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## Impact of foliar application of ascorbic acid on corn (*Zea mays* L.) under saline conditions

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The aim of this study was to investigate the morphological and biochemical attributes of maize (*Zea mays*) grown under saline conditions and by exogenous application of ascorbic acid. The experiment was carried out in petri-dishes and pots with randomize complete block design having five replicates for each salt and AA treatment. The certified seeds were sown in petri-dishes with saline water (120 mM) and different concentrations of AA (0, 0.1, 0.5, 1.0 mM). The maize seeds were planted in pots and irrigated with tap water. After that the seedlings were irrigated with saline water of 120 mM while respective concentration of AA was applied foliarly until the plants were harvested after sixty days of salt and AA treatment. Various growth and biochemical parameters were found to be severely affected by saline. These were found to be improved gradually with the increasing concentrations of AA. It is evident from the results of present study that presoaking of seeds with salt (120 mM) reduced the germination percentage significantly up to 60.32% while it was 97.8% under control conditions. The % germination was found to be enhanced from 60.32 (at 120 mM NaCl) to 74.68 at 0.1mM, 81.49 at 0.5mM and 86.76% at 1.0 mM concentrations of AA. AA pretreatment confer salt resistance and is likely to prepare the plants for forthcoming oxidative stress by increasing POD and SOD activity and proline contents at the expense of protein degradation.

### Biography

Zahoor Ahmad Sajid has research experience in the field of Plant Tissue Culture/Plant Stress Physiology/Biochemistry. His overall research focus is on to study the mechanism of salinity tolerance in agricultural crop and true halophytes (*Thellungiella halophila*). Currently, he is evaluating the potential of different biomolecules (salicylic acid, ascorbic acid, proline,  $\text{KH}_2\text{PO}_4$  etc.) against various stresses in different agronomically important crops (potato, pea, maize, etc.). Exogenous application of these biomolecules (pretreatment to plants/callus cultures before inoculation/added in medium) or foliar spray to pot-grown plants has shown to have reduced its effect substantially in plants. These biomolecules minimized the oxidative damage by increasing the amount of antioxidant enzymes (superoxide dismutase, catalase and peroxidase) that in turn reflected in better growth parameters of plants.

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