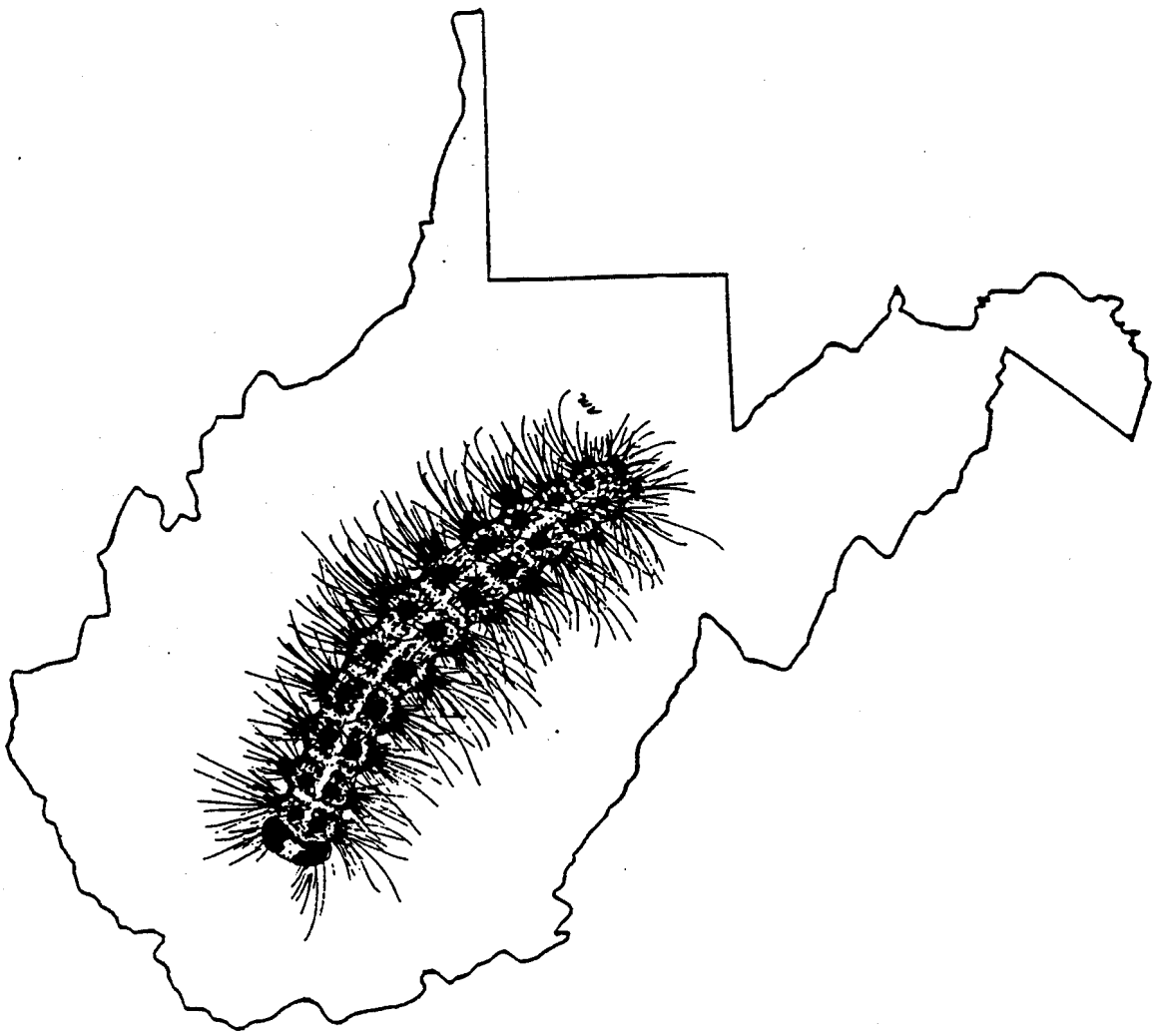
The Cooperative State-County-Landowner Gypsy Moth Suppression Program In West Virginia



West Virginia County Commissions
West Virginia Department of Agriculture
West Virginia Cooperative Extension Service
United States Department of Agriculture Forest Service
(304) 558-2212

The gypsy moth is the most serious insect pest ever to invade West Virginia's forests. The first adult male gypsy moths were trapped in West Virginia in 1972. The first caterpillars were found in 1978. Since then this destructive insect has continued to spread, while funding to combat the pest has been difficult to maintain. These circumstances created the need for a gypsy moth cooperative suppression program for landowners in the generally infested areas in West Virginia. This brochure is designed to answer some commonly asked questions and provide information about the cooperative suppression program.

HOW SERIOUS IS THE GYPSY MOTH PROBLEM?

Severe economic loss of valuable timber, significant impact on outdoor recreational opportunities in heavily infested areas, adverse effects on some forms of wildlife through food loss and changes in habitat, and destruction of the aesthetic beauty of our forested communities are expected results of the onslaught of the gypsy moth. In addition, a health problem, in the form of an allergic reaction, may occur in a few people when they come in contact with large numbers of gypsy moth caterpillars.

Repeated heavy defoliation by gypsy moth kills trees. Spruce, pine and hemlocks die after a single heavy defoliation. Hardwood tree mortality, after two successive years of defoliation, can reach as high as 80%. The forest trees preferred by this insect are oaks, and the oak-hickory type makes up about 77% of West Virginia's woodlands.

In 2005, the West Virginia Department of Agriculture (WVDA) initiated a gypsy moth damage assessment to evaluate the tree mortality associated with the record defoliation from 2000 to 2002 when 322,892; 603,630 and 132,197 acres were defoliated, respectively. Throughout the surveyed area, sawtimber mortality averaged 1,208 board feet per acre, and pulpwood mortality averaged 6.2 cords per acre. The average sawtimber and pulpwood loss was 19.5 and 19.7 percent, respectively. Approximately 56,602 acres were heavily defoliated two of the three years between 2000 and 2002. A conservative estimate of the dollar value for the timber killed was arrived at by applying the 19.5 percent mortality rate to only those acres that received two or more heavy defoliations from 2000 to 2002. Based on the results of this assessment, the estimated value for timber killed on 56,602 acres is $15,756,299 ($278.37/acre) for sawtimber and $3,085,941 ($54.52/acre) for pulpwood, for a grand total of $18,842,240. Even though gypsy moth has been established for more than 20 years in the Eastern Panhandle, where the majority of the defoliation and mortality occurred, significant mortality can still be expected there during sever defoliation events.

A study conducted by the West Virginia Division of Forestry (WVDF), in Hampshire, Morgan and Berkeley Counties, on 1,315 of an estimated 8,250 acres that were moderately to heavily defoliated in 1986, found mortality in sawtimber stands after one year of defoliation to be 30% to 35% of total oak basal area. The damage in these stands was estimated to be $136.36 per acre. Oak species, which accounted for 63% to 78% of the total sawtimber stand composition, exhibited the highest species mortality. Twenty-five percent of the total oak sawtimber died after this one heavy defoliation and 14% in poletimber stands.

WHERE IS THE GYPSY MOTH INFESTATION CURRENTLY?

West Virginia Counties where gypsy moth is known to occur are regulated by the United States Department of Agriculture Gypsy Moth Quarantine (7CFR 301.45) and the West Virginia Department of Agriculture Gypsy Moth Quarantine include: Barbour, Berkeley, Braxton, Brooke, Calhoun, Doddridge, Fayette, Gilmer, Grant, Greenbrier, Hampshire, Hancock, Hardy, Harrison, Jackson, Jefferson, Lewis, Marion, Marshall, Mineral, Monongalia, Monroe, Morgan, Nicholas, Ohio, Pendleton, Pleasants, Pocahontas, Preston, Randolph, Ritchie, Taylor, Tyler, Tucker, Upshur, Webster, Wetzel, Wirt, and Wood Counties.

WHAT IS THE GYPSY MOTH COOPERATIVE SUPPRESSION PROGRAM?

It is a cooperative regional suppression program between landowners, the county commissions in the generally infested counties, the West Virginia University (WVU) Cooperative Extension Service, WVDA, and the United States Department of Agriculture, Forest Service (USDA-FS). Aerial treatments will be done in the generally infested area on a demand basis only to minimize the damage to forests and reduce the impact of the gypsy moth in future years. Treatments will not be done with the intent of eradicating the pest. The WVDA will offer gypsy moth treatment with either of two materials, Dimilin or Btk. The landowner may request the use of either material. However, final approval for use will depend on site evaluation by the WVDA. The site evaluation will determine if an area meets criteria set forth on the pesticide label and other possible restrictions.

HOW DO I KNOW IF MY LAND HAS A GYPSY MOTH PROBLEM AND I NEED TO PARTICIPATE?

The WVDA will conduct an egg mass survey on your property upon request and provide other information about the gypsy moth population in your area.

Generally, forest land being managed for timber should have a concentration of 500 egg masses per acre to be considered for treatment. However, USDA-FS research indicates it should be possible to go as high as 1,000 - 1,200 egg masses per acre and still obtain adequate timber management protection. Other factors, principally whether the population is building or declining and the size of the egg masses must be taken into consideration before the final decision concerning treatment is made.

Historically, there have been a number of areas that did not conform to the above general guidelines and yet large areas were defoliated where egg mass counts were below 500 egg masses per acre. This simply serves to demonstrate the unpredictability of this insect when we try to apply these general guidelines across the entire infested area.

In wooded developments or residential areas where the nuisance factor of the insect is significant, consideration will be given to treating down to 250 egg masses per acre. Consideration will also be given to treating these areas when the potential for large numbers of wind blown caterpillars exists. Potential for wind blown caterpillars is defined as a count greater than 1,000 egg masses per acre within 1 mile of the proposed treatment block. There is a higher risk of this happening when high egg mass densities occur at higher elevations or to the south and west of proposed treatment blocks.

Land proposed for treatment should not pose a serious safety risk to aerial spraying. If electrical transmission lines, communication towers, etc. present a hazard, spray blocks may have to be modified or dropped. Spray blocks must contain a minimum of 50 contiguous acres of trees with no omits. This minimum acreage is necessary to maintain the current low cost of the Program. Adjacent property owners should go together to meet this minimum requirement, as well as to derive maximum benefit from the treatment program. No billing will be made or egg mass surveys conducted on blocks less than 50 acres. Landowners and housing developments must sign up as a single unit on one application, with a single coordinator, to form spray blocks with the minimum of 50 acres. Blocks of less than 100 acres can have no more than 25 acres of exclusion or non-spray area. The minimum exclusion size is 10 acres.

HOW CAN I SIGN UP?

You may apply to participate in the suppression program at your WVU County Extension Office in any of the 34 participating counties no later than the end of August. A WVDA Forest Health Protection Specialist will visit your proposed treatment site to make a determination as to whether or not it qualifies. You will be notified by mail by December 1, if you qualify for participation in the suppression program. If you need any assistance in marking the boundaries of your land, contact your local WVDA Forest Health Protection Specialist to arrange an appointment. The property owner is responsible for providing an original 7.5-minute topographic map with the property boundary marked on it, or an ESRI shape file projected in UTM Zone 17-NAD 83. The area selected for treatment will be squared off to establish a manageable treatment block, which will allow for the most effective aerial treatment. Consequently, some of your land may not be treated. After the boundary is delineated and the area surveyed, you will be notified as to whether you

qualify to participate in the program based on the gypsy moth population density and quality. A topographic map of the property must be attached to the application. ***Keys or combinations for locks must be provided with the application at the time of sign up in order that the egg mass survey evaluation can be completed.***

Your final decision to participate in the program must be confirmed by signing a contract and making a **deposit** to the County Commission (sheriff's department, county clerk, or extension office, depending on the county) in the county your property is located by **December 5 of the current year.**

HOW MUCH WILL IT COST?

Treatment costs vary from year to year depending on the aerial contract cost (i.e. fuel, pesticide, and spray application). Contact your local WVDA representative for the previous years cost and the current years estimated cost.

The WVDA has received cost sharing dollars in the past that paid approximately 50 percent of the actual treatment cost. If cost share funds should happen to not be available, due to the lack of a sufficient U.S. congressional budget allocation, landowners will be given the option to pay the total cost of aerial application and pesticide. The WVDA would still contract for the aerial application and pesticide and should be able to obtain a less expensive cost than private landowners working on their own.

WHAT ABOUT PUBLIC FUNDS FOR GYPSY MOTH SUPPRESSION? HOW IS IT DECIDED WHICH LAND WILL BE TREATED USING THESE FUNDS AND WHICH LAND WILL NOT?

The WVDA has two objectives in its gypsy moth program; first, to retard the spread of the pest into non-infested areas of the state and, second, to suppress gypsy moth populations in infested areas to limit, as much as possible, defoliation and tree mortality. Any state funds that become available will be used first to treat isolated infestations of the moth, which may occur outside the normal pattern of infestation, and low-density populations on the fringe of the main infestation. If no such infestations or populations exist in a particular year, any available state funds will be used across the board to reduce the landowner share of the cost of the cooperative suppression program.

If any public money is appropriated to the WVDA to treat infested State-owned lands, it will be used for that purpose.

IS TREATMENT AN EFFECTIVE OPTION?

Yes. Carefully selected insecticides are the most effective method in preventing defoliation and the rapid spread of this destructive insect. The principal insecticide that has been used in the WVDA program, the insect growth regulator Dimilin, will normally provide at least two years of protection, and may provide even more.

With Btk, a biological insecticide made from bacteria, foliage protection can usually be obtained with one application. However, gypsy moth population densities are not always reduced low enough to insure that treatment will not be needed again the following year.

HOW CAN I GET MORE INFORMATION?

It is not possible to include answers to all questions in this brochure. Additional information on the WVDA's gypsy moth programs may be obtained through your local WVDA offices located at: Charleston (304) 558-2212, Elkins (304) 637-0290, Morgantown (304) 285-3133, and New Creek (304) 788-1066 or your local county extension agent, your local WV Division of Forestry representative or on the WVDA Web site at: http://www.wvagriculture.org/Division_Webpages/PI.html