



Converting urban yard waste to avocado root rot management

The Issue

In 1990 the California Assembly passed a bill calling for the reduction in materials going to landfills. A large portion of this material is urban yard waste, or green waste. For many years researchers at UC have been working on the nagging problem of how to control one of the most devastating diseases in avocado – *Phytophthora cinnamomi* or Avocado Root Rot. This disease affects 60 percent of the avocado acreage in the state. One of the treatments that had been examined was the use of organic materials as mulches, such as composts, manures and yard waste.

What has ANR done?

UC Cooperative Extension farm advisors Oleg Daugovish, Jim Downer and Ben Faber and UC Riverside researchers John Menge, Howard Ohr, David Crohn and Ole Becker evaluated the use of green waste for controlling avocado root rot and its potential to inadvertently spread disease. By various field and lab tests, the researchers found that green waste can significantly

reduce the root rot-causing organisms through a novel method of control. In order for soil microorganisms to degrade the organic matter, they release enzymes which also degrade the cell walls of the disease-causing microbe. And, even though green waste may be harboring weeds, disease, insects and nematodes, when properly treated, they do not persist in the mulch. Mulches are now used in most avocado orchards as part of an integrated method for controlling root rot. Other methods, also pioneered by UC, include the use of gypsum and rootstocks more tolerant of the disease than seedling rootstocks. As a result, most new avocado orchards have been planted with this integrated method of controlling avocado root rot disease.



Young avocado trees freshly mulched with urban green waste

The Payoff

Reducing yard waste sent to landfills

Not only has the green waste helped in controlling a terrible avocado disease, using the green waste in avocado orchards has reduced significantly the amount of materials going to landfills. Using these practices, Ventura County has reduced the amount of yard waste sent to landfills by 70 percent since 1990. The integrated control methods have allowed growers to rely less on fungicides while achieving greater control than with fungicides alone. These practices have done much to maintain the productivity of the \$350 million a year avocado crop, saving growers as much as \$50 million annually from avocado root rot.

Contact

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