

FOREST TENT CATERPILLAR HOMEOWNER TIP SHEET

Dealing with forest tent caterpillars (FTC) can be very frustrating! They don't cause a health risk to humans, but the presence of a multitude of caterpillars can be a real headache. Fortunately, individual homeowners can reduce the nuisance associated with FTC outbreaks. The effect of FTC defoliation on shade trees, ornamental plantings and gardens is also an important consideration for the homeowner.

Homeowners may want to adopt two basic strategies. First, identify the trees or buildings that you want to protect. Then work to protect the things you selected and ignore the rest (or at least try to). Second, be persistent. Some treatments may require daily monitoring or retreatment.

How can I keep them off my house, patio, lawn furniture, etc.?

1. Caterpillars can be brushed off the house with a stiff broom or knocked down by a stream of water. If possible, do this daily. Avoid squashing caterpillars on the house. This also works for lawn furniture, patios, decks, screens, etc. The longer caterpillars sit on painted surfaces, the more difficult it is to wash away any staining that may occur.
2. Spray an approved insecticide (see label) on the concrete foundation of your house. Don't spray onto paint or stain as the insecticide may damage the finish. Repeat applications as indicated on the product label. Commercial applicators may be able to use more effective insecticides.
3. Cocoons may be difficult to remove with a water hose. They can be brushed off the house with a stiff broom. Bag, safely burn, bury or compost the cocoons.

How can I tell if my trees are at risk?

1. Birches and oaks are often at risk because they are vulnerable to other insect pests and drought which act together to reduce tree vigor. This can cause branch dieback and possibly kill trees. Spraying is often warranted to protect foliage after 2 years of consecutive heavy defoliation, especially if combined with other stresses.
2. Newly planted woody ornamentals and tree saplings are more vulnerable to the added stress of defoliation and should be protected. Maintaining tree and shrub vigor is very important during the establishment phase of any planting.
3. The production from fruit trees, raspberries, strawberries and other fruit and vegetable crops will be greatly reduced or lost if the plants suffer moderate defoliation.
4. Shade trees and shrubs are vulnerable if recently damaged by construction, trenching, soil compaction, blacktop, etc.

Can I do anything to help defoliated trees and shrubs?

1. The most important thing you can do for your trees is to keep them well watered. Supply one inch per week if you do not receive it in rainfall.
2. Do not fertilize trees or use a weed and feed product on your lawn during an outbreak. Heavy nitrogen fertilization encourages the tree to produce more leaves that may deplete energy reserves and put additional stress on the tree. Fertilize in the fall after leaf-fall to build roots and energy for the following year. Your County Michigan State University Extension office has a publication on fertilizing shade and ornamental trees.

What are the reasons to control forest tent caterpillars?

1. To protect valuable shrubs and perennial plants from defoliation. Examples might be fruit trees, small fruit crops and gardens. These plants or areas are often small in size and can be sprayed easily with hand sprayers.
2. To reduce caterpillar populations, thus reducing the nuisance to people. This could include resorts and private campgrounds that might suffer economically during the June activity of the FTC. Also, groups of homeowners or lakeshore associations may wish to preserve the aesthetics of their land. Due to the size of the trees and the acreage involved, spraying is often done aurally. Areas of less than 10 acres may require a helicopter. A large ground application sprayer called a mist blower may also be used on small or discontinuous areas if available.
3. To prevent defoliation of already stressed, high value oaks. Oaks suffering from drought stress, past FTC defoliation and two-lined chestnut borer attack should be protected from further defoliation. These already weakened trees may die from the additional stress of defoliation and continued drought. Surveys determining FTC numbers in the late-fall, winter or spring before new caterpillars emerge are easily conducted. If survey numbers warrant a protective spray, there is ample time to plan the operation with assistance from available forest resource professionals.

What are some of the proven methods for controlling FTC?

1. Pick or prune off FTC egg masses from valuable small trees or shrubs before they hatch. They can be removed from mid-July of the current year to late-April of the following spring.
2. Hand pick caterpillars from plants and put them in a soapy water solution to kill them.
3. Build a 24" high polyethylene wall enclosing the area. Spray the plastic with vegetable oil to prevent the caterpillars from climbing on the wall. Repeat oil application as needed. (Note: I've never tested this effectiveness, or ease of this recommended technique.)
4. Use a sticky product like Tanglefoot on the trunks of shrubs and trees. This prevents caterpillars from adjacent areas from climbing up treated trees. Caterpillars already in the tree are not affected. This sticky material is best applied to a material like a plastic wrap that can be removed from the tree and easily replaced without making a long-lasting mess on the tree.
5. Spray an insecticide to kill young caterpillars. Killing caterpillars when smaller protects foliage the most. The larger caterpillars do most of the damage, and are a greater nuisance. Younger caterpillars are also more vulnerable to insecticides. Available products include chemical insecticides, insecticidal soaps and biological insecticides. (See below.)

Will spraying this year reduce the FTC problem next year?

No. Spraying will only affect this year's population of caterpillars. Since the moths are strong fliers, forested areas will be reinvaded during moth flights and eggs will be laid on treated and untreated trees alike.

Can I spray to protect trees in my backyard?

If you have fruit trees or small ornamental trees, you can probably spray them from the ground with hand held equipment and be fairly effective. Do not spray fruit trees with chemical insecticides while they are flowering. This could seriously affect beehives in the area and interfere with the pollination. If you have large

shade trees, you will likely not be able to reach the foliage by spraying from the ground. In forests or treed urban areas, hungry caterpillars will quickly re-invade small treated areas from adjacent, unsprayed environments. Spraying large trees and local areas is often accomplished using commercial applicators that have large sprayers such as mistblowers, or use helicopters.

For assistance in making spraying decision, contact the Michigan Department of Natural Resources or Michigan State University Extension.

Which insecticides can be sprayed? Are some better than others?

Each insecticide has restrictions as to what plants and sites it can be applied to legally. Chemical insecticides such as malathion, acephate, or carbaryl will kill caterpillars directly or indirectly if sprayed leaves are eaten. Insecticidal soaps work by directly spraying the insect. Chemical insecticides will also kill bees and other helpful insects, especially if applied over large areas, or not applied according to label directions.

Available biological insecticides currently contain Bt (*Bacillus thuringiensis*), a bacterial preparation that kills only caterpillars. Because of the limited toxicity, Bt products are favored. Bt is applied to leaves and is only toxic when eaten by the caterpillars. Spraying caterpillars with Bt will not harm them. If eaten by other insects like bees or adult moths and butterflies, Bt has no effect.

Is Bt completely non-toxic? If it were, why would anyone be against its use?

Insecticide products containing Bt are toxic only to butterfly and moth caterpillars. It is not toxic to other groups of insects, fish, mammals or humans. In fact, Bt must be taken internally by caterpillars where it causes a natural disease that kills them.

Some people are uncomfortable with any type of insecticide application regardless of toxicity. Bt is toxic to all caterpillars and in some instances killing them would be of concern, especially if any rare species are involved. If your neighbor objects to spraying, take extra precautions to avoid spraying their land by mistake. For instance, spraying on a windy day can cause spray to blow off-target.

Is Michigan the only place with FTC problems?

FTC outbreaks occur simultaneously in neighboring states. The Lake States and Ontario are currently affected by FTC outbreaks. The last wide spread FTC epidemic lasted 3 years in many areas of the Upper Peninsula. There were two peak years in 1989 and 1990 where 600,000 plus acres had moderate to high populations each year.

Why don't governmental agencies aerially spray FTC to control defoliation?

FTC is a native defoliator of hardwood trees, especially oak, aspen and basswood in the Upper Peninsula. The first outbreaks were recorded in the late 1800's with five major outbreaks since 1933. Outbreaks usually last 3-5 years and cause no permanent damage to the trees. The vigor and stress history of the forest is monitored annually to aid in evaluating control decisions.

The FTC does not threaten the survival of a vigorous forest. Vigorous trees can withstand repeated early defoliation. Trees generally re-leaf by early July. This provides time to recapture energy reserves lost from defoliation and growing new leaves. Of course, the quality of the growing season as influenced by rainfall and other stresses directly affects the amount of stored energy reserves produced.

Spraying does not significantly reduce populations in future years. Adult moths lay 100-350 eggs each and can fly or be blown long distances to re-infest areas. Large control programs can actually prolong local outbreaks by upsetting natural balances. Parasite and predator populations build in response to these epidemics, and if left alone, will reduce populations to below detectable levels for many years.

For these reasons, controlling FTC on federal, state and county lands is generally not a viable option. The costs exceed the benefits.