

Chemical Control of Avocado Root Rot (Chemical Injection)

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It is known that in California, avocados infected with root rot do not respond to trunk injections of fosetyl-al with the rapidity and vigor of trees in other parts of the world.

This lack of response could be due to a number of factors including climate, soil differences, organic matter, et cetera.

This slowness to respond is costly to the growers who need to return the ailing trees rapidly to production. This project, estimated to be four years in duration, is investigating methods of enhancing the effectiveness of root rot control by injections and to speed tree recovery and return to bearing status. Fiscal year 1989-90 was the first year of investigation.

Summary

Trial One of the chemical injections was initiated in early summer of 1990 at the Spaulding Ranch in Santa Barbara and consists of 45 mature Hass trees on seedling rootstocks in an area infested with *Phytophthora cinnamomi*. Treatments consist of an untreated control, Aliette injectable at label rates and timing, Aliette injectable plus injections of sucrose and Shive's nutrient solution.

Trees received 500 ml of solution containing 100 g of sucrose and Shive's nutrients containing K, Mg, Ca, N, S, Fe, B, Cu, Na, Mo, Mn, Cl, and Zn. The nutrients chosen and their amounts were suggested by Dr. Carol Lovatt.

The rationale is to furnish the trees with nutrients that they cannot take up from the soil because of root damage. No response has yet been noted.

Trial Two, scheduled to begin in August, uses Hass on Duke 7 at Rancho Taza, in San Diego County. These trees are smaller than the Spaulding trees, and it is hoped that responses will be easier to see. They will receive the same nutrients as at Spaulding, but a Ridomil treatment will be included if there are enough trees. We are awaiting the return of the Australian pressure injector which was sent out for repair. It is hoped that by using this tool, we can cut down the number of holes in the trees and inject the same amounts of material.

Trial Three is planned for the Embarcadero Ranch in Santa Barbara County. It will be on Hass on seedling rootstocks and will reflect the above programs. Because of the large number of trees available at this location, we hope to include more treatments,

such as foliar-applied Aliette, fertilizers, and cytokinins.

Cooperating personnel in this project include J. A. Menge, S. Campbell, G. Bender, G. Witney, B. Faber, and (consulting) C. Lovatt.