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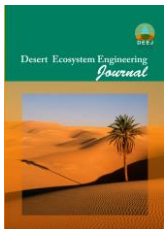

Effect of salinity on morphological and physiological characteristics of different ecotype of salad burent (*Poterium sanguisorba* L.) at the germination and vegetative stages

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Abstract

In order to evaluate effect of salinity on the germination and vegetative growth of grassland different salad burent *Poterium sanguisorba* two different experiments were conducted under laboratory and glasshouse conditions in summer 2010. In the first experiment six ecotypes (Semirom, Fereidonshahr, Tehran, Karsang, Damavand and farokhshahr) and four levels of salinity (0, 4, 8 and 12 dS m-1 of sodium chlorid under laboratory condition and in the second experiment four ecotypes of Semirom, Fereidonshahr, Tehran and Karsang and four levels of salinity (0, 4, 8 and 12 dS m-1 of sodium chlorid under greenhouse condition were carried out in factorial experiment with three replications. Traits of germination percentage, germination speed, length of radicle and plumule and seedling wet weight in the first experiment, protein, proline content, percent of Cl and Na above ground plant in the second experiment were measured. The results under laboratory condition, showed that with increased in salinity stress, percent of germination and speed germination, length of radicle and plumule and seedling dry weight were significantly decreased. Based on the greenhouse result, protein content significantly decreased, percent of Cl, Na and proline concentration significantly increased. In the germination stage and seedling stage, Ecotype of Tehran showed the maximum resistance to salinity stress.

Keyword: *Poterium sanguisorba*, proline, protein, salinity stress.

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