

# Determination of the irrigation regimen for an avocado plantation in spring and autumn

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## **Abstract**

An irrigation experiment was conducted with three cultivars (Hass, Ettinger and Fuerte) in the avocado plantation of the Akko Experiment Station, Israel, during 1974-80 to determine the effect of irrigation regimen in spring and autumn on tree growth and productivity. Two treatments (wet and dry) were tested in the spring and in the autumn. In spring the trees receiving the wet treatment were irrigated when the tension at a soil depth of 30 cm reached 25 cbar (250 MPa), while those in the dry treatment were irrigated at 40 cbar tension. The same wet treatment was also applied in the autumn, while in the dry treatment the trees were not irrigated until the fruit reached elasticity at noon. The water regimen in the spring affected tree growth slightly, but in cvv. Hass and Ettinger the absolute and relative growth was higher in the spring dry treatment than in the wet. Trees grew faster under the autumn wet regimen than with the autumn dry regimen. The effect of irrigation regimen on yield, fruit size and export quality was light. Only with cv. Ettinger were higher yields recorded from trees irrigated with the dry-wet regimen. The autumn water stress sometimes decreased fruit size, but size was affected much more by the tree yield than by the irrigation regimen. It seems that the regimens in spring and autumn do not increase the productivity of avocado trees. However, equivalent yields of the same quality can be obtained with reduced water amounts, by using the water more efficiently.

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