Field and laboratory testing of products for control of European canker (*Neonectria galligena*)

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European canker of apples caused by the fungus *Neonectria galligena* is a serious disease of apples throughout New Zealand. Previously this pathogen was confined to the warm wet Waikato and Auckland districts. In recent years the disease has become well established in Motueka and in the last three seasons has become prevalent in the Hawke's Bay. Inoculum is present in the orchard throughout the year and any wound, no matter how small is likely to become infected. To control this pathogen, inoculum levels in the orchard have to be reduced. This involves treating whole trees post harvest and at leaf fall as well as pruning wounds, and excision and treatment of active cankers. Numerous fungicides were screened on agar for activity against *N. galligena* and few exhibited strong inhibition of mycelial growth. Manate, thiophanate methyl, chlorothanil, dodine, thiram, slaked lime, euparen multi, copper oxychloride and captan were not effective, whereas tebuconazole, benomyl, oththilnone and OM4 strongly inhibited growth. Late season application of benomyl is ruled out because of the possible development of fungal resistance. Field trials have demonstrated the effectiveness of paints/dressings containing tebuconazole and oththilnone at protecting pruning wounds and for application to excised stem cankers.

Method for spore production of *Leptosphaeria maculans*

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To enable the epidemiology of *Leptosphaeria maculans*, a pathogen of brassicas, to be studied a method for producing spores was required. Sporulation of *L. maculans* was assessed on V8-juice agar and PDA under two light conditions. Five *L. maculans* isolates subcultured with three replicates on each agar were incubated under continuous cool white fluorescent lights at room temperature or 12:12 h light:dark at 20°C. After 9 days incubation, colony diameter was measured and spores counted. Spore suspensions were produced by pouring 10 ml of sterile water onto each colony and scraping the surface with a sterile glass rod, and spores counted using a haemocytometer. For all isolates colony diameter was greater on V8-juice agar (37.2–52.6 mm) compared to PDA (12.3–50.1 mm) under both conditions. Isolates subcultured on V8-juice agar (9.79×10^6 /plate) gave a higher spore concentration than PDA (3.55×10^5 /plate). Light condition significantly affected spore production but not colony diameter as the highest spore suspension concentration was obtained from those isolates subcultured on V8-juice agar under continuous cool white fluorescent at room temperature (1.86×10^7 /plate) while the lowest concentration was obtained from isolates subcultured on PDA at 20°C with 12:12 h light:dark (9.00×10^4 /plate). The results have determined the best method for spore production for subsequent experiments.