

annosum root disease (*Heterobasidion annosum*)



ragged fruiting bodies, often under the leaves,
can often find pine needles sticking thru the
conks

annosum root disease

Heterobasidion annosum

Annosum root disease is a commercially important disease of conifers. All southern pines are susceptible, but loblolly and slash pines are the most severely affected.

Conks are often present in the litter at the base of dead or dying trees or tree stumps, or under root masses of windthrown trees. Conks, when fresh, are tan to brownish on the upper surface and white with tiny pores on the lower surface. They are rubbery and tough to tear. In the southern United States, conks are most common from December through March.

Damage from annosum root disease may be scattered throughout a stand or in pockets of dead and dying pine trees called "infection centers." Mortality is sometimes preceded by thinning and yellowing of the crown; however, some trees simply turn red and die. Trees in various stages of dying or death may suffer windthrow. Infected roots exhibit resin or pitch-soaking, and stringy root decay.

Annosum root disease probably enters the stand when fungal spores land on fresh cut stump surfaces. The fungus grows through the remaining root system into nearby live trees via root grafts or contacts. Mortality usually begins 2 to 3 years after thinning and often ceases 5 to 7 years later. Damage increases with the sand content of the soil. Twelve inches (30 mm) or more of sand or sandy loam above a clay subsoil in a soil with good internal drainage is considered a high hazard site for tree mortality.