

REFERENCE VALUES FOR N, P AND K IN AVOCADO (*PERSEA AMERICANA* MILL) VAR. "HASS" CULTIVATED USING FERTIGATION IN MICHOACÁN, MEXICO

A-167

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The nutritional status for nitrogen (N), phosphorus (P) and potassium (K) was evaluated during the years 2001 and 2002 in Ziracuaretiro and Tancitaro, Mich., México. The main objectives of the present work were to correlate the N, P, K contents in the soil and in cellular extracts of petiole (CEP), measured using portable ionometers, with fruit yield to obtain useful reference values of these nutrients for the management of the crop and to study the relationship between nutrient availability in the soil and assimilation to CEP. Nutrient treatments were applied in an avocado orchard (*Persea americana* Mill) cv. "Hass" using microsprinkling fertigation with the following doses: 0.0, 1.0, 2.0 and 3.0 Kg. of N; 0.0, 2.0 and 4.0 Kg. of P and 0.0, 1.0 and 2.0 Kg. of K per tree; as control we included the standard management employed by growers (NPK, 3-3-3). A randomized block design with 8 treatments and three replications was used. The nutrient levels in the soil and CEP were evaluated every 45 days using N, P and K specific ionometers. In Tancitaro, the best correlation between the maximum yield of best quality fruits (cal. 12-18) and the levels of N-NO₃ and K⁺ in CEP was found for 255 and 2600 ppm, respectively. A similar behavior was found in Ziracuaretiro, although the values were slightly different, 438 and 1975 ppm, respectively. Statistically significant relationships were found for P and K between the nutrient dose applied per hectare and the presence of nutrients (ppm) in the soil solution ($r=0.87 * p\leq 0.05$) and ($r=0.81 * p\leq 0.05$), respectively. However no significant correlation was found for the nutrients present in CEP. Avocado response to the addition of N and K was parabolic and, consequently, the addition of large amounts of fertilizers does not result in a higher fruit production or higher contents of N and K in CEP but, on the contrary, it could produce lower yields and lower levels of N and K in CEP.