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INCREASE IN THE PRODUCTION AND FRUIT SIZE OF AVOCADO CV HASS IN RESPONSE TO FERTIGATION, IN TANCITARO MICHOACÁN, MEXICO

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México contributes with 38% of total world avocado production. The area of Michoacán, which comprises 82.4% of the Mexican avocado producing area, produces 84.2 % of the avocado national production. One of the current main problems that concern avocado growers is the low quality of the fruit in terms of size and sanitary conditions. Fertigation has been proposed as an alternative to increase fruit size to higher calibers (12-18) since it allows increasing fruit weight above 211g in more than 50% of the total fruit production. The objective of this work was to improve the production of high quality fruits in terms of size and appearance. With this aim, we designed a randomized block experiment with four nitrogen levels (0, 1, 2 and 3 Kg/ tree), three phosphorous levels (0, 2 and 4 Kg/tree) and three potassium levels (0, 1 and 2 Kg/tree). The experiment was carried out during 2001 in Tancitaro (Michoacán), located at 2150 m a.s.l and characterized by a warm sub-humid climate (A)C(w1)(w) and an andosol soil type. The nutrient sources were N-32, phosphoric acid (P_2O_5 , 50%) and potassium hydroxide (K_2O , 45%). The irrigation treatments were 0.50, 0.75 and 1.00 of ETP. During 2001 and 2002, the highest yields were obtained with the following treatments: a) for nitrogen, **0-2-1+0.75**, **1-2-1+0.75** and **2-2-1+0.75** which translates into 98, 110 and 128 Kg/ tree, respectively, suggesting a significant response to nitrogen treatments; b) for phosphorous, treatments **-0-1+0.75**, **2-2-1+0.75** and **2-4-1+0.75** resulting in yields of 98, 128 and 112 kg/tree, respectively; and c) for potassium, treatments **2-2-0+0.75**, **2-2-1+0.75** and **2-2-2+0.75** render 76, 128 and 107 kg/tree, respectively. Regarding fruit size, the weight of 76% of the fruits was over 211g. These results suggest that the treatment **2-2-1+0.75** applied by micro-sprinkles through February to June results in yields over 12ton/ha and fruits weights higher than 211g.