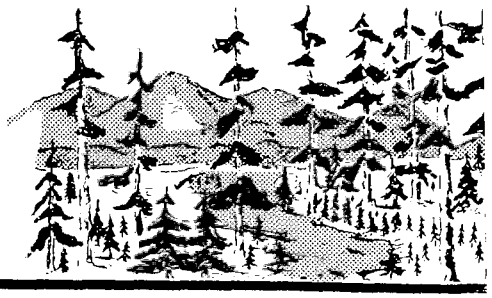
DEPARTMENT OF FORESTRY · CANADA ·

# Timber Talks



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KNOW YOUR TREE DISEASES No. 27

Infectious and non-infectious diseases destroy or reduce the productiveness of forests in British Columbia. Symptoms or evidence that disease is present may be thin tree crowns, dead or dying branches, proliferation of branchlets, decays, stains and foliage discolorations. Signs, whereby the causal agent can be recognized, include conks, cankers with fruiting bodies, rots and mistletoes.

Non-infectious diseases result from non-living organisms that affect groups of trees growing in the same environment. Extreme or sudden changes in temperature and prolonged drought may kill tops, foliage and cambium tissues or induce conditions in the tree that are conducive to the spread of infection. Forest fires and logging equipment cause root and trunk scars through which fungal spores gain entry to the woody tissues. Noxious industrial fumes are absorbed by foliage and converted to toxic chemicals that inhibit or retard growth.

Infectious diseases are caused by living organisms that attack trees in order to promote their development. Those that are native are most damaging in forests that are over-mature or where environmental conditions are abnormal; introduced diseases are often epidemic and may threaten extinction of susceptible tree species. Dwarf mistletoes and fungi are the common causal agents in British Columbia.

Tree diseases are classified as root and butt rots, stem diseases, needle blights and casts. All trees are subject to root and butt rots which are caused by numerous fungi. Stem diseases include heart-rots, rusts and cankers. Brown and white heart rots are caused by fungi that penetrate wood cells and dissolve or modify plant constituents. The former destroy cellulose and the latter lignin. Rusts are parasitic fungi that may girdle trees or cause malformations such as galls or witches' brooms. Cankers are localized areas of fungal infection that sometimes result in tree mortality. Needle blights are fungi induced diseases in tree foliage that cause premature dropping of needles and the consequent reduction in the photosynthetic capacity of the tree for development.

Recognition of the presence of disease within a forest is an integral part of its protection. Symptoms and signs of diseases common to British Columbia forests have been collated and photographically illustrated to facilitate identification.

REPORT: Some Common Tree Diseases of British Columbia. Second Edition. R. E. Foster, Forest Products Laboratory, Vancouver and G. W. Wallis, Forest Research Laboratory, Victoria, B. C.