CONTROL OF *PHYTOPHTHORA CINNAMOMI* IN *ERICA* SPP. IN NEW ZEALAND

S.G. CASONATO, R.A. FULLERTON and M.A. MANNING

HortResearch, Private Bag 92 169, Auckland, New Zealand

Corresponding author: scasonato@hortresearch.co.nz

Phytophthora cinnamomi causes significant economic loss of many foliage crops grown in New Zealand. A field trial was established in May 2005 on a naturally infested property in the Bay of Plenty using two *Erica* species as the test plants. There were five treatments replicated four times in a randomised block design. Treatments were (1) metalaxyl (Ridomil®) incorporated into the soil, (2) phosphorous acid (Foli-R-Fos®) as a foliar spray, (3) metalaxyl and phosphorous acid, (4) mulch (bark) amended with calcium (gypsum) incorporated into the soil and (5) control. Each treatment plot contained 24 plants of *Erica sessiliflora* and 12 of *E. davisii.* Plots were inspected at least monthly from November 2005 to May 2006 and dead plants were removed and tested for the presence of *P. cinnamomi.* The most effective treatments were those containing phosphorous acid. In the highest infested blocks, phosphorous acid reduced mortality by approximately 30% in the establishment year. There were no losses of *E. davisii* plants. This trial suggests that phosphorous acid offers a means to control disease in infested sites and there may also be a high level of tolerance to *P. cinnamomi* in *E. davisii.*

CHANGES IN POPULATIONS OF SOILBORNE PATHOGENS AFTER ROTATIONAL CROPS FOLLOWING POTATOES

L-H. CHEAH and A.T. MARSH

Crop & Food Research, Private Bag 11600, Palmerston Nth, New Zealand

Corresponding author: cheahl@crop.cri.nz

Soilborne diseases (caused by *Phytophthora* and *Pythium* spp.) continue to cause severe problems for potato growers in the Manawatu region of New Zealand. A long-term trial (5 years) is being conducted at a commercial property on land that has a history of severe infestation by soilborne diseases. Five rotational crops (potato, pasture, brassica, cereal and squash) are being tested for their ability to reduce the inoculum of the soilborne pathogens. Metalaxyl fungicide is used as a standard treatment. Soil samples were taken before and after each crop rotation treatment and plated on agar media to study the pathogen populations. In the first year, results showed that there was a general reduction in *Phytophthora* spp. inoculum in the soil (to between 36% and 58% of pre-treatment levels) after the crop rotation and metalaxyl treatments but there was no significant difference between treatments. The crop rotation treatments did not reduce the levels of *Pythium* spp, but numbers of this pathogen were reduced by metalaxyl treatment.