

## **The effect of water stress on the growth indices and plant water relations in young olive plants**

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A trial was conducted in 1999 and 2000 in greenhouses of Horticultural Department (Tehran University) on olive young plants to investigate the effect of available water on growth indices and plant water relations and its relation with physiological reactions. The trial was carried out on split plot on the base of complete randomized block design with three replications and three observations in each plot. In this research one year old plants of olive cultivars (Zard, Roghani, Mary, Fyshomi, Dezful and Shengeh) planted in plastic pots on light media were selected and irrigated for three months as every other day before treatment. In order to apply irrigation treatments, three treatments were selected (2, 6 and 12 days) and the 2 day treatment was considered as control.

The results indicated that vegetative growth plants, leaf water potential and leaf relative water content decreased with the decrease of the available water (with increasing of water stress). The cultivars showed significant difference together about some vegetative indices such as leaf water potential and relative leaf water content. Intraction between the irrigation on duration and cultivars were significant for ratio of dry root to shoot and leaf water potential (in 1999.)

used in citrus research institute ( Kotra Research Station).

Results indicated that in the yield of citrus during 1375- 1377 , there was no significant difference between treatments. But the effect of year at level %1 was significant intraction of year wile treatments were not significant and maximum yield was related to treatment "A".