

Managing Gypsy Moth

Michigan

STRATEGIES FOR LANDOWNERS TO MANAGE GYPSY MOTH

Dates are approximate and may vary by region

August - early May:

Remove and destroy egg masses prior to hatch. *Every mass you destroy prevents 100 to 1,000 caterpillars from hatching!!!*

-Search for gypsy moth egg masses on trees, firewood, outdoor furniture, and other outdoor surfaces.

-Scrape egg masses into a container of soapy water and let sit overnight, or burn the egg masses.

*Don't leave the eggs or bits of egg mass on the ground – those eggs can still hatch the following spring.

*Take care not to damage tree bark, leaving the tree vulnerable to disease.

August - early May:

Spray egg masses with biologic oil once temperatures are above 45 degrees.

-Biologic Golden Pest Oil: https://www3.epa.gov/pesticides/chem_search/ppls/057538-00011-20040309.pdf

-50/50 mix of soybean oil and water can also be used when temperatures are above 45 degrees

<https://www.nj.gov/agriculture/divisions/pi/pdf/GMguide.pdf>

March – June:

Wrap trees with sticky barrier bands to trap caterpillars as they move up and down the trunks.

<https://fyi.extension.wisc.edu/gypsymothinwisconsin/making-a-sticky-barrier-band/>

<https://www.nj.gov/agriculture/divisions/pi/pdf/GMBarrierBands.pdf>

*Follow precautions stated in the articles to protect your trees from damage.

Wrap trees with folded burlap barrier bands to trap the caterpillars: <https://fyi.extension.wisc.edu/gypsymothinwisconsin/making-a-burlap-barrier-band-trap/>

May – August:

Kill as many caterpillars, pupae, and moths as you can! Crush, stomp, swat, spear...or use a soapy water bath.

-Drop them into a bucket of soapy water and let sit for 24 hours. (Caution: their hairs can be irritating.)

-Spray caterpillars directly with a mixture of dish soap and water. (Caution: can make deck surfaces slippery.)

In hot, dry weather, water prized trees defoliated by gypsy moth.

-Run a sprinkler for about an hour in the morning, soaking the ground under the spread of the branches.

<https://extension.umn.edu/planting-and-growing-guides/watering-established-trees-and-shrubs>

MORE INFORMATION

MSU Extension Integrated Pest Management: Gypsy Moth:
canr.msu.edu/ipm/invasive_species/gypsy-moth/

Gypsy Moth Lifecycle

September - May: Embryo and Diapause Stage

A single egg mass contains 100-1,000 eggs insulated in a matting of hair from the female's body. Masses are tan-colored, oblong and range from 1 to 3 inches. Larva is fully formed and ready to hatch within a month. The larva goes into diapause, becoming insensitive to cold. Hatching occurs in early May and coincides with the opening of tree buds.



Mid-Late May: Hatching Stage

Newly hatched larvae are less than 1/8 inch long and appear black in color. They climb trees or other objects and drop on silken threads to be dispersed by the wind in a behavior called ballooning. Once landing in its host tree, the larva begins feeding. Hatching and ballooning may last for 7-10 days.



Mid July: Larval Feeding Stage (caterpillar)

Caterpillars molt, shedding their exoskeleton (5 times for a male and 6 times for a female). Each molt is called an instar. A single caterpillar eats an average of one square meter of foliage during this stage. Fourth instar caterpillars are identified by a beige head and dark marks, 5 pair of blue dots followed by 6 pair of red dots down their back. Larvae feed at night and generally rest during the heat of the day unless populations are very large and under stress. They continue to feed, molt, and feed until they are about 2 1/2 inches long.



Late June—Mid-July: Pupa Stage

During this stage the caterpillar looks for a protected place where they will be safe from enemies like mice, birds, and parasitic wasps to pupate and change into a moth. The caterpillar sheds its skin and its new skin is a dark, reddish-brown color usually attached to a tree trunk, rock, or other sheltered place by a loose net of silken threads. After about 10 days of metamorphosis the adult winged moth emerges, leaving the pupa cases behind. Female pupa are larger than male pupa.



July—August: Mating & Egg Mass Laying Stage

The female moth cannot fly, and is larger and creamy white with black "V" markings on her fore-wings. Males are mottled brown and gray. In the late afternoon they fly in zigzag patterns following the scent of female pheromones they sense with their large, feathery antennae. After mating the female lays her eggs in a single mass she covers with hairs from her body. The adult gypsy moth cannot feed; its only function is to reproduce. The moth lives about two weeks, completing a one-year life cycle.



Native vs Invasive

The gypsy moth is a destructive, invasive pest, but it is often confused with the Eastern tent caterpillar, a benign native species. While some find their tents unsightly, Eastern tent caterpillars are a natural part of our Michigan ecosystem.



Eastern Tent Caterpillar - NATIVE



Gypsy Moth - INVASIVE