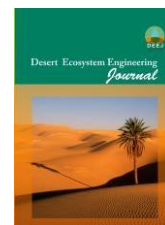




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The Effect of Drought Stress Intensity and Stage on Agronomic Characteristics of Two Common Bean Cultivars

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Abstract

In order to evaluate the intensity and stage of drought stress on agronomic characteristics and drought tolerance of common bean (*Phaseolus vulgaris* L.), a split plot factorial experiment was conducted in a randomized complete block design with three replications at Shahrekord University in 2013 and 2014. Drought stress treatments and levels of irrigation regimes were considered at vegetative growth (V₄), flowering (R₅) and pod filling (R₇) stages and 60, 80 and 100 percent of full irrigation. The results showed that the maximum number of seeds per pod in Talash cultivar was related to 80 percent water deficit conditions. The maximum 100-seed weight for Talash and Daneshkadeh cultivars was belonging to 80 percent of irrigation. The maximum 100-seed weight was obtained from pod filling drought stress stage. The maximum number of pods per plant was belonging to Talash cultivar with 100 percent of irrigation at vegetative stage while the minimum number was obtained from Daneshkadeh cultivar with 60 percent of irrigation at flowering stage. The maximum grain yield was belonging to Talash cultivar with 80 percent of irrigation at pod filling stage. Also, in case of drought resistance in two bean cultivars, the tolerance and stress susceptibility indices (TOL and SSI) showed significant differences.

Keywords: Bean, Drought tolerance indices, Growth stages, Irrigation water amount, Stress tolerance.

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