

## A disease that causes needle damage on spruce trees

Rhizosphaera needle cast is a foliage disease of spruce trees. Older, inner needles show symptoms first. As the disease progresses, newer needles will exhibit symptoms. Infected needles first appear mottled or speckled with dull yellowish blotches. Later, the needles turn brown to purplish brown. The needles drop (cast) anywhere from 3 – 15 months after infection.

## Infected trees require treatment for control

Colorado blue spruce is the most susceptible to infection with Rhizosphaera needle cast. The disease can also occur on white and Black Hills spruce. If infected needles drop from the tree for 3-4 consecutive years, branches will begin dying. Needle loss can be so great that the tree can lose their ornamental value.

## What to look for

- Thinning trees with lower branch dieback.
- Excessive thinning/dropping of older needles.
- Black dots on the underside of the needles.
- Yellow and purple/brown needles.

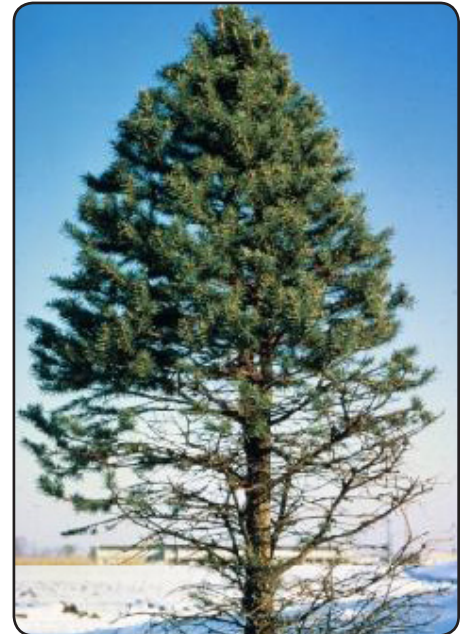
## Life Cycle

- Needles become infected with the pathogen in the spring during wet weather.
- New needles are susceptible to disease all year long.
- Fallen needles produce spores that re-infect healthy needles.
- Wet and/or humid conditions promote disease.

## Treatment and Prevention

- Reduce moisture adjacent to tree.
- Move sprinkler heads.
- Do not water foliage.
- Increase air flow through canopy.
- Remove fallen needles
- Do not plant Colorado spruce.
- Rhizosphaera Needle Cast can be controlled by a spray application. Spray applications are required in the spring and early summer.

*Sprays control the disease but do not cure it. The goal of treatment is to protect each season's new growth from re-infection.*



Infected Spruce Tree.



Typical pattern - diseased tissue.



Top: an infected needle  
Bottom: an uninfected needle

