



The effects of salinity stress on some of vegetative traits and water relations on two species: *Hedysarum criniferum* and *Hedysarum coronarium*

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Received: 03/04/2013

Accepted: 12/04/2014

Abstract

Salinity stress is one of the most important problems of arid and semi-arid regions in the world. Based on Food and Agriculture Organization report, more than 40% of Iran's under Irrigation lands, are against secondary salinity. The effects of salinity stress on some of vegetative traits and water relations on two rangeland plants species of leguminosae family was the main objective of this experiment. The study conducted in completely random design with factorial experiment and four replications in greenhouse conditions. Experimental treatments were two *Hedysarum criniferum* and *Hedysarum coronarium* species and five levels of salty water solution containing pure sodium chloride with concentration of 0, 100, 200, 250 and 300 mM. Results of the experiment showed that salinity affected the vegetative traits and water relations on *Hedysarum criniferum* and *Hedysarum coronarium*. Increasing the salinity caused significant ($P < 0.05$) increases in the water use efficiency of *Hedysarum criniferum* and *Hedysarum coronarium*. With increasing salinity rates, some vegetative traits decreases such as; shoot dry weight and root dry weight were observed ($P < 0.05$).

Keywords: water relation, vegetative trait, salinity stress, NaCl, *Hedysarum criniferum*, *Hedysarum coronarium*

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