Iranian Journal of Horticultural Science and Technology 18 (4): 389 - 402 (2017)

Evaluation of Banabaghi as Salt-tolerant Pistachio Rootstock According to Some Growth Indices and Echo-Physiological Parameters

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In order to evaluate the tolerance of Banabaghi and Badami-Riz-e-Zarand pistachio rootstocks to salinity, an experiment was conducted as factorial based on completely randomized design with three replications. Each replication consisted of two samples and each sample containing a pot with three seedlings. Treatments were three levels of salinity (0, 70 and 140 mM) of sodium chloride, calcium chloride and magnesium chloride with ratio (3:2:1) and three rootstocks (Badami-Riz-e-Zarand, Banabaghi with pistachio growth type and Banabaghi with mutica growth type). The results showed that salt stress decreased the growth characteristics and eco-physiological parameters so that the most leaf dry weight was observed in Banabaghi with pistachio growth type and the lowest was in the Badami-Riz-e-Zarand rootstock. Also, at the highest level of salinity, Banabaghi rootstock with pistachio growth type had the highest relative water content of leaf and the Banabaghi rootstock with mutica growth type had the lowest content. The highest proline content of leaves obtained in the Banabaghi rootstock with pistachio growth type and the lowest content was observed in the Badami-riz Zarand rootstock. Also, the results showed that the lowest shoot Na concentration was observed in Banabaghi with pistachio growth type. Based on the present study, Banabaghi rootstock with pistachio growth type had higher tolerance to salinity stress than Banabaghi with mutica growth type.

Keywords: Leaf dry weight, Pistachio, Proline, Relative water content, Salinity.

[DOR: 20.1001.1.16807154.1396.18.4.6.5]

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