DOTHISTROMA NEEDLE BLIGHT

Overview

Dothistroma needle blight (*Dothistroma septosporum*) is a fungus that infects the needles of Austrian, Ponderosa, Red, Mugo, and Scotch pines.

Dothistroma Needle Blight can be found in most midwestern states, From Minnesota in the north, south to Oklahoma, then east to Virginia. It is also found in the Pacific Northwest and Montana, south and east to Arizona

Reddish-brown spots and bands form on the infected needles, giving the disease its alternate name of red-banded needle blight. Dothistroma needle blight can be controlled but not cured.

Diagnosis

- Symptoms are most prominent in the lower six feet of the tree
- Reddish-brown spots and bands form in the tips of the needles
- Infected needles drop from the tree
- Accurate distinction from other needle diseases may require examination under magnification

What To Do

The fungus overwinters in infected needles on the tree. Infection of new needles takes place spring through autumn through spores moved by splashing of rain drops. When new foliage emerges for the year it often appears fine. As the infection grows, the current year's needles develop reddish-brown spots and bands. The fungus stays on these needles through the winter and these become the source for the following year's infecting spores.

Cultural practices can be very beneficial in interrupting the life cycle of this pathogen. Promote air flow by reducing the density of plants around pine trees. Modify irrigation system to avoid wetting needles; prolonged needle wetness favors fungal infection and mulch around the base of the tree. Fungicide spray will significantly control the pathogen, but there is no cure for dothistroma.

Typical dothistroma symptoms

PHOTO: USDA-FS

reddish-brown spots and bands are a common symptom

QUICK FACTS

- Dothistroma needle blight is a fungal disease that often attacks non-native pine trees in the urban forest.
- Dothistroma can sometimes be confused with winter burn or salt damage. Winter injury will be most severe on the south side of trees and salt damage will appear on the side closest to exposure. , Dothostroma is most common on the lower 6 feet of trees, occurring on all sides.
- While there is no cure for dothistroma, cultural practices to tree health and applications of fungicides have been shown to reduce the appearance of symptoms.

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MANAGING DOTHISTROMA NEEDLE BLIGHT

Early identification of dothistroma can prevent major damage to individual trees and prevent the spread to nearby trees. Protecting new growth as it emerges is very important. For best effectiveness, fungicides should be applied when the needles begin to emerge in spring. Heavily infected trees may require several years of fungicide applications.

The goal of management with dothistroma needle blight is to protect the new needles. Currently infected needles cannot be cured.

The appearance of treated trees will begin to improve the season after the treatments were performed. Untreated trees will continue to lose needles each year and will die from this disease if the disease is not addressed.

Managing the Fungus

There are many different fungicide treatments your arborist may recommend based on the timing and severity of the current infection. The goal of fungicide sprays is to protect the newly emerging needles from infection. Currently infected needles cannot be cured.

Applications are typically made in the spring as the new needles (know as 'candles') begin to emerge. Sprays will be applied 2-3 times at 10-14 day intervals during the infection period.

Other Treatment Practices

Cultural practices can be very beneficial in interrupting the life cycle of this pathogen.

- Promote air flow by reducing the density of plants around the pine trees
- Modify irrigation system to avoid wetting needles; prolonged needle wetness favors fungal infection
- Install mulch ring around the base of the tree
- Provide low level nitrogen fertilization

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