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Use of Worm-Composted Sludge as a Soil Amendment for Avocados in *Phytophthora*-infested Soil

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Abstract. **Avocado root rot (caused by *Phytophthora cinnamomi*) is a devastating disease to avocados in San Diego County. Avocados replanted into infested soils have often been unsuccessful. An experiment was conducted to determine if organic-amended mounds could improve survival of replant trees in infested soil. A new product, known as vermi-compost (VC), was tested. VC is an earthworm casting product produced from a mixture of composted sewage sludge and straw.**

VC or composted chicken manure was mixed into the top 30 cm of mounds at a rate of 20 L compost per 20 L soil. 'Hass' on G755 were planted into the mounds one week after mounds were amended. Survival rate of trees after one year was: 5/6 (VC, mound), 4/6 (Aliette foliar spray, mound), 2/6 (mound alone), 1/6 (composted chicken manure, mound), 2/6 (flat ground, Aliette foliar spray), and 2/6 (flat ground). Information on growth rates and tree health will be presented.

Greenhouse trials were conducted to examine the protective effect of VC in nursery mixes. Potting mix (UC-5) was amended with VC to a final volume of 0, 12.5%, 25%, and 50% VC, infested with *P. cinnamomi* on ground millet (0.1 g/L soil) and transplanted with 8-week-old *Persea indica* seedlings (16 trees per treatment). The effect of VC was most clearly observed at 6 weeks after transplant; only 2 plants in the 50% VC treatment were dead, whereas all 12 plants in the treatment without VC were dead. After 24 weeks, all plants were dead.

A total of 14 different bacteria and 16 different fungi were isolated from the rhizosphere of surviving plants. *Trichoderma* was the most common fungus found in the 50% VC treatment with an average population of 7 X 10^5 colony-forming units per root.