

Integrated Control of *Phytophthora* Root Rot in California

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Abstract. *Phytophthora* root rot (PRR) continues to be a major scourge of avocados in California. In 1988/89, it was estimated to have caused \$44 million in losses. Upwards of 60 percent of groves are affected by the disease to some extent. During the 1980's, the first practical steps towards an integrated control approach to root rot were initiated (Coffey, 1987). The four main principles of such control are sanitation and hygiene, cultural practices, resistant rootstocks and fungicides. The increasing availability of new rootstocks resistant to PRR such as Martin Grande and Thomas provide a sound basis for this approach. Registration of new *anti-Phytophthora* fungicides such as Ridomil (metalaxyl) and Aliette (fosetyl-AI) have provided a second option for growers. Fungicide registration through the 1980's became progressively more difficult due to the prevailing climate in California opposed to pesticide usage. Despite this, the majority of potentially useful fungicides for control of PRR have reached the grower and label recommendations are based on a sound experimental database developed under California conditions. Biological control practices have not yet been evaluated under field conditions. In practice, combined use of clonal resistant rootstocks and fungicides has already permitted the re-establishment of avocado groves in some root rot-infested soils. The economics of this approach have yet to be fully evaluated, however. Much hinges on the degree to which good fruit production can be established and maintained. In addition, the economics of avocado production in general, particularly with current irrigation and labor costs, together with the impact of fluctuation in fruit prices, can all be expected to play determining roles in the success or failure of future control strategies for avocado root rot.

Coffey, M.D. 1987. *Phytophthora* root rot of avocado. Plant Disease 71:1046-1052.