

Effects of Conjunctive Use of Different Amounts of Saline and Non-Saline Waters on Vegetative Growth of Date Offshoots

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Abstract

Mixing saline and non-saline water is one of the management methods for using saline water resources. This research was carried out to study the effects of conjunctive use of saline and non-saline water on vegetative growth of *Barhee* date offshoot. The experiment was conducted in a randomized complete block design with six treatments and three replications. The treatments included: T₁= irrigation with the Karun River water (2.3 dS/m), T₂= irrigation with Karun River water and saline water of 5 dS/m (volume ratio 2:1), T₃= irrigation with Karun River water and saline water of 8 dS/m (volume ratio 2:1), T₄= irrigation with Karun River water and saline water of 5 dS/m (volume ratio 1:2), T₅= irrigation with Karun River water and saline water of 8 dS/m (volume ratio 1:2), and T₆= irrigation with saline water of 5 dS/m. The offshoots water requirement was calculated based on FAO pan evaporation method. The results showed that irrigation treatments had significant effect (P<1%) on plant vegetative traits. There was no significant difference (P<1%) between T₁ and T₂ in leaf length, number of leaflets, and shoot wet and dry weights of date offshoot. The number of leaves and leaflets of the plant decreased by 64.9% and 58.2%, respectively, in treatment of irrigation with saline water of 5 dS/m compared to T₁. While reduction amounts of these vegetative traits in T₂ were zero and 8.2%, respectively. Also, shoot wet and dry weights of date offshoot in T₆ was decreased by 64.7% and 67.5%, respectively; but, in T₂, these vegetative traits decreased only by 7.7% and 8.6%, respectively.

Keywords: Agricultural drain water, *Barhee* date, Irrigation, Vegetative attributes

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