

A Growing Threat for Georgia Pines: Brown Spot Needle Blight

BACKGROUND

Brown Spot Needle Blight (BSNB) is a native fungal disease, causing needle wilt in certain conifer species. Historically, Longleaf Pine was the only species in the south damaged by brown spot needle blight. So, the effects of this disease were minimal as it is easily controlled in young longleaf stands through the use of prescribed fire. However, the disease has recently become an important problem of loblolly pine plantations in our neighboring state, Alabama with the disease has affected both young and mature stands.



Photo via Missouri Botanical Garden: [Click Here to View](#)

BSNB has been identified affecting both young and mature loblolly pine stands in several states throughout the Southeast, including Alabama, Arkansas, Louisiana, and Mississippi, but it has NOT currently been found in Georgia. The majority of the stands affected have been between 3-10 years old. Current belief is that a new sub-species is the cause of the infection of loblolly pines, with more than 1,000 hectares of loblolly pine plantations in Alabama infected with brown spot needle blight, causing stunted growth and tree mortality in 2021. Other possible factors that have been pointed to are weather changes and differences between planted and natural stand resistance levels.

SYMPTOMS

The most common symptom of BSNB is the presence of dead needles on seedlings and small saplings. Oftentimes, the seedling may appear dead; however, there will usually have a green and healthy bud. Infected needles will most often develop irregular brown spots, eventually surrounded by a yellow band, or will initially appear yellow and brown over time with a darker surrounding border. Within the spots, you may see tiny black bumps pushing through the surface of the needle. These are where the fungal spores are produced. The affected area will continue to increase in size until the needle eventually dies. After a few months, the spores will mature and spread to other seedlings. The spores are spread, usually in the late spring, through rain and wind events and can infect large areas under the right weather conditions. The fungus is most active during warm and wet conditions.

Generally in mature trees, the symptoms and discoloration will begin in the lower portion of the crown and move up as the disease spreads. This can appear similar to scorch damage in a pine stand, although no burn has taken place. Ultimately, if the disease occurs in a stand repeatedly over a couple of years it can cause mortality to infected pines. It is important to note that needlecast (a common occurrence in pines) should not be mistaken for BSNB as this can have similar symptoms.

CONTROL

The best control method for longleaf pine is the use of prescribed fire. Prescribe burning every two or three years is effective in destroying the infected needles and killing the spores. Fungicide sprays are available; however, they are not recommended for use in a stand setting due to cost and negative environmental factors. An important note is that not all loblolly pine families are equally susceptible to the disease. Landowners and managers can select seedling families resistant to brown spot needle blight to decrease the chance of infection after planting. Additionally, increasing spacing between seedlings allows air circulation to help minimize infection. Selective removal of infected branches can be a promising solution when less than one-third of the tree crown is infected and the disease is detected only on the lower branches. Prune during dry summer periods and sanitize tools after each tree pruning to prevent pathogen spread. If two-thirds or more of the crown is infected, it is recommended that the whole tree be removed and burned, along with tree litter in the surrounding area. Once 50 percent of the trees in a stand are infected, clear-cutting and reestablishing the stand is recommended.



Photo from Alabama Forestry Commission:
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If you believe you have identified Brown Spot Needle Blight affecting loblolly pine on your property, please contact your local Georgia Forestry Commission forester. They will assess the area and take needle samples to be tested at the University of Georgia. Identification and control of this disease is crucial for landowners and forest managers in Georgia to help address the disease and maintain the health of our forests.

SOURCES

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CONTACT

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