

Management Guide for **Pouch Fungus**

Cryptoporus volvatus (Pk.) Shear (= *Polyporus volvatus*)

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Pouch fungus is the major cause of sapwood decay in trees killed by bark

Most conifers are host to the fungus except for western redcedar and the five-needle pines (western, whitebark, and limber pines).

Once bark beetles attack, it's a race to recover log volumes

The pouch fungus causes extensive and rapid sapwood decay that results in timber volume loss in bark beetle-attacked trees, or fire-killed ponderosa pine colonized by woodborers. Initial observations and studies of the decay caused by this fungus over 80-years ago indicated little volume loss. However, the

faster and better growth rates of managed forests produce logs with far greater sapwood to heartwood ratio than in natural stands. Consequently, timber losses due to the pouch fungus can approach 30% of the scaleable volume of the log.

Key Points

- Bark beetles carry the fungus into trees they attack.
- Up to 30% of log volumes may be lost to pouch fungus decay if salvage of beetle-killed trees is delayed.

Prompt salvage is the only means of damage control.

Timber volume loss caused by pouch fungus decay is substantial. The rapid decay of sapwood necessitates timely harvest of bark beetle and/or fire-killed trees.

Occasionally pouch conks appear on trees with green foliage following a light intensity fire or bark beetle strip attack. Usually these trees die by the following year and should be marked for salvage removal if consistent with the project guidelines.

Life History

Fairly accurate estimates of the year of tree death can be made based on the condition of pouch fungus conks on the tree.

Pouch fungus is intimately associated with bark beetles and woodborers. Insects bore holes through the bark of trees and either carry the fungus into the cambial layer on their bodies or create an opening for wind-disseminated spores to initiate the decay process in the moist sapwood.

On recently killed trees conks issue from bark beetle tunnels to fruit on the outer bark of trees. Often several hundred conks appear the year after bark beetles attack a tree.

The rounded, whitish-tan conks are usually less than two inches in diameter. Initially the

conks are leathery and completely cover the spore-bearing layer in the fungal fruiting body. Later a small hole develops allowing release of the spores.

Conks can be produced annually on a stem for up to 3 years, but deteriorate after their first year. Fairly accurate estimates of the year of tree death can be made if new and/or old pouch conks are present.

The fungus causes a grayish white rot of the sapwood only. In the advanced stage the decayed wood is light brown, cubical, and crumbly.

Other Reading

Allen, E.A., Morrison, D.J., and G.W. Wallis. 1996. Common tree diseases of British Columbia. Natural Resources Canada, Canadian Forest Service. 178p.

Scharpf, R.F. 1993. Diseases of Pacific coast conifers. USDA Forest Service, Agricultural Handbook 521. 199p.

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