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Effect of Sodium Chloride on Morpho-Physiological Traits of Some Pistachio Rootstocks and Hybrids

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Salinity is one of the most important environmental stresses that can affect plant growth. Regarding the sensitivity of different varieties of pistachio to salinity, determining the most tolerant variety is unavoidable. For this purpose, controlled crosses were performed between the Italian cultivar and the rootstocks of Badami Riz-e- Zarand, Qazvini, Sarakhs or Atlantica as the female parent and *Pistachio integerrima* as the male parent. The seedlings and their parents and UCB1 were tested for salinity (control, 75, 150, and 225 mM) in the second year for nine weeks. Results showed that the rootstocks of Badami Riz -e- Zarand, Qazvini, and Badami Riz-e- Zarand× *P. integerrima* had a more relative tolerance to salinity as salinity increased, stem diameter and length, number of leaves, number of necrotic leaves, leaf area, fresh and dry weights of root and shoot decreased, and the amount of calcium and potassium decreased due to its antagonistic effects with sodium, but the amount of sodium and chlorine in the roots and aerial parts increased. In addition, with increasing sodium chloride, chlorophyll index, chlorophyll and b and total chlorophyll were decreased.

Keywords: Chlorophyll, Crosses, Pistachios, Resistant rootstocks.

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