

EFFECTS OF NUTRITION AND IRRIGATION ON THE CONTROL OF THRIP POPULATIONS AFFECTING AVOCADO FRUITS (*PERSEA AMERICANA* CV. "HASS") IN TWO AGROECOLOGICAL REGIONS OF MICHOACÁN (MÉXICO) A-47

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The proper management of the nutrition and irrigation levels in agricultural crops has been associated with a higher tolerance to damaging organisms. Herms (2002) suggested that this paradigm should be reevaluated. According to this, we monitored thrip populations to evaluate their impact on avocado fruits from trees subjected to three levels of nitrogen, phosphorous and potassium in combination with three levels of evaporative layers of water in Ziracuaretiro and Tancítaro (Michoacán, México). A randomized block design with three replicates in each location was used in 2001 and 2002. Two trees per block were subjected to the following combinations of nitrogen, phosphorous, potassium and evaporative layers of water, respectively: a) 0-2-1+ 0.75, b) 1-2-1+0.75, c) 2-2-1+0.75, d) 3-2-1+0.75, e) 2-0-1+0.75, f) 2-4-1+0.75, g) 2-2-0+0.75, h) 2-2-2+0.75, i) 2-2-1+0.50, j) 2-2-1+1.0 and k) control (agronomical management by the grower). Sampling was done in one tree every fourteen days to quantify the thrips in vegetative young shoots, inflorescences and fruits. The percentage of damaged fruits by thrips was quantified at harvesting time. Although fertigation treatments resulted in an increase of the fruit size and in a more efficient use of water and nutrients, no significant differences among treatments were found on thrip incidence on the trees; the pest was affected by other factors, such as phenology ($r=0.87^{**}$) and temperatures $< 10\text{ }^{\circ}\text{C}$ ($r=0.68^{*}$). The percentages of damaged fruits by thrips in Ziracuaretiro for the 2001 and 2002 harvesting seasons were 53.7% and 37.8 %, respectively. In Tancítaro, for the same seasons, the percentages were 27% and 31 %, respectively. Such differences among years and locations could be related to the agronomical management of the orchards: in Ziracuaretiro the phytosanitary control was optimized in 2002 resulting in the elimination of thrip populations, whereas in Tancítaro no thrip control was carried out. The results obtained agree with the assertion of Herms (2002) since no significant relationship was found between the nutritional state of the plant and the susceptibility to thrips.