

## COOPERATIVE STATE- LANDOWNER GYPSY MOTH SUPPRESSION PROGRAM FOR OHIO - 2016

The gypsy moth *Lymantria dispar* (L.) is one of the most destructive insect pests threatening our forest and ornamental plants in Ohio. Native to Europe, Asia and North Africa, it became established in the U.S. when brought to Massachusetts in 1869 for an unsuccessful attempt to cross it with a silkworm. A few caterpillars escaped, and the gypsy moth has gradually spread throughout the northeastern states since that time.

Currently, gypsy moth infests all of the New England and North Atlantic states to northern North Carolina and west to central Ohio also including the states surrounding the Great Lakes Region. Rigorous control efforts by state and federal agencies since before 1900 have met with varying degrees of success, but have been generally useful in only slowing the natural spread of the insect. In addition, a federal quarantine restricts movement of nursery stock, lumber, and outdoor household articles from the infested area.

The first adult male moths were trapped in Ohio in 1971, and the first defoliation occurred in 1990. A state quarantine, paralleling the federal quarantine, took effect in 1987, and has been extended several times.

Since areas of infestation have expanded greatly, a cooperative suppression program between the Ohio Department of Agriculture (ODA), U.S.D.A., Forest Service and affected landowners is now an option. This brochure describes the gypsy moth infestation in Ohio and outlines the requirements for participating in the ODA's cooperative suppression program.

### HOW DOES THE GYPSY MOTH PROBLEM AFFECT OHIO?

Gypsy moths damage trees by feeding on leaves, partially or completely defoliating the trees. Feeding is done by the caterpillar stages, usually between early May and late June. Caterpillars feed on a wide variety of plant species, but prefer those in the oak group. The amount of defoliation in a stand is difficult to predict, but depends on variables such as the gypsy moth population level in the area and the tree species composition. Light defoliation will weaken but usually not kill a tree. Heavy (more than 50-60 percent) defoliation will cause them to develop a second set of smaller, less vigorous leaves, thus weakening the tree. Weakened trees are more susceptible to secondary pests such as woodborers or root diseases. Repeated heavy defoliation over several years will kill some trees.

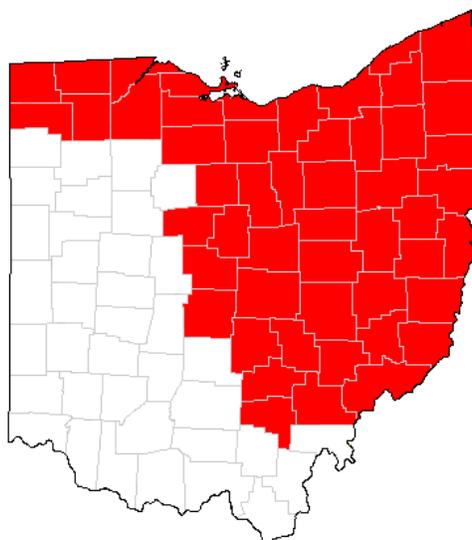
In forested rural areas, heavy defoliation can affect tree vitality and forest health, which can have an impact on timber quality and recreational use such as camping. In residential areas, defoliation not only affects the trees, but the presence of numerous caterpillars, their frass (excrement), and leaf debris can be a severe nuisance. In addition, some people are sensitive to the caterpillar's hairs and can experience an allergic reaction.

Ohio's forested areas comprise thirty percent of Ohio's total land cover. The greatest impacts will probably be

observed on sites with a high composition of oaks and other preferred hosts. Oak-hickory forests are dominant in Ohio, comprising sixty-two percent of commercial forestland, or roughly 4,246,300 acres (Dennis and Birch, 1981). Forested residential areas with high concentrations of oaks and extensive canopy are also susceptible. Residential areas with open tree canopies (scattered shade trees) may have transient gypsy moth infestations, but will probably not sustain outbreak populations.

### WHERE IS OHIO'S GYPSY MOTH INFESTATION?

Currently, fifty one counties in northern and eastern Ohio are considered generally infested (see map). The ODA's Suppression Project is available to landowners in these counties to help deal with the gypsy moth problem. The remaining southwest portion of Ohio has not been infested by the gypsy moth. The ODA, in cooperation with the USDA actively monitors this area and aggressively treats any isolated infestation that has been introduced.



Gypsy Moth Quarantine Counties 2015

Elimination of the gypsy moth from Ohio is no longer feasible. In all likelihood, the insect will spread rapidly into and throughout the forested areas of eastern, southeastern, and southern Ohio. The movement into other portions of Ohio should occur more sporadically.

### WHAT IS THE ODA'S SUPPRESSION PROGRAM?

The ODA will consider aerial spraying to suppress gypsy moth in the quarantined counties (see map) where a landowner(s) requests treatment. After a landowner(s) applies for a survey, a site evaluation will be conducted by ODA field staff to determine if the area meets spray site criteria. Spray treatments will not eradicate gypsy moth, but treatments will be applied to reduce the impact of the pest on trees and residents of infested areas.

### WHAT INSECTICIDES ARE USED IN THE STATE SUPPRESSION PROGRAM?

The ODA uses Foray 48B [*Btk* (Bacillus thuringiensis var. kurstaki)], Mimic 2LV and Dimilin 4L. in the State program.

Residents of each site have the option of choosing which insecticide they prefer. However, some environmentally sensitive sites or sites containing open water may be limited to the use of *Btk*.

Foray 48B(*Btk*) is a biological insecticide. The control success of *Btk* applications varies depending on population density, timing of application, and the weather.

Dimilin 4L is a synthesized insecticide, and acts as an insect growth regulator. Dimilin 4L is very effective and its success is not compromised by population density, timing of application, or weather.

Mimic 2LV is also a synthesized insecticide, and acts as an insect growth regulator too. Mimic 2LV is very effective when applied during larval growth stage and has excellent residual performance.

All three products kill lepidoptera (moths and butterflies) larva that are feeding on the foliage while the insecticide is present. Foray 48B has the shortest residual performance and Dimilin and Mimic have longer residual performance.

### **HOW DOES A SITE QUALIFY FOR SUPPRESSION TREATMENT?**

Since spray applications are only effective when gypsy moth is present (they are not preventative), there must be an active gypsy moth infestation on properties where spraying is desired. If you have noticed caterpillar activity in late May through June, you may qualify for the suppression program. Caterpillar activity includes large numbers of caterpillars, frass and leaf debris, and partial or total defoliation of trees.

Caterpillars become pupae (cocoons) mid to late June. When the adults (moths) emerge in mid to late July, they begin laying groups of eggs (egg masses) that over winter and hatch into caterpillars in following spring. Surveys of these egg masses by ODA field personnel are the primary means used to evaluate the damage potential of gypsy moth populations. Even if you have observed significant caterpillar activity in May and June an egg mass survey later in the fall or winter egg mass still must be performed to determine whether the population is high enough to qualify for the suppression program.

To determine whether you have gypsy moth on your property, and whether to apply for a survey to be done by ODA field personnel, look for egg masses beginning in early to mid-August, or when you observe moth activity decreasing.

Egg masses look like dime- to quarter- size, fuzzy or hairy, tan-colored masses that can be found attached to trees, logs, rocks or man-made objects like picnic tables, fences or bird houses.

If you find egg masses and are interested in having your property treated for gypsy moth, you must submit an application for Gypsy moth survey. You can obtain an application by contacting the ODA's Plant Pest Control Section in Reynoldsburg (614-728-6400), or your county's Ohio State University Extension office. Read the application carefully to determine whether your property meets all treatment site criteria. Follow the instructions and be sure to fill out the form completely. After you submit your application, ODA staff will evaluate the site to determine whether it meets treatment site criteria. There is no charge for site evaluations or egg mass surveys, but landowners will be

required to contribute a portion of the treatment costs in a cost-share program with ODA. (*See Funding below*)

### **AREAS PROPOSED FOR TREATMENT MUST MEET THE FOLLOWING CRITERIA:**

- 1) The proposed spray block must be located in a county that has been designated quarantine for gypsy moth by ODA.** Refer to map on previous page. Areas of isolated infestations outside the quarantine counties fall under the Slow the Spread Program of the USDA, Forest Service, and are subject to their criteria and funding limitations.
- 2) The proposed spray block must contain a minimum of 50 contiguous forested acres.** Adjacent property owners and housing developments should combine their acreage to meet the 50 acre area requirement and to obtain maximum benefit from the treatment.
- 3) The proposed spray block must have a concentration of at least 250 egg masses per acre in residential areas. Forested areas must have a minimum of 1000 egg masses per acre.** ODA field staff will confirm this. Do not remove current season egg masses until you have been notified that ODA surveys have been completed.
- 4) The proposed spray block must have a tree canopy that covers no less than 50% of the block.**
- 5) The proposed spray block must consist of at least 35% of tree species that are either susceptible or resistant to the gypsy moth.** A detailed list is posted on our ODA web-site, [www.ohioagriculture.gov/gypsymoth/links](http://www.ohioagriculture.gov/gypsymoth/links).
- 6) The proposed spray block must receive a favorable T & E Assessment from the Ohio Department of Natural Resources and the United States Fish & Wildlife Service.**

### **FUNDING:**

Applicants who's blocks qualify for treatment will be asked to pay a minimum of 50 % of the cost of treatment. Payment will need to be made in full prior to treatment. The balance of the funding is thru state and federal funds. State and Federal funding is subject to budget limitations that may cause cuts or cancellation of the program without notice.

### **DEADLINES:**

Application for egg mass survey – September 1, 2015  
Landowner cost share payment – March 1, 2016