

Effects of salinity and Cu on total uptake of micronutrient in shoot and root of pistachio cultivars (*Pistacia vera* L.)

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Abstract

To study the effects of soil Cu and salinity levels on uptake of micronutrients by shoots and roots of pistachio seedlings, a factorial experiment was carried out as completely randomized design with three replications in greenhouse of College of Agriculture, Vali-e-Asr University of Rafsanjan, Iran, in May 2008. Treatments consisted of five salinity levels (0, 800, 1600, 2400 and 3200 mg NaCl per kg soil), four Cu levels (0, 2.5, 5 and 7.5 mg Cu per kg soil) and two pistachio cultivars (Badami Zarand and Ghazvini). Results showed that salinity stress significantly ($P<0.05$) decreased the uptake of micronutrients including Cu, Fe, Zn and Mn by shoots and roots. Application of 5 mg Cu per kg soil significantly increased the uptake of Cu, Fe and Mn by shoots, but had no significant effect on Zn uptake by shoots. Application of 2.5 mg Cu per kg soil significantly increased uptake of Cu, Fe and Mn by roots, while had no significant effect on Zn uptake by roots. In conclusion, the uptake of micronutrients in Badami Zarand cultivar was significantly higher than Ghazvini cultivar. Since trees suffer from deficiency of micronutrients in pistachio orchards, using Badami Zarand cultivar is recommended as pistachio rootstock.

Keywords: Badami cultivar, Ghazvini cultivar, Fe, Mn, Salinity.

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