FUNGI COLONIZING WESTERN WHITE PINE CONELETS POTLATCH AND WESTERN FOREST SYSTEMS NURSERIES, LEWISTON, IDAHO

R. L. James
Plant Pathologist

Cooperative Forestry and Pest Management
USDA Forest Service
Northern Region
Missoula, Montana

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Western white pine (Pinus monticola Dougl.) seed collected from the Moscow Arboretum for the 1986 spring sowing at the Potlatch and Western Forest Systems nurseries in Lewiston, Idaho had excessive amounts of mold present following stratification. Affected seed were sown and profuse growth of a Mucoraceous fungus occurred on the surface of the soil mix in containers about 4-5 days after sowing. Close examination indicated that the fungus commonly grew from seedcoats; however, there was no evidence that the fungus caused damage to young emerging germlings. Growers applied captan and benomyl to seedlings shortly after appearance of the fungus. Captan reduced fungal growth somewhat, but benomyl had no effect. Fungicides were applied at low dosages to prevent possible phytotoxicity to young germinants.

Because of the possiblitity of fungal contamination during seed formation, several conelets were collected from the Cherry Lanes Seed Orchard and examined for contaminating fungi. Many of the conelets had extensive grey mold covering their surface (figure 1). Isolations confirmed this fungus as Botrytis cinerea Pers. ex Fr. Other fungi commonly isolated from conelets included Aspergillus, Alternaria, and Penicillium.

Occurrence of these fungi on conelets is probably not unusual. However, the role of these organisms in causing damage to seed or diseases of young seedlings is unknown. Likewise, sources of conelet infection need to be elucidated. The Mucoraceous fungus found on seed following stratification probably contaminated seed sometime during processing. Pathogenic fungi, such as Fusarium spp., may also contaminate seed during processing (James 1986). Therefore, it is important that sources of seed infection be determined and the roles of seed fungi in causing diseases be evaluated.

LITERATURE CITED

James, R. L. 1986. Diseases of conifer seedlings caused by seed-borne Fusarium species. In: Shearer, R. C. (Compiler). Proceedings-Conifer Tree Seed in the Inland Mountain West Symposium. USDA Forest Service. Intermountain Res. Sta. Gen. Tech. Rept. INT-203. pp. 267-271.

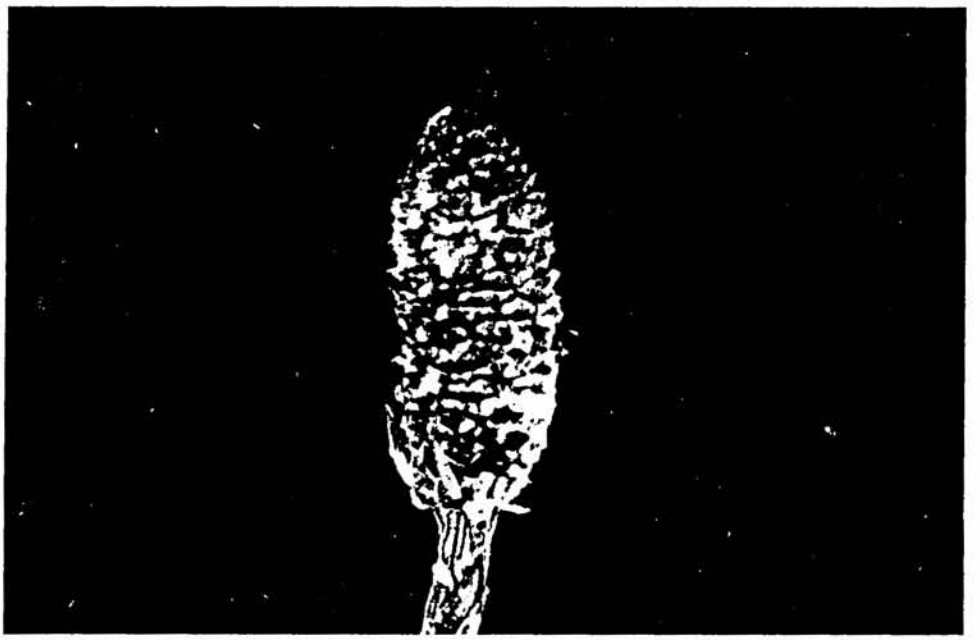

Figure 1. Western white pine conelet infected with Botrytis cinerea.