



ENTFACT- 425

GYPSY MOTH

Joe Collins, Nursery Inspector

In 1869, gypsy moth larvae that were being evaluated for silk production, were blown from a window sill in Medford, Massachusetts. The first outbreak of gypsy moth occurred in 1889. By 1987, the gypsy moth had established itself throughout the Northeast. It is one of the most damaging pests of hardwood forests and urban landscapes, defoliating a million or more forested acres annually. This insect has spread into parts of Virginia, West Virginia, Ohio and Michigan. The gypsy moth has not yet become established in Kentucky. However, male moths are caught each year in survey traps that the US Department of Agriculture uses to monitor the movement of this important pest.

Gypsy moths are spread one of two different ways. Natural spread over short distances occurs as newly hatched larvae spin short lengths of silken thread which allow them to be blown by the wind. Over the last 10 to 15 years, gypsy moths have moved long distances on outdoor household articles such as cars and recreational vehicles, firewood, household goods, and other personal possessions. An estimated 85 percent of new infestations have been through the movement of outdoor household articles.

Once established in an area, gypsy moth numbers can fluctuate widely from year to year. Seasons with severe damage can be followed by seasons with relatively few caterpillars and light damage. In periods of heavy outbreaks, gypsy moth caterpillars crawl on walls, across roads, over outdoor furniture, and sometimes will come inside homes.

Gypsy moth caterpillars feed on approximately 500 different plants. Older larvae will sometimes eat several species of hardwood that the younger larvae will avoid. However, when food is scarce, the larvae will feed on almost any vegetation.

Gypsy Moth Foliage Preference

Preferred	Generally avoided
apple	American holly
cherry	arborvitae
hawthorn	ash
hickory	balsam fir
maples	black walnut
oak	butternut
sassafras	catalpa
sweetgum	flowering dogwood
willow	mountain laurel
red cedar	
rhododendron	
sycamore	
yellow poplar (tuliptree)	

The gypsy moth has four different life stages: egg, larva or caterpillar, pupa and adult moth. Female moths lay eggs in sheltered areas. Each egg mass will contain between 500 and 1,000 eggs and will have a tan, fuzzy appearance. This comes from the body and wing scales that the female uses to cover the eggs to provide some additional protection during the winter. The egg masses can be found all winter long however, they will not hatch until spring. Larvae emerge from egg masses from early spring until mid-May. Hatching usually coincides with the budding of most hardwood trees.

Only the caterpillar stage of the gypsy moth feeds. When fully grown the caterpillar will be approximately 2 inches long, very hairy and have five pairs of blue dots followed by six pairs of red dots along its back. The larval stage lasts about seven weeks.

First instar larvae begin feeding in the top branches and chew small holes in the leaves. The second and third instars feed from the outer edge of the leaf toward the center. When population numbers are low, the young larvae prefer to feed during the daytime while the older larvae feed at night. During the day, these older larvae hide in protected areas at the base of the tree. However, when populations are high, the larvae will feed day and night until the tree is stripped of its foliage.

While in the larval stage, the gypsy moth might be confused with the fall webworms or eastern tent caterpillars. However, both of these insects form webs, the gypsy moth does not. The eastern tent caterpillar appears in early spring and makes its tents in the crotches of tree branches. The fall webworm appears in mid to late summer and builds its tents on the ends of branches. Eastern tent caterpillars are generally black with a white stripe down the back. They also will have blue spots on their sides that are located between two yellow lines. The fall webworm will be yellow to green in color and will have ten pairs of black dots along its back.

Gypsy moth pupae are about two inches long, dark brown and are lightly covered with hairs. Pupation usually occurs in protected areas of the tree and are often accompanied by the molted skin of the last caterpillar instar.

The moths have a distinctive inverted V-shape that points to a dot marking on their wings. The dark brown males are smaller than the females, and have feathery antennae. Female moths have creamy white wings with a tan body. Although the female possesses wings, she is unable to fly.

Control

There are several ways to control gypsy moth. In small populations, it may be easiest to destroy egg masses that are found on buildings, trees, etc. To destroy the egg mass, either crush the eggs or place them in a bucket of kerosene or soapy water. Burning the egg mass will also kill them. Simply picking the egg masses off and dropping them on the ground will not kill them. Be careful when handling the egg masses because the hairs that cover the egg masses may cause an allergic reaction.

Placing burlap around tree trunks, especially oaks, will provide a hiding place for older larvae and will provide an easy way to monitor the population. When numbers are low, the larvae and pupae under the burlap may be crushed.

Use of barrier bands, such as commercial double-sided sticky tape, Tanglefoot or grease will keep the larvae from crawling up the trunks of susceptible trees. These products should not be put directly on the tree trunk but rather on a non-porous material such as duct tape.

If a large population of gypsy moths is found, an insecticidal treatment may be needed. Several insecticides are labeled for use against gypsy moth. These include the Bt products of Dipel and Thuricide, and the following chemicals: Orthene, and Sevin.

Some cultural tips might help reduce possible gypsy moth problems. These include watering trees during times of drought, fertilization, and placing mulch

around the base of the tree to increase soil moisture. As is the case with other tree pests, the gypsy moth will defoliate a stressed tree first. Stressed trees often provide wounds or deep bark crevices that provide the larvae with shelter that will aid in their survival.