



Cenangium Canker: *Cenangium ferruginosum*; *C. atropurpureum*

Introduction

Cenangium canker (caused by *Cenangium ferruginosum* and *C. atropurpureum*) is a fungus disease commonly found on most species of pine and on some spruce and fir species. Usually, the disease occurs on lower, shaded branches of mature trees and actually aids tree growth by removing essentially non-functional branches. The fungus also plays a role in rotting dead pine debris and promotes the return of minerals and nutrients to the soil. Occasionally pines stressed by drought, wounding, extremely cold weather, or other factors, will suffer twig and/or branch dieback from the infection by Cenangium.

The disease occurs sporadically, usually once every several years. If the disease occurs yearly on the same tree, a chronically stressful site is likely. expand and split the bark. Excessively late growth in the fall stimulated by warm temperatures, high humidity, and high nitrogen levels can increase susceptibility of trees to frost cracking.



Figure 1: Dead branches on infected pine.

Symptoms and Signs

The disease has several diagnostic features. A sharp boundary between brown, dead bark and living tissue exists. Needles brown from the bases toward the tips and are often cast during the summer after the affected branch has died. Little or no resin is produced on infected tissue. Dark staining does not occur (Atropellis canker) nor does yellow-green discoloration (Scleroderris canker).



Figure 2: Cup like fruiting structures on dead branch.

Disease Cycle

Infection by the fungus can take place anytime between mid-July and mid-September. Spores of the fungus are expelled during wet weather and must land and germinate in a wounded portion of a twig or branch. Germinating spores cannot penetrate directly through intact bark, and infection through needles is not known to occur. In the summer following that of infection, infected branches are girdled by the fungus and die (Fig. 1). Browning of needles associated with

branch death may occur rapidly with the onset of hot, dry weather in early summer.

Fruiting occurs 2-4 weeks after branch death and is evident by the appearance of clusters of small (1/16 inch diameter), cup-like structures in bark crevices and other openings (Fig. 2). When dry, the structures are light brown and shriveled, but upon wetting they open to expose an orange inner surface characteristic of the fungus. Spores produced in these fruiting bodies are wind-disseminated to new sites of infection.

Management Strategies

At present, there are no chemicals registered or recommended for management of *Cenangium* canker. Dead branches should be pruned and buried, burned, or composted. The combination of environmental factors necessary for severe disease incidence occurs rarely.

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READ THE LABEL BEFORE APPLYING ANY PESTICIDE! Changes in pesticide regulations occur constantly. All pesticides distributed, sold, and/or applied in New York State must be registered with the New York State Department of Environmental Conservation (DEC). Questions concerning the legality and/or registration status for pesticide use in New York State should be directed to the appropriate Cornell Cooperative Extension Specialist or your regional DEC office.

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