

3rd Global Summit on

Plant Science

August 07-09, 2017 | Rome, Italy

The ameliorative effects of silicon on salt-stressed sorghum seedlings and its influence on the activities of sucrose synthase and PEP carboxylase

Amani Abdel-Latif¹ and Fatma M El-Demerdash²
University of Alexandria, Egypt

Under salt stress, silicon is considered a beneficial element for the growth of higher plants as it alleviates the harmful effects caused by salt. In the present study, *Sorghum bicolor* L. seedlings were grown hydroponically in growth units, filled with continuously aerated half strength of Hoagland-nutrient solution. Different treatments were manipulated to examine the negative effects of NaCl and the combined effect of NaCl with Si on seedlings growth, chlorophyll content, soluble protein content, ion accumulation, phosphoenolpyruvate carboxylase (PEPCase) and sucrose synthase (SS) activities. The salt induced decrease in seedling growth was relieved upon treatment with Si. Meanwhile, the sucrose and glucose levels were significantly increased and there was a reduction in sodium concentrations in the salt-stressed plants treated with silicon. The PEPCase activity in sorghum seedlings subjected to salt-stress was higher in the treatment with Si than that without Si, but did not significantly differ from that of control.

krhamani@hotmail.com