

How to Identify and Control Littleleaf Disease

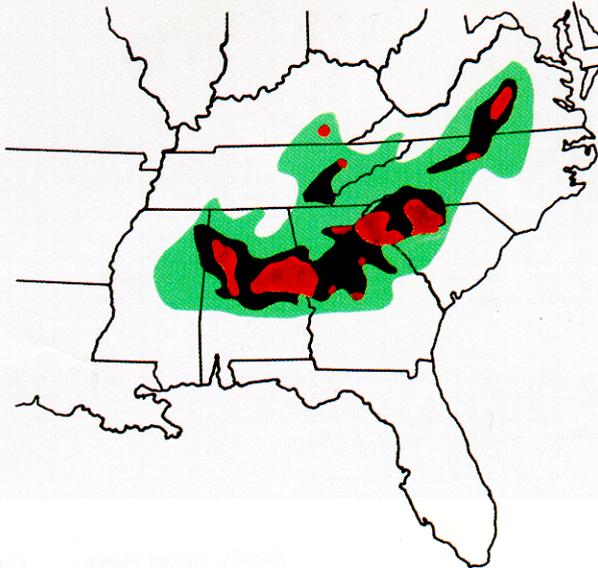
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Littleleaf, the most important disease of shortleaf pine, is a significant constraint on management of the species on about 1.4 million acres in the Piedmont plateau of North Carolina, South Carolina, Georgia, and Alabama. Loblolly pine, while considered less susceptible, may suffer growth losses on high-risk sites in this area or be killed by associated bark beetles.

Littleleaf disease losses are difficult to determine. Included are growth reduction, mortality from disease or associated bark beetle attack, or even elimination of severely affected areas from timber production. Losses to littleleaf disease have been estimated at \$15 million annually, but this number is surely conservative. Another indicator of littleleaf disease severity is a very large reduction in the acreage of shortleaf pine in managed forests on high-risk sites and its partial replacement by more resistant loblolly pine. However, when it is managed on long rotations, even loblolly pine is damaged.

Littleleaf disease is unusual in that it is not caused by a specific pathogen. Rather, it results from a complex of factors that stress the tree and increase its susceptibility to infection by root rotting fungi. The history of land use on the Southern Piedmont plays a major role in this disease complex.



Range of shortleaf pine (green) east of the Mississippi River, general range of littleleaf disease (brown), and areas of highest incidence (red).