

عنوان مقاله:

The Effects of Seed Priming with Salicylic Acid on the Growth of Maize under Salinity Conditions

محل انتشار:

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خلاصه مقاله:

Salinity is an important abiotic stress which can restrict plants growth and productivity through several physiological and biological processes. It has been proposed that SA acts as an endogenous signal molecule responsible for inducing abiotic stress tolerance in plants. In this research the role of salicylic acid (SA) in amelioration of salt stress on maize (*Zea mays* L.) has been investigated. Pot experiments was conducted to determine the effects of exogenous SA application on growth indices (dry weight, leaf area, number of leaves and plant height) of maize plants under salt stress in green house conditions. Maize plants were treated with SA at different concentrations (0, 1, 2, 3 mM). Salinity treatments were 6 levels of NaCl (10, 20, 30, 40, 00 meq/Kgsoil). A factorial experiment based on a completely randomized design with four replicates was measured. As a consequence of salinity stress the growth parameters of maize plants were negatively affected, however plants treated with SA, significantly had greater shoot dry weight, leaf area, number of leaves and stem length. Results of analysis of variance showed that salinity levels and SA concentrations affected growth parameters significantly ($P < 0.001$). Means comparison indicated that the greatest values were obtained by the 2000 mM SA application. In Overall, these results suggest that SA could be used as a plant growth regulator to improve their resistance toward salinity stress.

کلمات کلیدی:

salinity stress, salicylic acid, growth parameters, maize

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