

# PLANT INDUSTRIES DIVISION



The 2006 West Virginia Gypsy Moth Suppression program began on May 9 and was completed on May 24. Under the Gypsy Moth Cooperative Suppression Program, 5,141 acres were treated with the insecticide Dimilin and 2,977 acres were treated with the biological insecticide Btk. The plane pictured is an Air Tractor AT-802 working in the mountainous terrain of Hampshire County, West Virginia during the 2006 suppression program.

**P**lant Industries Division is divided into two units: Agricultural Pest Survey Programs and Forest Health Protection Programs. During FY 2006, the Division operated programs under the authority of the West Virginia Plant Pest Act and the West Virginia Noxious Weed Act, plus a number of cooperative agreements and memorandums of understanding with the U.S. Department of Agriculture, Animal and Plant Health Inspection Service, Plant Protection and Quarantine (USDA-APHIS-PPQ) and USDA, Forest Service (USDA-FS).

## Agricultural Pest Survey Programs

The Black Fly Control Program has the responsibility of significantly reducing the black fly population in southeastern West Virginia without adversely affecting non-target aquatic organisms within the area of treatment. Suppression activities target problem areas of the New, Bluestone and Greenbrier Rivers.

### Accomplishments:

- Supervised 20 black fly treatments between March and September.

The Cooperative Agricultural Pest Survey (CAPS) Program conducts surveys for insects, plant pathogens and injurious weeds in field crops for the purpose of detecting any newly introduced foreign plant pests and to monitor the presence and severity of native agricultural pests.

### Accomplishments:

- Conducted surveys for giant hogweed, Cogon grass British yellowhead, leek moth, viburnum leaf beetle, blueberry maggot, soybean rust, stem rust of wheat, brown rot of potato, and tobacco blue mold and participated in the National Sudden Oak Death (SOD) Survey.
- Conducted surveys at 187 campgrounds, sawmills and lumberyards for emerald ash borer (EAB). No EAB was detected.

The Pest Identification Laboratory (PIL) is a cooperative effort of the entomology and plant pathology staff. It provides for identification of insects, plant diseases, weeds and other pests; disseminates information and/or control recommendations on the problems identified; investigates problems considered significant from a biological, regulatory or impact standpoint, and maintains permanent reference collections and record systems of insects, plant diseases and weeds.

### Accomplishments:

- Screened approximately 1,200 insect samples from the USDA-APHIS-PPQ/USDA-FS/WVDA cooperative Early Detection Rapid Response (EDRR) Surveys, which targeted 13 species of exotic bark beetles; and the USDA-APHIS-PPQ Exotic Insect Surveys, which targeted five species. Samples from the EDRR Surveys were also screened for 12 common, non-exotic species of bark beetles. None of the targeted exotic species were found.



Left: The WVDA's insect collection (shown here at the State Fair of West Virginia) is exhibited at various fairs and festivals throughout the state. The collection is part of the Agricultural Pest Survey Programs Pest Identification Laboratory and contains approximately 250,000 insects.

- Handled 1,288 pest calls, 514 specimens, 152 literature requests, 35 indoor/outdoor classes, 10 laboratory tours, 13 adult educational programs, and provided 6 media interviews on various pest-related problems.

*The Plant Pest Regulatory Program* protects the state's agricultural interests from native plant pests that are capable of being distributed on plant material produced within the state and from foreign plant pests that may be introduced either accidentally on plant material from out-of-state sources or intentionally for research or other purposes. This is accomplished through the use of surveys, inspections, quarantines, plant pest orders, plant pest permits, memorandums of understanding, and compliance agreements. The Program's staff annually inspects all nurseries and, when possible, nursery stock available for distribution at nursery dealerships; registers all in-state nurseries and nursery dealers; and enforces all in-state plant quarantines. The Program is also responsible for seeing that plant products leaving the state comply with all regulations of the receiving state.

**Accomplishments:**

- Registered 136 nurseries and 496 nursery dealerships and conducted 137 nursery inspections and 45 nursery dealership inspections, resulting in the stop-sale of approximately 102 individual pieces of nursery stock because of injurious plant pests.
- Issued 43 phytosanitary certificates for interstate plant shipments.
- Visited 277 sites for the purpose of investigating the movement of articles capable of transporting gypsy moth life stages into uninfested areas under the USDA-APHIS-PPQ- funded Gypsy Moth Slow the Spread Regulatory Program.



**In 2006, the WVDA conducted visual surveys and established 104 trap trees for for Emerald Ash Borer (EAB), an exotic insect pest that has killed at least 20 million ash trees in Michigan, Ohio and Indiana, in 35 counties, mainly along major highway corridors in the northern and western parts of the state. EAB has not been detected in WV.**



**In 2006 the USDA Forest Service launched a pilot survey in which streams were sampled using Native rhododendron leaves as bait to detect the presence of *Phytophthora ramorum*, causal agent of Sudden Oak Death, and other species of *Phytophthora*. This was additional to the ongoing ground survey for SOD. *P. ramorum* was not recovered, but other species of *Phytophthora* were. Five watersheds, averaging 7,000 acres in size, were selected based on specified parameters. One stream was sampled within each watershed.**

## Forest Health Protection Programs

The Forest Health Protection (FHP) Programs Unit provides for forest insect and disease surveillance and detection programs and, when necessary, plans and conducts pest eradication or abatement programs. The programs participate in cooperative agreements with the USDA Forest Service (USDA-FS) to conduct surveys, identify causal agents, delimit infestations, plan control programs and assist citizens of the state in forest insect and disease related problems.

### Forest Insect Survey and Detection Program

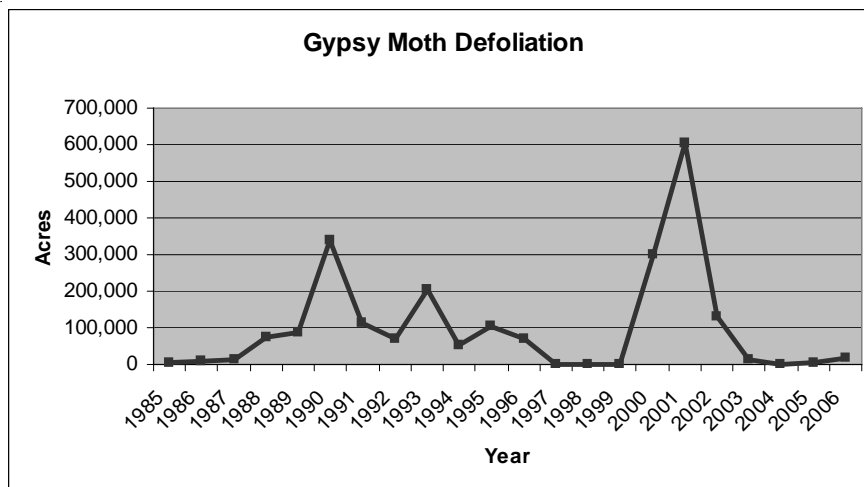
- Conducted general surveys for hemlock woolly adelgid, common oak moth, oak leaf-tier, Virginia pine sawfly, fall webworm, cherry scallop shell moth, locust leafminer, eastern tent caterpillar, forest tent caterpillar, southern pine beetle, oak gall wasp, Christmas tree insects, and species in the looper complex.
- Conducted an emerald ash borer (EAB) visual survey in 37 counties and established 104 EAB trap trees, mainly along major highway corridors entering the state from Ohio and western Pennsylvania. No EAB-infested trees were found.
- Conducted the Early Detection Rapid Response (EDRR) Survey for the USDA, Forest Service, which looked for exotic species of bark beetles.
- Conducted a survey for siricid woodwasps in the eastern conifers. Sent samples to the Carnegie Museum of Natural History for processing.

### Forest Disease Survey and Detection Program

- Participated in the 2006 Sudden Oak Death National Survey with the USDA-FS and the USDA-APHIS-PPQ by surveying 62 sites, which included 42 nurseries and 20 forested areas, and screened 379 plant samples collected during the survey. All the samples were negative for *Phytophthora ramorum*.
- Participated in a pilot survey involving stream sampling (using rhododendron leaves as bait) for *Phytophthora* species, including *P. ramorum* detection. Five streams were chosen for sampling in Pocahontas and Greenbrier Counties. *Phytophthora ramorum* was not detected in the bait leaves but *Phytophthora* species were occasionally recovered from the majority of the streams sampled in the survey.
- Conducted a beech scale survey to determine any isolated pockets away from the advancing front line. From this survey, the amount of acres infested with beech scale actually encompasses 3,653,958 acres versus the 3,279,286 acres in the 2003 survey; a difference of 374,672 acres.

### Gypsy Moth Program

The Gypsy Moth Program is, by far, the largest single FHP program. It is divided into two parts; the Gypsy Moth Cooperative Suppression (GMCS) and Slow the Spread (STS) Programs, both of which are carried out in cooperation with the USDA-Forest Service (USDA-FS).



Under the GMCS Program umbrella with the USDA-FS, the WVDA conducts the Cooperative State-County-Landowner (CSCL) Program in the generally infested area of the state. The STS Program operates in the transition zone between the leading edge of the main infestation and the uninfested zone where adult males are only

occasionally found. The objectives of the Gypsy Moth Program are to minimize defoliation and tree mortality in the generally infested area and to retard the spread of the moth into uninfested areas of the state.

A primary component of the Gypsy Moth Program, particularly the STS part of it, is geographic information systems (GIS) support. The purpose of the GIS section is to provide computer systems operation and data management support and produce maps for male gypsy moth detection surveys, gypsy moth and other forest defoliator surveys and forest pest suppression operations.

### GMCS Accomplishments:

- GMCS aerial observers flew approximately 4.1 million acres surveying for gypsy moth defoliation on state and private lands in West Virginia. WVDA Staff mapped 17,272 acres of defoliation within the state.
- Conducted a gypsy moth mortality study in cooperation with the WVDF and USDA-FS and prepared a written report of the data collected.
- Treated 8,121 acres in Grant, Hampshire, Hardy, Mineral, and Morgan Counties with either the insect growth regulator Dimilin or the bacterial insecticide Btk (5,144 acres Dimilin treated and 2,977 acres Btk treated) for the purpose of controlling the gypsy moth.

### STS Accomplishments:

- Trapped 84,408 male gypsy moths. This compares to 44,402 male gypsy moths in 2005.
  - Treated 9,730 acres in Jackson County with the insect growth regulator Dimilin and 1,110 acres in Fayette County were treated with a double application of the insecticide Btk for the purpose of eliminating isolated infestations of gypsy moth.
  - Treated a 10,181 acres in Fayette, Raleigh and Mercer Counties with pheromone flakes for the purpose of disrupting gypsy moth mating.

### GIS Accomplishments:

- Provided computer systems operation and data management support, as well as map production for male gypsy moth detection surveys, gypsy moth and other forest defoliator surveys and forest pest suppression operations.
- Developed and maintained a specialized data base to manage the data for the Sudden Oak Death survey.