

GYPSY MOTH IN MICHIGAN

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The name gypsy moth is now quite familiar. Within the next couple of years it's name will be as recognizable around the state as our Governor's.

Gypsy moth, and all of it's attendant problems, is too vast a subject to be discussed here. For more information contact your county extension office. They have available, currently free of charge, a tabloid entitled **Gypsy Moth in Michigan, HOMEOWNER'S GUIDE (E-2302)** and several other bulletins regarding gypsy moth.

DAMAGE

Gypsy moth has two primary negative impacts on trees in Michigan: It defoliates certain types (species) of woody plants and can be a severe nuisance when present in large numbers.

Defoliation

Gypsy moth caterpillars eat the leaves of many species of trees and shrubs. They begin hatching from egg masses in early May. By the end of the second week of May, egg hatch will be well along or completed in most parts of the state. Each caterpillar growth stage (instar) consumes more leaves than the one before. Most of the feeding is done by the fourth and fifth growth stages (early June to early July). This is when defoliation becomes very noticeable.

The damage potential in the backyard-neighborhood situation depends, to a large extent, upon the type of trees available, the tree density in an area and the health of the trees.

Gypsy moth is most fond of oak, poplar, crabapple, certain birch and willow, boxelder and certain horticultural varieties of maples (e.g., Royal red and Crimson sentry). There are many other species of trees and shrubs that can support the gypsy moth; these are the most common.

For gypsy moth to cause extensive damage, a certain concentration (density) of trees is needed for a gypsy moth population to thrive. Usually, but not always, a tree canopy density of over 50% is necessary.

Insect pests and plant diseases usually do better on unhealthy trees than on healthy ones. A tree that has 60% or more of its leaf area removed by gypsy moth will "flush" a new set of leaves. These leaves are usually not quite as big or as green as the originals, but they will do an adequate job for the balance of the summer. Making a new set of leaves requires the tree to utilize nutrient reserves it was storing for other uses (e.g., next years leaves). Subsequently, the heavily defoliated tree is weakened, a little. The "rule of thumb" is that most trees can stand three years of severe defoliation before permanent harm is done. A rule of thumb is a generalization (i.e., the average condition). Some trees may be weakened more quickly, some not as quickly.

Nuisance

There is a term that has been coined by gypsy moth pest managers. It is "the gentle rain". This refers to the pitter-patter of gypsy moth caterpillar fecal pellets dropping from the trees when the later instars of this insect are feeding overhead. The sound is much like that of a light rainfall on a spring evening.

A full grown gypsy moth caterpillar is two inches long and hairy. Multiply this by several hundred or a thousand and you can imagine the panic potential.

INTEGRATED GYPSY MOTH MANAGEMENT

Monitoring

The gypsy moth spends eight months (July-May) in the egg mass. Look for the egg masses, remove, and destroy them. On trees, egg masses will be found on the trunk of the tree, on the underside of branches (especially the lower ones), under loose bark, the linings of tree cavities. Egg masses will also commonly be found on most any man-made object that has flat surfaces. If egg masses are found on trees they will most certainly be present in wood piles, house siding and foundation, lawn furniture, dog houses, you name it.

When your trees have flushed leaves, inspect them weekly. Look for leaf damage and gypsy moth caterpillars and listen for the "gentle rain".

Tree Health

Keep trees healthy. Cut out dead wood. Fertilize with high nitrogen fertilizer. Use both fast and slow release formulations. When you water your tree, give it an inch of water. Healthy trees can withstand disease and insect stress much better than unhealthy ones---common sense.

Non Chemical Control

There are several different kinds of products available that offer control tactics that are not chemical insecticide-based.

Barrier bands. When gypsy moth caterpillars reach middle age (about 1" in length) they begin regular daily migrations up and down the tree trunk. At this point in their life they feed primarily in the evening and early morning hours. In mid morning they migrate out of the tree to find a secluded resting spot. They reenter the tree in mid to late afternoon.

Sticky and slippery barrier bands are designed to interrupt the daily movement and protect the tree against the caterpillars. These bands are available and have merit, in my opinion. The cost range is from about \$6 - \$9. A homemade version, that is gaining popularity, is to use duct tape with marine grease on the duct tape band. Warning: do not put grease, or any sticky substance other than banding, directly on the tree. Barrier bands can also be effectively deployed around the base of buildings. However, this could get expensive.

It is best to wait until one to two weeks after hatch to put barrier bands in place. Until the caterpillars start moving up and down trees you will be collecting a lot of other bugs and foreign matter and shortening the time the bands will remain effective.

Cloth hiding bands: Dark cloth secured with a piece of cord and folded over provides a place for migrating caterpillars to hide. The caterpillars have to be collected and destroyed daily. The cloth should be more than a foot wide.

Pheromone traps. Pheromone traps are being sold at lawn and garden centers. The male gypsy moth mates several times before it dies. There is no evidence to suggest that putting one of these traps in your backyard will protect your trees or reduce populations of gypsy moth. These traps were designed solely to determine the presence and possible densities of gypsy moth in an area. These traps sell for around \$10 - \$13.

Gypsy moth attachment for bug zappers. Same deal as pheromone traps. I don't know how much these cost.

Insecticides

There are several general use insecticides registered for home use against gypsy moth. Bt and diflubenzuron are probably the most widely used in Michigan.