinity and Silicon*.