

## Influence of Spraying Kalamata and Picual Olive Trees with GA<sub>3</sub> and ZnSO<sub>4</sub> on Productivity and some Fruit Properties

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**Abstract :** This work was performed to study the effect of spraying Kalamata and Picual olive trees with the aqueous solution of GA<sub>3</sub> at (0.0, 20 and 40 ppm) or ZnSO<sub>4</sub> at (0.0, 0.5 and 1%) and their companions on trees productivity and fruit properties. Treatments were applied when fruits reached about two third of their commercial volume, the (beginning of final swelling stage). Data obtained revealed that values of average yield as (kg/ tree) for Kalamata olive trees received GA<sub>3</sub> at 40 ppm alone surpassed those of the other tested treatments. Also, values of average fruit weight (g) and volume (cm<sup>3</sup>), flesh/ stone ratio and dry oil percent were enhanced due to these two treatments (GA<sub>3</sub> at 40 ppm alone or coupled with ZnSO<sub>4</sub> at 0.5%). As for the Picual trees, the maximum increase in yield and flesh oil percentage resulted from applying GA<sub>3</sub> at 40 ppm alone. The highest values of fruit weight and volume and flesh /stone ratio were obtained in trees sprayed with GA<sub>3</sub> at 40 ppm coupled with ZnSO<sub>4</sub> at 1%.

**Kew words:** Olive (*Olea europaea* L.), Kalamata, Picual, GA<sub>3</sub>, ZnSO<sub>4</sub>, yield, fruit weight, fruit volume, flesh/ stone ratio, oil content.

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