

SIROCOCCUS TIP BLIGHT OF BAREROOT PINE
SEEDLINGS AT THE CHAMPION TIMBERLANDS
NURSERY, PLAINS, MONTANA

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During the spring of 1986, samples of bareroot ponderosa (Pinus ponderosa Laws.) and lodgepole (P. contorta Dougl.) pine seedlings with tip dieback symptoms were obtained from the Champion Timberlands Nursery in Plains, Montana. The seedlings were beginning their second growing season.

Symptomatic seedlings were distributed throughout many portions of seedbeds. However, it was estimated that only about 5 percent of the seedlings were affected. In order to reduce damage and chances of spread, applications of Bayleton® (triadimefon) and Bravo® (chlorothalonil) were made during May.

Tip blighted seedlings had necrotic terminal foliage, often resulting in tips with crooks (figure 1). Seedlings with early symptoms had needle bases that were often purple (figure 2); this purple discoloration often extended to stem tissues. Upon close examination, necrotic needles had prominent dark black fruiting bodies, especially at their bases (figure 3). Examination of these fruiting bodies and their spores under the microscope (100-450 X) indicated that they were from the fungus Sirococcus strobilinus Preuss.

Sirococcus strobilinus has been reported on bareroot pine and Engelmann spruce (Picea engelmanni Parry) seedlings in Idaho (James 1985a; James 1985b; Schwandt 1981). The fungus is also a common pathogen of containerized spruce (James 1983; James and Gilligan 1985). However, this is the first report of the fungus on bareroot stock in Montana.

Losses from Sirococcus tip blight at the Champion Nursery have not yet reached serious levels. However, to avoid major losses, growers can use properly timed fungicide treatments and remove infected seedlings when they are discovered. Fungicides with proven efficacy against S. strobilinus include triadimefon, chlorothalonil, ectaconazole (Vanguard®), captafol (Difolatan®), and Dithane® (Kliejunas et al. 1983; Smith 1972). It is likely that nearby large pine trees provided the initial inoculum; secondary spread was likely from infected seedlings. Removal of infected seedlings when they are discovered should help reduce inoculum levels. Also, careful monitoring and timely fungicide treatments should help keep losses within acceptable limits.



Figure 1.--Ponderosa pine seedling with symptoms of tip dieback caused by Sirococcus strobilinus. Note occurrence of prominent crook.



Figure 2.--Ponderosa pine seedling with early symptoms of infection by Sirococcus strobilinus. The base of infected needles have prominent purple lesions.



Figure 3.--Pycnidia of Sirococcus strobilinus (arrow) at the base of infected ponderosa pine needles of seedling with tip blight. Secondary saprophytic fungi also often colonize necrotic needles.

LITERATURE CITED

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