

# Sherdec Tree Service

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## Cankerworms

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The cankerworm is a common shade tree defoliator in areas of Ohio. The slender green or brown caterpillars prefer to feed on the leaves of elm, basswood, and apple.

They will also feed on hackberry, oak, box elder, maple and ash as well as shrubs below infested trees. Control is best accomplished when the cankerworms are still small (less than 1/2 inch in length) and before significant defoliation of the tree has occurred.

### Life Cycle

There are two species of cankerworm, the fall cankerworm and the spring cankerworm. They are similar in the type of damage they do and times of year they feed. Often you will find them feeding together on the same tree and both spend the summer as non-feeding pupae in the soil. They differ in body shape and egg laying habits.

### Fall Cankerworm

This species emerges from the soil as an adult moth, generally in late October after a hard freeze. The male moths are gray-brown in color, about 1/2 inch long and have wings. The females are wingless and have a spider-like appearance. They emerge a few days after the male and crawl



adult female



larva

up trees in search of twigs on which to affix their eggs. Cankerworms mate during this journey. Chemical control is not effective at this time and is therefore not recommended.

The eggs stay on the tree throughout the winter and hatch in early spring. Timing of the hatch depends on weather conditions and is usually between late April and mid May. It normally coincides with the opening of the elm buds. Newly hatched fall cankerworm larvae are less than 1/16th of an inch long. They spin silk threads that allow them to be readily blown from tree to tree. They reach one inch in length when fully grown, which takes about four weeks. Fall cankerworms have three pair of prolegs (false legs) on the back half of their bodies.



adult female



larva

### Spring Cankerworm

The spring cankerworm differs from the fall cankerworm in that the pupae in the soil do not emerge as adult moths until early spring. Emergence of the winged male and wingless female typically occurs during the third week of March in our area. Adult males and females are similar in color, size, and appearance. They lay their eggs in loose clusters in bark cracks and under bark scales. The eggs are not easily seen. Chemical control at this time is not effective. Both the spring and fall cankerworms' eggs hatch at about the same time in the spring. The larvae are similar except that spring cankerworms have two pair of prolegs on the back half of their bodies instead of three pair.

## Damage

A very healthy tree will not be harmed by one season of defoliation. A tree that has been defoliated usually re-leaves shortly after the worms have stopped feeding. Since it takes energy for a tree to produce leaves twice in a season and time for manufacturing energy is lost, multiple seasons of defoliation will be harmful. Already stressed trees or young trees will be further weakened.

Many people are not as concerned about the health of their tree as they are about the nuisance that mature cankerworms cause when they spin to the ground on silken threads, crawling or falling on sidewalks, driveways, picnic tables, doors or house siding. Large numbers can make being outside extremely unpleasant. Unfortunately, control measures are not effective at this stage of the worms life cycle. However, this behavior usually lasts only about a week.

## Control

Whether the purpose is to protect trees or to eliminate the nuisance of cankerworms, control needs to be accomplished when the worms are relatively small. Cankerworms begin feeding on buds or leaves immediately after egg hatch. Normally, the first two weeks of feeding is not noticeable by the casual observer. However a close look will reveal small BB-size holes in the leaves. The best time for control is in the second week of feeding when the damage is minor and the worms are still small enough (less than 1/2 inch) to be easily killed.

The worms increase in size rapidly during the third and fourth week after egg hatch. During this period, damage becomes extensive and very noticeable. This is a much less effective time for control because the chemicals are less effective and the major damage has already been done.

## Steps for Effective Control

Cankerworm control can be complex. Timing is very important and can vary from year to year. By following these steps, control will be effective.

1. Determine the egg-hatch date by either finding the fall cankerworm egg masses and observing them during early spring for signs of hatching (hatched eggs will have a hole in the center) or examining the foliage of several trees for the first signs of the young cankerworms feeding.

2. Add ten days to the date of hatch as determined in step 1. This will be the best date for spraying.
3. Examine trees during the ten-day post hatch period to determine if development has slowed or quickened because of weather conditions.
4. Modify the spray date as necessary, keeping in mind that the worms should be 1/2 inch in length or less and that at least 50% of the leaf surface should be intact.
5. Use only insecticides labeled for use on cankerworms and specified tree species.

Always follow the manufacturer's label rate and instructions. Successful control of cankerworms can be accomplished by using one of the following materials: carbaryl (Sevin), acephate (Orthene), or *Bacillus thuringiensis* (Dipel). It is important to be aware of the possible adverse reactions that maples or elms can have to Orthene.