

Problem: Brown Spot of Pine- *Mycosphaerella dearnessii*



Host Plants: Scots, Ponderosa

Description: In Kansas, the fungal disease brown spot is primarily a problem on Scots pine planted in Christmas tree plantations, although ornamental and windbreak trees of this species also may be attacked. Ponderosa pine is susceptible to brown spot, but Austrian pine is resistant.

Symptoms of brown spot first appear in late August or early September. Affected needles develop yellow to tan, often resin-soaked, spots. Occasionally the spots enlarge and result in a banding effect on the diseased needle. By mid-fall, diseased needles turn brown and begin to fall from the tree. Heaviest infection and defoliation occurs in the lower portion of the tree crown.

The symptoms of brown spot may be confused with those of *Dothistroma* needle blight. Both diseases result in spot formation on the needle and premature defoliation; however, brown spot is most severe on Scots pine, while *Dothistroma* needle blight is a serious problem on Austrian pine. Both diseases occur on Ponderosa pine, and laboratory identification may be required to distinguish between the two diseases.

In the fall, the fungus produces small, black fruiting structures on diseased needles. The dead needles may be cast from the tree in the fall or remain attached through the winter. Spores (conidia) of the fungus are dispersed from the fruiting structures (acervuli) the following spring during rainy periods. The conidia can infect the needles from June through September, although most infection occurs in early June when the new needles are developing.

Recommendations: The needles of susceptible pine trees can be protected from infection by the fungus with the application of one or two fungicide sprays. The first application should be made in the last week of May or early June. A second application may be necessary in 3 to 4 weeks if unusually wet weather prevails.

Labeled fungicides include

Chlorothalonil: Ortho Garden Disease Control, Fertilome Broad Spectrum Landscape and Garden Fungicide, Bonide Fungi-Onil Concentrate, Bravo, others

Coppers: Kocide 2000, Bonide Liquid Copper Concentrate, Monterey Liqui-Cop

The short-needled French and Spanish varieties of Scots pine are very susceptible to brown spot and should not be planted in areas where the disease has been a problem. The long-needled varieties of Scots pine are more resistant.

References:

1. [Brown Spot Needle Blight of Pines](#), Missouri Botanical Garden

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