

WATER AND NUTRIENT MANAGEMENT OF AVOCADOS IN THE CENTRAL HIGHLANDS OF KENYA

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Plant and Food Research (PFR) are working in the central highlands of Kenya on an NZ Aid programme with a New Zealand-born company Olivado which produces the world's leading brand of extra virgin avocado oil. We are working alongside local farmers and horticultural research/extension organisations to improve the supply of high quality organically-grown fruit. The goal of the programme is to more than double the average return to small-holder famers over 10 years through increased plantings, enhancing grower production capability, improved postharvest handling systems, and enhancing national horticultural research and extension capability to support the industry. One of our research activities is to better understand the water and nutrient status of avocados grown under current dry-land farming practices. Field experiments have been set up near Murang'a to monitor changes in tree water-use and soil water content over the course of a growing season. Sap flow sensors were installed in trees of different sizes (ages) to measure tree water use, TDR (time domain reflectometry) probes were installed in the root-zone to monitor changes in soil water contents, and a weather station was installed to monitor the microclimate and assess the potential evaporative demand (ET_o, mm/day). We have also carried out regionally based soil and leaf analyses to determine plant nutrient status and help identify target nutrients for remediation. These results are supporting the development of a model to assess the potential water requirements and yield gains that might be achieved from optimised irrigation.

Editor's Note: A manuscript has not yet been submitted for this presentation.