

Stem Decays and Stains

Red Ring Rot

Phellinus pini (Thore.:Fr.) A. Ames

Hosts: Spruce, true fir, Douglas-fir, pine

Symptoms/signs: *Phellinus pini* produces swollen knots where branches were previously shed, irregular bulges with exuding resin, and resin flow from knots. It also produces brown fruiting bodies at branch bases, branch stubs, knots, wounds, and cracks. These fruiting bodies, or conks, are bracket-like with a brownish-black upper surface, concentric furrowed rings and a brown undersurface with spores. Punk knots are common in Douglas-fir, western larch, pines, and some spruces. A punk knot is a mass of tightly packed sterile brown hyphae that extends from a decayed branch stub within the trunk to a local swelling on the surface.

Biology: Decay often begins near the junction of heartwood and sapwood and may extend into sapwood adjacent to wounds. The decay is often confined to the heartwood of mature trees, either in one central column or in several discrete columns that extend from branch stubs.



Figure 197. *Phellinus pini* on Engelman spruce.

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Effects: *Phellinus pini* is thought to be the most common trunk decay fungus of conifers in North America. Decay columns commonly extend 10 meters or more, rendering entire trunks useless for lumber. Decay is much more extensive in old trees in virgin and unmanaged forests than it is in managed forests where trees are harvested at relatively young ages.

References: 27, 30, 92



Figure 198. Red ring rot on Douglas-fir.