PHYTOPHTHORA ROOT ROT OF SAND PINE

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A recent root disease survey of sand pine identified a complex of pathogens causing substantial losses in sand pine plantations and natural stands in Florida. The pathogen most commonly associated with damaged plantations was Phytophthora cinnamomi (E. L. Barnard, Fla. Division of Forestry), a proven killer of sand pine.

Phytophthora root rot is a disease of the feeder roots. In nursery beds, the disease is distributed in pockets, often where soil drainage is incomplete. Top symptoms include stunting, chlorosis and browning of the foliage as the tree dies. Infected roots are usually darkened and the dead cortical tissues are easily stripped from the woody tissues beneath. Adventitious roots may sprout from just above the infected portion. If the infection progresses into the tap root, these woody tissues may become resin soaked. One Florida forest tree nursery has lost approximately 500,000 seedlings of the last two crops due to mortality and quarantine of infected seedlings (E. L. Barnard, Fla. Division of Forestry).

While the role of Phytophthora cinnamomi in sand pine root disease is not yet known, the high level of association of the fungus with damaged young plantings of sand pine is of concern to the nurseryman growing this species. Lightly infected nursery stock may appear symptomless from the top and these seedlings could be shipped to the field without detection. Under favorable conditions, incipient infections could intensify over several growing seasons and result in outplant and young plantation mortality.

Control in the nursery can be effected by not seeding sand pine in areas of the nursery where drainage is not adequate, fumigating nursery seedbeds and incorporating seedling crop inspection prior to shipping nursery stock to the field.