

## EFFECTS OF SIX ORGANIC MATTER SOURCES ON GROWTH AND TREE EFFICIENCY OF YOUNG HASS AVOCADO TREES WITH LOW NITROGEN FERTILIZATION

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Sugar, sugar cane vinasse, dehydrated manure, solid compost with olive residues and their liquid leachates, leonardite, rich in humic and fulvic acids, and its leachates were compared. The study was done from 1993 to 2002 in shale derived soils, well drained, nutrient low and practically free of carbonates. The design was on randomized blocks with 20 single tree replicates. Half of them were directly established on broken shale rock and the other half after applying on top 50 cm of shale derived top soil. In both soils half the replicates were grafted on Topa-Topa and half on Zutano rootstocks. Potential yield, tree efficiency, mean fruit weight and trunk cross sectional area were bigger when top soil had been added. Tree and fruit size were bigger on Topa-Topa. Tree efficiency was higher on Zutano but yield differences were not significant. Only sugar and solid compost with olive residues significantly reduced tree size. Potential yield was significantly increased by the dehydrated manure only. It was also the only product that increase tree efficiency slightly but not significantly. All treatments, including the untreated controls, had similar fruit weight.