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THE QUANTITATIVE EFFECTS OF TWO METHODS OF SPRINKLER IRRIGATION ON THE MICROCLIMATE OF A MATURE AVOCADO PLANTATION

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ABSTRACT

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The effects of above- and below-canopy irrigation on microclimatic amelioration of an avocado plantation during hot and dry (sharav) conditions have been investigated. The results obtained show that above-canopy irrigation has the greatest effect on microclimatic modification reducing temperatures by 7°C and increasing humidity by 27%. Below-canopy irrigation has a much lesser effect. The effect of irrigation on microclimatic modification is relatively short lived, both methods of irrigation showing similar results.

Microclimatic modifications are themselves climatically dependent. The more extreme the "*sharav*" conditions, the hotter and drier the ambient air, the greater the modifying effects. Practical considerations prevent large-scale irrigation above the tree-canopy and consequently below-canopy irrigation is practiced. Under field conditions the actual rate of cooling remains approximately one-third of the wet bulb depression.