

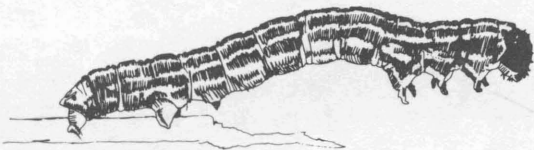
# CANKERWORMS

John A. Jackman\*

Cankerworms are a major defoliator of broad leaf trees in east and central Texas. Many of the trees from Corpus Christi to San Antonio, north to Dallas and throughout east Texas were attacked in 1978 and 1979. Such outbreaks of cankerworms are not predictable and reach high levels with little warning. Cankerworms pose a threat to broad leaf trees. Early detection and control measures are necessary for proper control.

## Biology

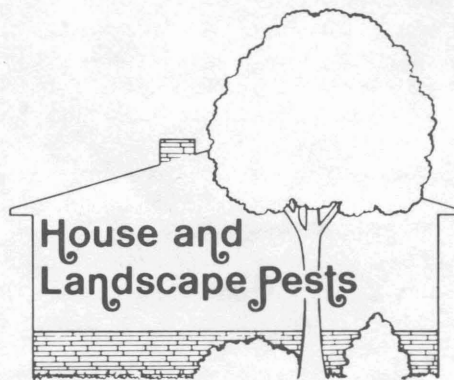
Two cankerworm species are major problems in Texas: the spring cankerworm, *Paleacrata vernata* (Peck); and the fall cankerworm, *Alsophila pometaria* (Harris). Other species also are present, but are similar in biology, appearance and control. Cankerworms, in the family Geometridae, often are called inchworms or measuring worms after their walking habit. They move by forming a loop with the central part of the body and then extending the front to straighten out.



*Fall cankerworm caterpillar*

Adults are drab grey and green mottled moths. The males are fragile with a wingspread of approximately 1 inch. Females are wingless, which means they can migrate only by walking. The females lay eggs in the spring or fall, giving them their common names. They crawl from the ground up tree trunks to lay eggs on the branches.

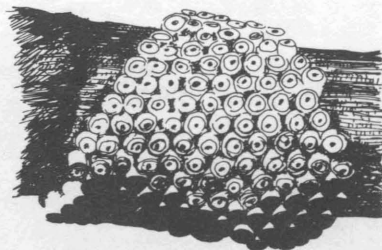
\*Extension survey entomologist, The Texas A&M University System.



Larvae or caterpillars of both species hatch from egg masses in the spring when trees are just reaching budbreak and new foliage is expanding. The larvae grow to approximately 1-inch long and are quite slender. Color is extremely variable, with light and dark forms in both species. Both are striped longitudinally with green, brown and pale yellow colors predominant. The spring cankerworm has two pairs of prolegs on the abdomen and the fall cankerworm has three pairs; thus, they can be distinguished readily. However, the drab colors make them blend with tree branches, which they resemble when they sit still.

Larvae feed for about 3 or 4 weeks before they drop to the ground to pupate in the soil, usually in late May or early June. Cankerworms remain in a pupal state in the soil until the adults emerge in the spring or fall, depending on the species. They are a nuisance when they drop to the ground because they leave silk threads trailing from the trees.

After adults emerge, females crawl up the tree trunks and onto the branches where they deposit eggs in clusters of about 100 in bark crevices on the limbs or the trunk. The eggs remain until the appropriate time to hatch in the spring. Fall cankerworm eggs remain from November until March or April when they hatch.

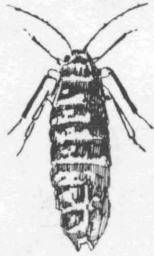


*Egg mass*

## Control

Control is suggested for valuable trees such as new transplants, specimen trees in a home landscape or fruit and nut bearing trees. If a tree has low vigor or has had a previous history of defoliation or other problems such as drought or disease, it is more likely to be damaged by cankerworm defoliation and should be treated.

However, cankerworm control is not always justified. Large, healthy trees can withstand total defoliation without significant damage. Trees that are defoliated early in the year will leaf out again and show no signs of the damage. Inspect trees in the spring. Both larvae and damage should be present before control is justified.



*Adult female Fall cankerworm*

Since female moths must crawl from the ground up into the tree, previous control measures recommended trapping the insects by placing a band of sticky material, such as tanglefoot, around the base of the tree 3 or 4 feet from the soil. However, this

method is not reliable for total control since emergence and egg laying may be prolonged. Also, tree bands would be needed in both fall and spring to control cankerworms effectively, and small larvae can migrate easily from tree to tree by dropping on a silken thread and blowing in the wind.

The surest cankerworm control measure is an insecticide timed to kill early larvae. Insecticides registered for controlling cankerworms include: malathion; carbaryl (Sevin®); acephate (Orthene®); Imidan®; and methoxychlor. In addition, the biological insecticide, *Bacillus thuringiensis* (Dipel®, Bactur® and Biotrol®) also is effective for controlling cankerworms. Considered the safest material, particularly around homes, this biological insecticide may take several days to control caterpillars since it is a disease organism. Small quantities of a detergent added to *Bacillus thuringiensis* acts as a spreader/sticker.

Spraying is not recommended once caterpillars are near their full size. At that time both the caterpillar damage and nuisance are nearly over and sprays are not beneficial.

Insecticide label clearances are subject to change and changes may have occurred since this publication was printed. The pesticide USER is always responsible for the effects of pesticides on his own plants or household goods as well as problems caused by drift from his property to other property or plants. *Always read and follow carefully the instructions on the container label.*

The information given herein is for educational purposes only. Reference to commercial products or trade names is made with the understanding that no discrimination is intended and no endorsement by the Cooperative Extension Service is implied.

*Educational programs conducted by the Texas Agricultural Extension Service serve people of all ages regardless of socioeconomic level, race, color, sex, religion or national origin.*

Cooperative Extension Work in Agriculture and Home Economics, The Texas A&M University System and the United States Department of Agriculture cooperating. Distributed in furtherance of the Acts of Congress of May 8, 1914, as amended, and June 30, 1914.