



Diagnostic Facts

Project GREEN

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Cytospora Canker

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Cytospora canker, also known as Leucostoma canker, is caused by the fungus *Leucostoma kunzei*. It is the most common and damaging disease of spruces used for ornament or windbreak in the Midwest. Although many species of woody ornamentals may be infected with Cytospora canker, Colorado blue spruce is the principal host. The disease also occurs on Norway spruce, white spruce, Douglas fir and other spruces planted as ornamentals. Trees that are 15 to 20 years old and 20 to 40 feet high are most susceptible.



Cytospora canker resulting in death of lower branches.

of branches; usually those near the base of the tree are affected first. As the disease progresses branch death moves up the tree. The disease does not usually kill trees outright. However the loss of major branches destroys the ornamental value of the trees.

Biology

Girdling cankers form on infected branches while the fungus grows throughout the inner bark. Cankers may occur anywhere on the branch, however they are more prone to occur on branch segments near the trunk. The cankers are somewhat inconspicuous except for the presence of resin where the fungus

Symptoms

The primary symptom of Cytospora canker is death

has attacked the branch. The resin is amber in color when freshly exuded, but later hardens to a bluish-white crusty coating over the cankers.

It is sometimes mistaken for bird droppings. The resin indicates necrotic tissue beneath the bark surface and all branch tissue outside this canker eventually dies. Needles on infected branches turn brown and fall from the tree. The fungus is spread from infected trees during wet spring and summer weather. Black fruiting bodies of the fungus can be found beneath the bark in the area between diseased and healthy tissue. Spores ooze from the fruiting bodies and are capable of causing new infections.



Control

There are no effective chemical controls for Cytosora canker. Avoid wounding lower branches with lawn mowers. Plant trees in well drained sites and avoid heavy clay areas. If practical, improve drainage for established trees. A very important management tool is to prune out and destroy cankers as soon as they are observed. Prune only during dry weather to avoid spreading spores to healthy branches. Spreading spores permits the fungus to establish itself on nearby branches.

Continuous surveillance for the detection of new cankers is especially important. Trees subjected to drought or to other environmental stresses appear to be more susceptible to Cytospora canker than vigorous trees. Hence, fertilizing and watering during dry periods are helpful steps in promoting tree vigor.