

Preliminary Evaluation of Nine Fungicides for Control of *Phytophthora cactorum* and *P. citrophthora* Associated with Crown Rot in Peach Trees

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Excised twig assay and excised stem inoculation were used to evaluate nine fungicides (metalaxyl, fosetyl-Al, copper hydroxide, copper sulfate, copper oxychloride, captan, quin-tozene, propamocarb and chlorothalonil) against *Phytophthora cactorum* and *P. citrophthora* associated with crown rot in peach trees. Segments were soaked in fungicide solutions at different concentrations and then inserted vertically into *P. cactorum* or *P. citrophthora* cultures growing on cornmeal agar plus antibiotics, or inoculated by inserting a mycelium-bearing agar plug directly into the cambium. Following incubation, the bark was scraped off and length of necrosis was measured. Metalaxyl was the only fungicide that inhibited canker development on segments at the manufacturer-recommended concentration. Fosetyl-Al, captan, copper hydroxide and copper sulfate inhibited canker development at 3, 4, 4 and 8 g l⁻¹, respectively. The other fungicides did not affect canker length significantly compared with non-treated twigs, with the exception of propamocarb, which reduced the development of *P. cactorum* on excised stems. The tested methods enabled rapid and effective evaluation of a large number of chemicals to prevent crown rot diseases caused by *Phytophthora* in the laboratory.

KEY WORDS: Crown rot; fungicides; chemical evaluation methods; peach tree; *Phytophthora cactorum*; *Phytophthora citrophthora*.

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