

عنوان مقاله:

Effect of salinity on chickpea seed germination pre-treated with salicylic acid

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خلاصه مقاله:

Chickpea (*Cicer arietinum* L.) is known to be highly susceptible towards soil or water salinity, whose are the primary abiotic factors that limit growth and crop of this plant in Algeria. Therefore, more efforts are needed to improve its tolerance to salinity. Salicylic acid (SA) is a key endogenous signal that mediates defense gene expression and disease resistance in many dicotyledonous species. The objective of this study was to determine the role of salicylic acid on reducing the stress sensitivity to salinity during germination of chickpea. Our observations indicate that, although SA had a positively effects exerted on salinity tolerance in seed germination in comparison with untreated seeds. It is important to notice that pre-treated seeds with salicylic acid prevent a decrease in kinetics of germination, estimated respectively to 80% in ILC3279 and 76% in AKIM91, Also, a speed of radicle emergence were noted, under salt stress into both varieties. Also it provides a significant decrease in proline contents and a few variations in soluble sugar, the most important accumulation of proteins were noted with 0,5mM SA in AKIM91 (10.25%) and ILC3279 (8.75%). The results of polyphenol indicated an accumulation in the pretreated seeds with 0.05 mM (1.84mg/gMS in AKIM91 and 0.45 in ILC3279). A relationship between this compounds and salt tolerance was observed in both varieties, under the effect of Salicylic acid concentrations during the germination period.

کلمات کلیدی:

Cicer arietinum L., Salicylic acid, Salinity, Germination, Protein, Proline, Soluble sugar, Polyphenol

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