

## **AVOCADO CLONAL ROOTSTOCK PRODUCTION TRIAL**

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A project designed to evaluate the performance of 'Hass' on ten avocado rootstocks in the absence of *Phytophthora cinnamomi* has been established at the University of California South Coast Research and Extension Center, in southern California. In March 1991, the fourth year of yield data were collected from the trial. Total yield from years 2 through 5 show the highest cumulative yields from 'Hass' planted on Duke 7 (103.5 kg/tree), and the lowest on G755B (19.5 kg/tree). There were no statistical differences in average fruit size in years 2-4. Average fruit weight per tree for these years was 260 g. In the fifth year, average fruit size was smaller (151 g) with G755A producing the largest fruit (171 g) and Toro Canyon the smallest (121 g).

Using canopy volume data, the yield efficiencies of 'Hass' on the various rootstocks were calculated. In 1990, Duke 7 and Thomas produced significantly more fruit per cubic meter of canopy than all other rootstocks ( $P < 0.01$ ). This was followed by Topa Topa, Borchard, Toro Canyon, and G1033 with intermediate yield efficiencies. The poorest group of performers were D9 and the three G755 rootstocks. In 1991, the rootstocks differentiated into two statistical groupings ( $P < 0.01$ ); the three G755 rootstocks were again the poorest performers based on a yield per canopy volume basis whereas the remaining rootstocks were statistically similar.

Starting in March 1992, we plan to begin monitoring root growth of 4 rootstocks: Thomas, Duke 7, Topa Topa and D9 using mini-rhizotrons. Ten trees per rootstock will be monitored on a regular basis over the next two growing season. We will also collect data on vegetative and reproductive growth in an attempt to develop a pheno-logical model of avocado tree growth similar to that developed in Australia by A. W. Whiley.