

Effects of Salt Stress and Water Amount on Plant Growth and Yield of Purple Coneflower (*Echinacea purpurea* L.)

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Aim of the study: In this study were carried out to determine the effects of salt stress (0.4, 1.00, 2.50, 4.00 and 8.00 dSm⁻¹) and different amount of required water (80, 100, 120 %) on growing of. purple coneflower (*Echinacea purpurea* L.).

Material and Methods: Five salinity levels and three levels of water were used in a factorial experiment with 3 replications. Root dry weight, aerial part dry weight and aerial part/root ratio were determined and evaluated at the end of growing period.

Results: According to the results, purple coneflower is a very sensitive plant species to salinity and its development was interrupted by increasing salt doses. Upper levels of salt stress in the tried doses resulted in plant death. The deterioration in root development was found to be higher than the development of aerial parts in response to the increasing salt doses. Besides the changes in salt concentrations of irrigation water affected root dry weight significantly.

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Keywords: Echinacea, salinity stress, water stress, plant growth.