

# Sherdec Tree Service

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## Sphaeropsis Shoot Blight of Pines

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## What is Sphaeropsis?

Sphaeropsis is a fungus that causes shoot blight and cankers on pines in plantations, windbreaks, and ornamental plantings. Most pines are susceptible to infection, especially non-native species such as Austrian pine. The most common hosts are red, Jack, Scots, and Austrian pine. Sphaeropsis usually attacks trees stressed by one or more of the following factors: poor site, drought, hail damage, snow damage, mechanical wounds, and insect damage. Sphaeropsis kills trees by killing the new foliage year after year or by initiating girdling cankers on branches and stems of stressed trees.

## Disease Cycle and Symptoms

Sphaeropsis overwinters in shoots, bark, cones, or litter. Spores are disseminated during wet weather in spring through fall. Spores germinate and initiate infections at temperatures between 53°F and 96°F. Peak spore production and infection usually coincide with bud break and shoot and needle elongation. The fungus invades and kills succulent shoot tissue and forms spores on dead tissues. Spores from current year infections may be disseminated in the same or following year. Infection can also occur through wounds on woody tissue. Shoot blight and branch and stem cankers are the most common symptoms of Sphaeropsis. Shoot blight is common on trees of all ages, but cankers are more prevalent in saplings and pole size trees. All symptoms are generally characterized by conspicuous amounts of resin.

**Shoot Blight:** Infected shoots are strawcolored and fail to develop fully. They are soaked in resin and become very brittle over time as the resin dries. If shoots are hollow, a shoot insect may be the primary cause of death. Black fruiting bodies may be found on dead needles or shoot tissue.

**Cankers:** Look for elongated, depressed areas on branches or stems, often with resin flow on outer bark. Cankers start from shoot infections or through wounds on the branches or stem. When bark is removed, gray

to black staining and brown pitch-soaked wood are visible. Older infections may have pronounced callus growth around canker edges. The branch or stem above a girdling canker will be killed.

## Control

Prevention is the best way to control Sphaeropsis infection. Avoid planting highly susceptible exotic pines where Sphaeropsis has been a problem. All pines are more susceptible to infection when planted on poor sites or subjected to other stresses. Wounding should be avoided during peak periods of spore dispersal. Trees planted on the best sites will be more vigorous and their wounds will seal more quickly, reducing their susceptibility to Sphaeropsis infection. Avoid wetting the foliage when watering the tree or lawn as this creates conditions conducive to spore production. Copper-based fungicides like Bordeaux mixture can be used to effectively control Sphaeropsis shoot blight. Control of shoot blight infections on two year old and older trees is most important from the onset of bud break until the current year's growth is completed.