DEPARTMENT OF FORESTRY · CANADA

Timber Talks

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DISEASE DEGRADES YOUR CHRISTMAS TREES

No. 10

High-quality and saleable Christmas trees must be symmetrical in form and retain their needles. Douglas-fir is one of the preferred species but, unfortunately, it is subject to a fungal disease, Rhabdocline needle cast, that causes loss of needles. The quality of the Christmas tree is degraded and when the disease is epidemic, reduction in diameter growth may occur from loss of needles.

The first noticeable evidence of the disease is the appearance of small yellow spots on the needles in early fall or winter. Within a few weeks the spots become reddish-brown, giving the needles a mottled appearance. Sparse foliage, the result of previous infections, is a recognizable symptom in the summer.

Spores from the fungus are disseminated during periods of high humidity and infect the needles of new shoots in May and June. The spores germinate on the outer surfaces of the needles and penetrate the underlying tissues. The fungus gradually permeates all host cells in small localized areas which later form reddish-brown lesions, and in the spring the fruiting structures of the fungus are formed just beneath the epidermis. Just before bud-break the epidermis ruptures to form a hinged cover for the fruiting bodies beneath. Shortly after the spores have been dispersed, the needles on which they developed are cast.

Eradicant sprays have not yet been proven wholly successful, nor the destruction of infected branches during an attack of epidemic proportion been considered practical. Some trees have a high natural resistance to the disease and their propagation seems a promising measure of control.

REPORT: Rhabdocline Needle Cast of Douglas Fir. A. K. Parker, Forest Research Laboratory, Victoria, B. C.