

Pests and Diseases in Forest Nurseries

No. 1 – Pine Pitch Canker

Pine pitch canker – a threat to New Zealand’s plantation forests

The threat

Pine pitch canker - caused by the fungus *Fusarium circinatum* - is a serious disease of pines and a threat to the forest industry in New Zealand. *Fusarium circinatum* can infect vegetative and reproductive tissues of susceptible hosts at all ages, from seedlings through to mature trees. Contaminated seed is a likely pathway for introduction of the fungus and nurseries growing pines are therefore the most likely place for an introduction to occur.

Symptoms: What to watch for

Pre- and post-emergence damping-off: Damping-off is the generalised collapse of very young seedlings and causal agents cannot be separated on the basis of symptoms alone.

Root rot: It may also act as a typical root-infecting pathogen. Again the symptoms cannot be separated from those caused by other root-infecting fungi.

Stem infection: The fungus can survive in soil and may infect seedlings or cutting stools at, or just above, the soil-line. The plant will wilt and there will be ample resin production. Infected tissues typically become resin-soaked and develop a characteristic shiny honey colour.

Pink spore masses: Salmon-pink masses of spores, very similar in appearance to those formed on plants with terminal crook, may develop on some tissues.

Fungal growth on the soil surface: In container nurseries in South Africa, once the potting/soil mix is infected the fungus will grow across the surface of the containers, visible as a whitish mould.

What to do

As there are so many symptoms of this disease that are characteristic of other disorders and diseases that are already present in New Zealand it may be impossible to distinguish without laboratory tests. In any instance of untoward seedling death collect seedling and/or soil samples for examination in an authorised laboratory. Pack samples in a heavy plastic bag, securely and place it in another heavy gauge plastic bag. Seal this securely and pack in a crush-resistant carton. Wrap and seal the carton to make sure that the contents do not spill out. Parcels containing samples should be clearly marked "PINE PITCH CANKER?" and sent by courier. If an outbreak of the disease is confirmed incursion management comes under MAF control.



1 Cotyledon infection from contaminated seed



Terminal wilt and stem discoloration



Basal resinosis



2 Resin-impregnated stem



3 Damping-off with fungal growth on soil surface in tray on right.