CHEMICAL CONTROL OF PHYTOPHTHORA ROOT AND CROWN ROT

Beth L. Teviotdale and G. Steven Sibbett

ABSTRACT

The fungicides Ridomil (Ciba-Geigy) and Aliette (Rhone-Poulenc) have been shown to be effective in controlling certain Phytophthora diseases on crops such as citrus and avocado. Greenhouse test with walnut suggest that walnut also may benefit from use of these materials, but neither has been tested in the field. Hartley trees on black rootstock were treated according to each manufacturer's instructions and planted in an established orchard having serious Phytophthora root and crown rot. There are 20 replications of the two treatments and an untreated check. Treatments will continue for two or three years and the trees observed for disease.

OBJECTIVE

To test the efficacy of Ridomil® and Aliette® in control of Phytophthora root and crown rot in the field.

PROCEDURE

An orchard in Tulare County with serious Phytophthora root rot problems was selected as the site for the test. Hartley on black rootstock trees were planted in April, 1983 in groups of three. Each group was situated between two established trees showing visible symptoms of Phytophthora infection on the crown or trunk. Three treatments, 1) Ridomil, 2) Aliette, and 3) untreated check were assigned randomly to the three trees and twenty such groups of three were included. The materials were applied according to manufacturer's instructions. At the time of planting, a scoop of soil taken from next to the crown of an adjacent tree with crown rot was added to the planting site. The orchard is furrow irrigated and water was allowed to stand in a basin around the test trees. Treatments and observations will continue for two or three years.

RESULTS

As of fall, 1983, two trees in each treatment died of root rot. Phytophthora was recovered from the tissues of one. No more trees died of crown rot in 1984 or 1985.

CONCLUSIONS

None.