

SCHWEINITZII BUTT ROT

Phaeolus schweinitzii (Fr.:Fr.) Pat.

DISTRIBUTION

Throughout BC.



Figure 253. Mature fruiting bodies on the forest floor.

HOST SUSCEPTIBILITY:

Schweinitzii butt rot is commonly reported on Douglas-fir, ponderosa pine and western hemlock. It has also been found on subalpine and amabilis fir, Sitka and white spruce, western larch, tamarack, lodgepole and western white pine, western redcedar, and Garry oak. This fungus infects mature trees, and is occasionally found on young trees.

SIGNS AND SYMPTOMS:

Trees infected with Schweinitzii butt rot do not tend to show typical root disease crown symptoms, such as reduced leader growth and foliage discoloration and thinning. Extensively infected trees can exhibit thinning crowns, poor shoot growth and branch dieback. This rot infects the roots and butts of trees. Infection often occurs through basal wounds, particularly fire scars and armillaria lesions.

Annual conks up to 35 cm in diameter may develop in late summer on the forest floor near the base of infected trees. Less frequently, they develop directly on infected living and dead trees, felled timber, and stumps. The conks are somewhat funnel-like with a stalk when produced on the ground, but appear shelf-like when growing on a tree. These fruiting bodies have a spongy, leathery texture. The under surface is green when fresh, becomes brown with



Figure 254. Advanced decay of Douglas-fir wood.

age, and is covered with relatively large, angular pores. The upper surface is red-brown and velvety.

The early stage of decay is difficult to detect, appearing as an inconspicuous dry yellow stain. Wood in advanced stage of decay is red-brown and brittle, and breaks into large cubes interspersed with thin white mycelial mats. The heartwood can disintegrate completely into a fine powder, leaving a hollow butt. A liquorice-like odour is often present with advanced decay.

DAMAGE:

Schweinitzii butt rot often extends 3 m up a tree stem. Since the highest quality and value of a tree is in the basal log, this disease causes serious losses. Rotting of the roots and butt also leaves trees highly susceptible to windthrow and breakage. In BC losses are most severe in Douglas-fir and Sitka spruce.

CAN BE CONFUSED WITH:

The damage caused by Schweinitzii butt rot may be confused with brown crumbly rot (*F. pinicola*) or brown cubical butt rot (*L. sulphureus*). The fruiting bodies are easily distinguishable between these rots. New Schweinitzii fruiting bodies have a distinctive reddish-brown velvety upper surface and become very dark brown the following year, whereas brown crumbly rot conks have a creamy coloured under surface with a reddish-brown band at the margin. Brown cubical butt rot fruiting bodies are completely different, as they are thin, crust-like and white.

In regards to the wood decay, brown crumbly rot is a lighter brown in colour than Schweinitzii, and decays both sapwood and heartwood. Schweinitzii butt rot rarely infects western redcedar, but when it does it can appear similar to brown cubical butt rot. Brown cubical butt rot is different in that it usually forms in pockets or rings of decay, whereas Schweinitzii forms a single column of decay in the centre of the stem.



Figure 255. Disintegration of the heartwood in the butt of a Douglas-fir caused by *Phaeolus schweinitzii*.