



Forest Health Protection, Southern Region

# SAND PINE ROOT DISEASE,

caused by

*Inonotus cirinatus*, *Phytophthora cinnamomi*,  
*Phaeolus schweinitzii*, *Verticicladiella procera*,  
*Armillariella tabescens*, *Heterobasidion annosum*

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**Importance.** - Sand pines are affected by a complex of root disease fungi acting alone or in various combinations. Trees of all ages and in all types of growing situations may be damaged or killed. Losses are especially severe in stands over 20 years old.

**Identifying the Fungi.** - Most of the fungi involved are discussed elsewhere in this guide. In the spring, *Armillariella tabescens* produces clusters of gilled, creamcolored mushrooms near the base of diseased, older trees. Perforated mats of fungus material are formed between the bark and wood of killed roots. *Phytophthora cinnamomi* must be cultured for positive identification.

**Identifying the Injury.** - Young trees may die suddenly or slowly, as isolated individuals or in groups. Dwarfed, yellow needles and slowed, radial growth are symptoms in older trees that die slowly. Windthrow is common. Affected roots and stems are resin-soaked and often exude resin through the bark.



Pitch flow through bark.



Resin soaking in main stem.

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Damage of sand pine root disease.

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**Biology.** - Young plantations are infected by *P. cinnamomi*, while natural stands are not. As trees age, *V. procera* and the other root rot

fungi become established in both natural stands and plantations, and infect through wounds or root contacts.

**Control.** - Planting should be done only on sandy soils, 6 or more feet deep. Planted seedlings should be disease-free. Avoid root and butt injuries during stand entries. Stand rotations should be shortened to between 25 and 30 years.

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