

CONSIDERATIONS BEFORE USING A DENDROMETER TO CONTROL IRRIGATION IN HASS AVOCADO

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Variations in trunk diameter have been proposed as an indicator of the water status in plants. The aim of this study was to evaluate variations in trunk diameter (VTD) as an indicator of the water status in avocado trees. During three years, VTD were monitored with digital dendrometers in trees planted in three orchards with different irrigation frequencies.

When plants were frequently irrigated, values of daily maximum contraction amplitude (DCA) of the trunk diameter were similar than those for plants infrequently irrigated. The DCA follows the same pattern in the different locations, detecting higher values in summer and lower in winter. Between April and November, average DCA values were close to 45 μm . In summer, these values varied between 50 and 250 μm . DCA values have a great variability in the three orchards; therefore it is not recommendable to use absolute values of DCA to make an irrigation control in avocados.

For avocado trees in production, the trunk growth (TG) is poor in winter, between May and late August. During spring, between September and early December, the growth rate varies between 0.029 and 0.042 mm day^{-1} . The maximum growth occurs in summer between mid-December and March, with a rate varying between 0.057 and 0.071 mm day^{-1} . The values of growing rate are quite stable in all these periods, in spite of the place or year.