



Forest Health Protection, Southern Region

# PINE NEEDLE RUST,

caused by *Coleosporium* sp.

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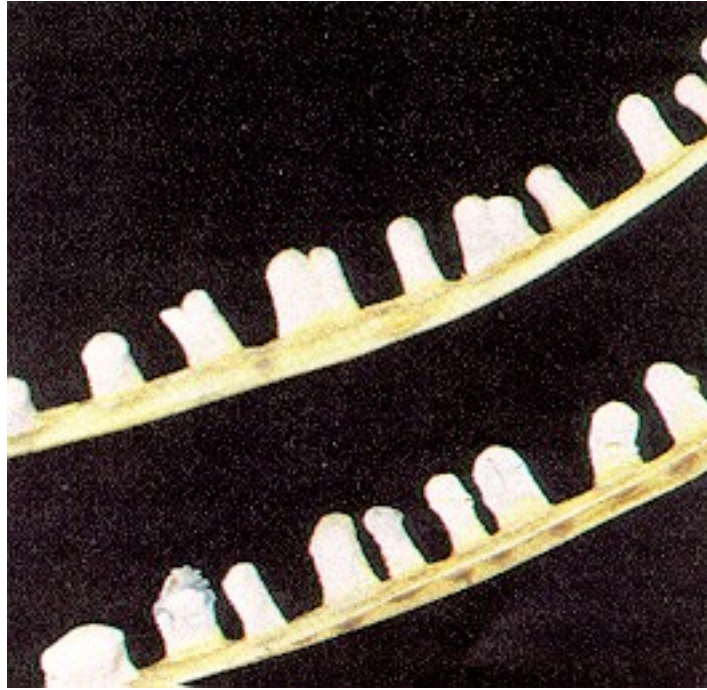
**Importance.** - Needle rust is most prevalent on young trees. The disease usually does not seriously damage trees, and is of most concern in Christmas tree plantings and nurseries. Most two- and three-needle pines throughout the South are susceptible. Goldenrod, asters, and other plants serve as the alternate hosts.

**Identifying the Fungus.** - The fungus has four stages. The aecial stage on the pine needles looks like small, white-orange "sacks." Aeciospores infect the alternate host, which results in orange, powdery spores on the leaves. Later orange, cushionlike objects, called telia, are produced on the underside of the leaf. The last stage (pycnial) looks like frosty, orange droplets on the pine needles.

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Heavy pine needle rust infection.



Fruiting bodies of pine needle rust.

**Identifying the Injury.** - Infected pines often have white-orange blisters on the needles. Although these are actually fruiting structures of the fungus, they are an obvious feature of infection.

**Biology.** - Pycniospores form on pine needles in the spring; then orange, aecial blisters form. The spores from the aecial blisters infect the alternate hosts which produces urediospores on the leaf. These spores reinfect the alternate host, but not the pine. Later, telia form on the leaves. These produce orange-yellow spores, which infect the pine.

**Control.** - No control is needed in forest stands. The alternate host can be reduced through mowing or the use of herbicides. This would only be justified around highvalue areas, such as nurseries.

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