



Forest Health Protection, Southern Region

SOUTHERN CONE RUST,

caused by *Cronartium strobilinum*

Importance. - This fungus seriously affects slash and longleaf pine cone crops in Georgia and along the Gulf Coast from Florida to Texas. Damage to oak, the alternate host, is minimal.

Identifying the Fungus. - The fungus requires two hosts. Orange spores are produced in blisters in the first-year conelets. These blisters burst, causing the cones to appear yellow-orange. Orange leaf spots are produced on the oak. Later, hairlike structures are produced on the oak leaf.



Enlarged cone infected with southern cone rust.

Identifying the Injury. - Infected first year conelets enlarge and swell 3 to 4 times their normal size. The swollen conelet scales are reddish in color. Later, the conelet appears orange in color. Infection on the oak host produces orange leaf spots and hairlike telia, which can cause

cupping and curling of the leaf.

Biology. - Teliospores, which are produced on the oak host, infect the mature female pine flowers about the time of pollination. By May, the conelets are 3 to 4 times their normal size. Spores (aeciospores) are produced in blisters in the conelets. These spores are windblown to the oak host, where uredia are produced. The uredia produce spores (urediospores) which reinfect the oak host. Later, hairlike structures (telia) are produced on the leaves. These telia produce basidiospores, which then infect pine.

Control. - Applications of fungicides in seed orchards have been successful in fighting the disease.
