

Cankers on Trees

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Cankers are localized dead areas on the branches, twigs or trunk of a tree. They can be caused by mechanical damage (especially weed whips and lawn mowers), environmental conditions (frost cracks, sunscald, etc.) chemical injury, insects or diseases. The canker may appear sunken on young and thin-barked trees or it can be hidden under the bark on older thick-barked trees. On young or smooth-barked trees, the surface of the canker may appear discolored in contrast to healthy bark. Callusing of the tissue around the canker can cause excessive enlargement of the stem, or in the case of some perennial cankers, a target-shaped area (Fig. 1). The size of the canker can range from small irregularities on a stem to massive dead areas in the bark and cambium.

On fungal cankers small, pimple-like reproductive structures can often be seen growing on the surface of the canker (Fig. 2). These structures release spores during wet weather. These spores infect

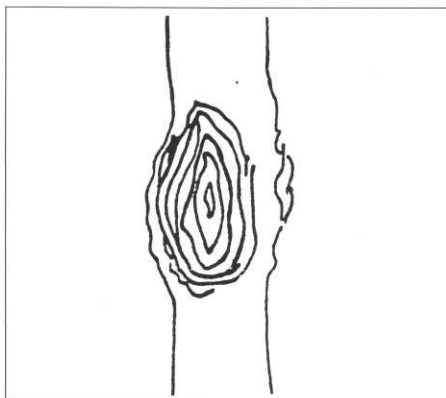


Fig. 1. Target-shaped necrotia canker.

other branches or trees through wounds and occasionally through healthy intact bark. Trees under stress are especially prone to infection and canker development.

Cankers caused by environmental stress or physical injury may be invaded by saprophytic fungi. These fungi grow on dead tissue, but do not attack healthy wood. They may also form

reproductive structures on the dead wood, thereby complicating the diagnosis.

CAUSES

Injuries can kill the cambium and result in cankers. Infectious cankers are caused by fungi or fungi in combination with mechanical injury, although a few bacteria can also cause cankers.

EFFECTS

Cankers on young trees and fruit trees can be very debilitating and may kill the tree. Cankers seldom kill established shade trees but can deform and weaken them, making them more susceptible to windthrow and invasion by wood decay fungi.

Healthy trees respond to injuries quickly and form a defense barrier that halts further expansion of the canker organism. Stressed trees may not be able to form the barrier, and cankers spread

(Continued on Page 19)

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(Continued from Page 16)

rapidly. Some fungi break through the host's defenses every year to form perennial cankers (Fig. 1). A few fungi are capable of invading healthy trees and killing them. An example is chestnut blight. The fungus responsible, *Endothia parasitica*, decimated American chestnut trees earli-

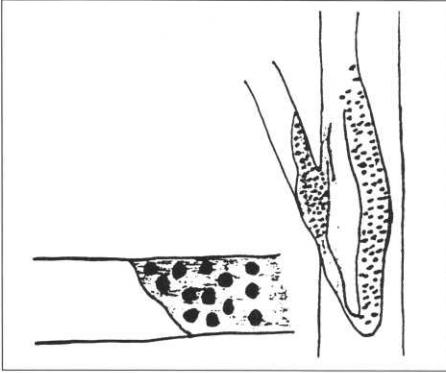


Fig. 2. Closeup of twig with fruiting bodies.

er this century.

CONTROL

Most canker-causing fungi attack stressed or injured trees. Therefore, the

best treatment for cankers is PREVENTION. Keep trees healthy and prevent wounds. In winter, wrap thin-barked trees such as maple and apply to prevent sunscald and frost cracks. In periods of low rainfall, water valuable trees thoroughly once per week, twice per week on sandy soils. Do not plant trees too close together. As trees mature, overcrowding causes stress due to increased competition for water and nutrients. Proper fertilization and removal of dead wood is also helpful.

Remove branches with expanding cankers caused by fungi and bacteria several inches below the canker. Prune during dry weather to minimize spread and disinfect pruning equipment between each cut (a 9 parts water to 1 part household bleach works well).

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