Cooperative Extension Service

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TREE BANDING
For Cankerworm Protection

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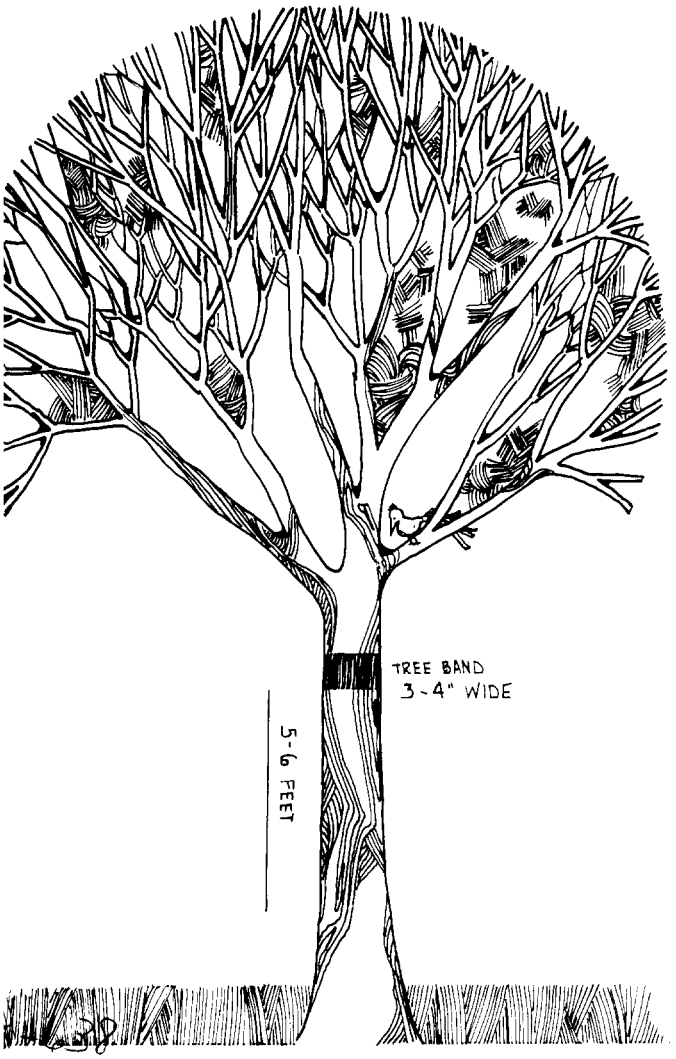

Cankerworms are an early summer defoliator that in high populations can completely strip the leaves from shade trees. Cankerworms will defoliate several species of ornamental trees and shrubs but are most destructive to elm, hackberry and apple. A single early season defoliation will not kill the tree but this stress, especially if combined with drought stress, begins to cause a general decline in tree vigor. However, if cankerworm defoliation occurs several years in a row, these combined stresses may kill a tree directly or increase its susceptibility to diseases.

Because of their esthetic, comfort and real estate value, homeowners are quite interested in protecting their trees. Effective control of cankerworms can be obtained by either chemical or mechanical control methods. In urban areas with tall trees, chemical control is often undesirable or, if trees are quite large, impossible to apply effectively to the canopy. The mechanical method of tree banding offers a control method that involves little cost or effort.

LIFE CYCLE OF THE SPRING AND FALL CANKERWORM

In the Northern Great Plains we have both the spring cankerworm (*Paleacrita vernata* (Peck)) and fall cankerworm (*Alsophila pometaria* (Harris)). Both species are quite similar in appearance and the larvae (worms) of both species are present in the spring of the year.

In late March and early April adults of the spring cankerworm emerge from the pupal stage, which is buried in the soil. The males are a gray-brown moth about 3/4-inch long with a wing span of about 1 inch. The females are wingless moths about 3/4 inch with a stout abdomen. The female must mate and climb up the trunks of trees to deposit her eggs on the limbs and twigs of the tree her larvae will develop on. Eggs of the spring cankerworm hatch in about 2 to 3 weeks and larvae begin feeding in early to mid May. The larvae feed for 3 to 4 weeks after which they spin a long silken thread and drop to the soil. Mature spring cankerworm larvae burrow into the soil, pupate and remain there until the following spring.

Adults of the fall cankerworm emerge from the pupal stage during mid to late September. Females of this species are also wingless and also must climb the trunk of the tree to mate and lay eggs. Fall cankerworms pass the winter as eggs which are glued to the bark of their host tree. Eggs of the fall cankerworm hatch about the same time as the eggs of the spring cankerworm, so the larvae of both species are present in the trees at the same time of the year. When fully grown, mature larvae spin a silken thread and drop to the soil. They burrow into the soil, pupate and emerge as adults in mid September.

BANDING FOR CANKERWORM CONTROL

A timely insecticide treatment directed at the larval stage of the cankerworms will give effective control provided good coverage of the infested trees is obtained. However, many trees in residential areas are too large to thoroughly cover with spray equipment available to the average homeowner. Also, the homeowner often does not realize he has a cankerworm infestation until after extensive damage already has been done to the tree.

An alternate method of cankerworm control is the banding of trees with an adhesive compound called "Tanglefoot ^{R}." The fact that female cankerworms are wingless and must crawl up to the trunk of their host tree to lay eggs provides an opportunity to mechanically bar them from their food. By placing a band of "Tanglefoot ^{R}" completely around the trunk of a tree, a barrier is created which prevents the wingless female cankerworms from climbing the tree to lay their eggs.

How To Band

For banding to be effective in cankerworm control, the canopy of the treated tree must be isolated from the canopies of other neighboring trees. If the canopies of several trees intermingle, the trunks of all of the trees must be banded for effective control.

Tree bands should be 3 to 4 inches wide and placed 5 to 6 feet above the ground. If necessary, bark where the band is to be applied may be smoothed with a steel brush, wood rasp or chisel. Extreme care should be taken to remove only the higher corky ridges of the bark and to avoid disturbing the inner living bark layer. This allows you to apply an even coat of the adhesive around the trunk of the tree.

The adhesive compound "Tanglefoot ^{R}" is a mixture of hydrogenated castor oil and polybutenes. This material is not poisonous, but kills insects by entangling them and suffocating them. "Tanglefoot ^{R}" comes in a paste formulation and also a pressurized aerosol spray formulation. Either formulation is satisfactory. The paste formulation can be applied with a 2 to 3 inch putty knife and is often the best formulation to use for the first application of a new band. Old bands may be easily rejuvenated by spraying with an aerosol formulation.

When To Band

Banding for the adults of the fall cankerworm should be done during the first week in September. These bands should be rejuvenated in mid March for protection against the spring cankerworm.

DO

Apply bands 3 to 4 inches wide 5 to 6 feet above the ground.

Apply bands in early September and rejuvenate them in mid March of the following year.

If branches of adjacent trees intermingle, the trunks of all of the trees should be banded.

DON'T

Be careful you don't girdle or harmfully debark the tree in the area where the band is to be applied.

To smooth the bark surface in the area of the band, remove only the higher corky ridges on the outer surface of the bark. Girdling will kill the tree

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