

## Effect of Polyamines on Fruit Set and Quality of Olive Fruit

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In order to study the effect of polyamines (PAs) including putrescine (Put) and spermidine (Spd) on growth and quality of olive fruit (*Olea europae* L. cv. Dezful) an experiment was conducted in Shiraz, Iran (2014 and 2015). Putrescine (0, 2.5 and 5 mM L<sup>-1</sup>) and Spermidine (0, 1.25 and 2.5 mM L<sup>-1</sup>) were sprayed on branch units at full bloom (FB) and two weeks after full bloom (AFB). Factorial experiment was conducted in a randomized complete block design with three replications. Fruit number, physical characteristics such as fruit and pit size, weight, length and diameter, fruit color and chemical characteristics such as total phenol content, total carbohydrate and chlorophyll a, b were evaluated. The results showed that Put was very effective on decreasing abscised fruits and increased fruit set at FB. Fruit skin color was affected by the type of PAs applied. Total phenol was generally reduced in fruits obtained from PAs treated trees. Total carbohydrate, N, chlorophyll a and b contents and total chlorophyll increased in PAs treated fruit as compared with control. Applications of Put and Spd significantly increased fruit growth characters such as size, weight, length and diameter but decreased weight, length and diameter of the pits compared with control. The highest effect on physical and chemical characters was observed in Put at 5 mM L<sup>-1</sup> treatment.

**Key Words:** Abscission, Fruit set, Olive, Putrescine, Spermidine.

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