



Forest Health Protection, Southern Region

PLANT PARASITES OF TREE ROOTS,

caused by members of the families *Olacaceae*, *Santalaceae*,
Scrophulariaceae, *Orobanchaceae*, and *Krameriaceae*

Importance. - The impact of parasitic plants on stand and tree growth is not known in detail, except for a few species which attack young trees. Young slash pine in at least one Florida plantation have been killed by the root parasite senna seymeria (*Seymeria cassioides*). *Commandra umbellata* can parasitize roots of many species of plants and is also the alternate host for commandra stem rust of pines. Many of these parasitic plants have a wide geographic and host range.

Identifying the Parasites. - Root parasitic plants come from many genera. Many are green plants which can be treelike, shrublike, or herbaceous in growth form. They can be annual, biennial, or perennial weeds that can survive for varying periods without root penetration of hosts. Others are nongreen, succulent annuals, which require functional root attachments to survive and reproduce.



"Bear corn" parasite on oak roots.

Identifying the Injury. - Reduced tree growth, sometimes leading to tree mortality, has been reported in a few cases. Infected roots have swollen pads of parasite root tissue (haustoria) where host penetration has occurred.

Biology. - The host range for most parasites-including herbaceous weeds and grasses and woody plants-is quite broad. However, a few are quite specific to a small group of related species. After seed germination, the radicle contacts a host root, and a holdfast is formed on the surface. A peglike root penetrates the host's root surface and grows into the water- and nutrient-conducting tissues, removing the materials needed for development. If no host root is contacted soon after germination, some parasites will die. Others can live long enough to bear seed without ever initiating root infections.

Control. - No control has been adequately investigated.
