

It is evident that *Poria* root rot is capable of causing large openings in Douglas fir stands growing on both sword-fern and salal sites. There is some indication, however, that damage may become more severe in older stands on the poorer site. Further surveys to include additional age classes will be required to clarify this and other aspects of the incidence of *Poria* root rot.—A. C. Molnar, G. W. Wallis, and R. G. McMinn.

***Botrytis* sp. Associated with Damage to Douglas Fir Nursery Stock.**—During the latter part of June, 1959, the new shoots of 2-0 Douglas fir seedlings at the Duncan nursery on Vancouver Island were affected by dieback. The shoots became twisted and flaccid, while the leaves turned yellow at first and then either fell, or turned brown and remained on the shoots. Dieback did not occur beyond the 1959 shoots but some seedling mortality occurred. This mortality was attributed to severe shading caused by the surrounding dense stand of tall healthy seedlings. Frequently the terminal shoot of a seedling, which was at or above the general level of the seedbed canopy, would remain healthy while the side shoots below the canopy were affected. Conidia of a species of *Botrytis* were found in abundance on the surface of affected foliage and the fungus was readily isolated on malt agar from surface-sterilized sections of stems and leaves.

A total of 22 plots, each 2 sq. ft., were established at regular intervals in three nursery beds to assist in following the course of the disease and to obtain an estimate of the seriousness of the damage occurring throughout the nursery. The plots represented 8 per cent of the total area of the three beds. One bed was selected because it appeared to be the most severely affected; the second bed seemed to be one of the healthiest; and the third appeared to be sustaining damage midway between the other two. All seedlings in each plot were examined and classified as healthy, damaged, or dead. Damage ranged from 3 per cent in the lightly affected bed to 13 per cent for the most severely affected. Mortality ranged from less than 0.5 to 1.0 per cent.

Because it was feared that the damage might increase, 25 densely stocked beds were sprayed during the first and second weeks of July with a 3-4-50 Bordeaux mixture applied with the aid of a back pump. The most heavily stocked areas of 35 other beds were also sprayed, as were 14 of the 22 plots selected for following the course of the disease. Eight plots were left unsprayed to serve as controls. Two months later a second count was made of the seedlings in the plots and, although mortality (ranging from 1.0 to 1.5 per cent) had increased, the number of affected seedlings had not increased from the July count, in either the sprayed or control plots.

Although *Botrytis* spp. have been reported to be responsible for damping-off, snow mould, and foliage damage to a number of tree species in forest nurseries located in different parts of the world, conditions conducive to maintaining a high humidity have generally been associated

with all types of infection caused by the fungus. The high rate of survival and excellent growth in seedbeds at Duncan during 1958 created denser stands of seedlings in 1959 than in most years, and it appears that these thick stands, coupled with a greater than normal rainfall in June, 1959, (0.75 in. above the 10-year average) created conditions favourable for attack by the fungus. Since no new attack occurred after the end of the first week in July, it was postulated that the new shoots had matured sufficiently to make them immune to attack or that the onset of the hot, dry summer period made conditions unfavourable for further attack by the fungus.—A. K. Parker and J. R. Long.

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