

P-18 (123)**EFFECT OF PUTRESCINE ON SOME PHYSIOLOGICAL AND MORPHOLOGICAL TRAITS UNDER DROUGHT STRESS IN CARRIZO CITRANGE AND VOLKAMERIANA ROOTSTOCKS**

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Drought is one of the most important problems that restrict cultivation of crops in arid and semi-arid regions of Iran. In this study, effects of putrescine were studied in one- year-old seedlings of Carrizo Citrange (*Citrus sinensis* Osb. × *Poncirus trifoliata* Raf.) and Volkameriana (*Citrus volkameriana*) growing in containers under different drought stresses. The effect of putrescine on reducing effects of water stress on growth were evaluated in a factorial experiment in completely randomized design using putrescine at three concentrations of 0,1 and 2 mM in seedlings under 0.3 field capacity. Results showed the foliar application of putrescine improved root and shoot growth and also total plant biomass in both seedlings. Putrescine significantly reduced the root diameter, which was due to the increased percentage of fine roots and the decreased percentage of coarse roots. Moreover, application of putrescine significantly increased the relative water content, proline and protein concentration, and reduced electrolyte leakage. Although, drought stress, reduced the rate of growth and total plant biomass, based on the results; however, application of putrescine at different concentration reduces downward effects of drought stress in both mentioned seedlings.

Keywords: Putrescine, Drought, Carrizo Citrange, Volkameriana.