

PesTopics

LAMINATED ROOT ROT: THE HIDDEN THREAT

Most people think that fire or maybe insects are the major threat to B.C.'s forests. But it is a fact that disease is a greater source of loss than either. The effects of disease are often hard to detect and thus go unnoticed.

Laminated root rot* is one of the most damaging and persistent diseases of Pacific Northwest conifers. Although most commercial conifers are susceptible, Douglas fir is affected most often throughout its range.

Surveys have indicated that most coastal stands of Douglas fir are infested by the root disease to the extent of 10-15% of the ground area. A conservative estimate places annual losses in British Columbia at a million cubic meters and similar figures



Surveying for root rot

are quoted for Washington and Oregon. Work is underway to determine how much forest timber productivity could be enhanced by preventing or reducing root disease in Timber Supply Areas.

The fungus persists in the root systems of stumps for decades after the trees have been logged. When the roots from the second-growth trees, planted or natural, contact a contaminated root, the disease is transmitted.

The usual symptoms of root disease are yellowing and thinning of the foliage, reduced growth and sometimes a crop of cones caused by stress. As the root system is weakened, the tree is more subject to blow down. The disease often kills groups of trees, causing gaps in the stand which fill with more resistant tree species, usually of lesser value.

As a result, production is lost and if it is a new plantation so is the reforestation investment.

What can be done about root rot?

First, each area must be inspected prior to harvest for the disease, and if necessary, surveyed to determine the extent of an infestation. At this time, information is collected to prescribe a site treatment.

The most feasible option is to use a replacement tree species which is less-susceptible or less-damaged by the disease, such as western red cedar.

*A root disease caused by a fungus, Phellinus weirii.

and lodgepole pine, or hardwoods such as red alder. Unfortunately, many of these species do not grow as well as Douglas fir and are less valuable commercially. Another species, western white pine, would be an excellent choice, but more work is needed to control white pine blister rust before the tree can be grown widely again.

Another effective but limited technique is to remove infected roots and stumps from soil - a costly affair. De-stumping is only feasible in easily accessible areas. Also, soil must be deep, dry and coarse-textured to avoid

compaction and undue disturbance from operating heavy machinery. Results after 10 to 15 years from trials of de-stumping are very encouraging, and further work is underway to develop techniques that are more economical and widely applicable.

Laminated root rot is a subtle but important killer of young forests, and extensive efforts are being made to overcome its effects. The degree of success will greatly influence our attempts to secure productive, second growth and the future that depends on it.



Removing infected stumps.