

# Cytospora Canker

## A Disease That Causes Needle Browning and Branch Dieback

Cytospora Canker can infect many tree species. Colorado blue spruce is the most common host for Cytospora in Minnesota. Colorado blue spruce, native to a dry climate, is highly susceptible to fungal disease when planted in areas of the country with high humidity. Cankers tend to appear after the tree reaches 15 – 20 years in age, and can kill mature Colorado spruce.

## Infected Trees Need Altered Environmental Conditions

Colorado blue spruce, Norway spruce, Douglas fir, Balsam fir, and Hemlock are most susceptible to Cytospora Canker. For effective management of the disease, altering moisture and soil conditions can reduce the spread of the disease.

## What To Look For

- Individual branches are dying.
- Affects lower branches and progresses upward.
- Elliptical or diamond-shaped cankers form at the base of small, infected branches.
- White sap oozing from the cankers.

## Life Cycle

- In spring, spores are released from the black pustules that have developed.
- Infection occurs most frequently during spring and fall.
- Infects older trees and young trees in poor environments.
- Moisture induces spore formation.
- Spreads by splashing rain and wind.
- Spores infect tree wounds and weakened tissues.

## Treatment and Prevention

- Avoid bark and stem injuries.
- Prune out affected branches.
- Take measures to reduce tree stress: provide adequate irrigation to roots of tree while keeping branches dry.
- Research suggests that treatment with Cambistat™ tree growth regulator can help control the effects of Cytospora canker.
- Apply mulch around base of tree or treat with root care service:
  - Increases population of beneficial soil organisms.
  - Increases callus tissue growth rate (cells that cover wounds).
  - Increases root growth and tissue resistance.
  - Increases soil porosity and decreases soil moisture.



Symptoms on a blue spruce.



Symptoms on a fir tree.