

Gypsy Moth Suppression

Issue: In 2007, New Jersey saw some of the heaviest damage from gypsy moth caterpillars in nearly two decades – indications are that the 2008 infestation will be worse. Egg mass surveys conducted throughout the fall have shown that a heavier population of the caterpillars will be present in 2008. Oak trees can tolerate 2-3 years of heavy defoliation, however more than 14,000 acres of trees were killed in 2007 due to consecutive defoliation by gypsy moth caterpillars; an estimated 45,000 acres of trees will be lost in 2008 if we can't successfully control this pest.

Background: Aerial surveys in the summer of 2007 showed that more than 320,000 acres of residential and forested areas had been defoliated by the voracious caterpillars. This was the largest outbreak since 1990, when 431,200 acres were defoliated. Hundreds of residents in many regions of the state called the Department of Agriculture throughout the summer of 2007 to complain about caterpillars denuding their trees, congregating in large numbers on the sides of their homes and leaving large amounts of droppings in their yards.

For the first time in 25 years, all 3,500 acres of commercial cranberry bogs in New Jersey received additional insecticide sprays in 2007 to control gypsy moth; and a blueberry grower in Burlington County sustained total crop loss in a number of fields, due to the overwhelming numbers of caterpillars that devoured the leaves and blueberry flowers, despite spraying.

With surveys complete, the Department of Agriculture is proposing treatments on 112,500 acres of private or locally owned lands; more than 87,000 acres of which will require a second treatment, with an overall estimated cost of \$9 million. The proposed 2008 spray program includes areas in Atlantic, Bergen, Burlington, Camden, Cape May, Cumberland, Essex, Gloucester, Hunterdon, Mercer, Middlesex, Monmouth, Ocean, Salem, Somerset, Sussex and Warren Counties. The largest spray program carried out to date in New Jersey was 80,000 acres in 1981. The New Jersey Department of Agriculture's Division of Plant Industry works with local municipalities and agencies and the USDA Forest Service to protect against loss of valuable forest and shade trees in forested communities and municipal or county parks through a voluntary aerial suppression program. Aerial sprays are the most effective and economical way to protect large numbers of trees from gypsy moth damage.

The Department of Agriculture promotes an integrated pest management philosophy in its gypsy moth suppression efforts, which conserves natural predators and diseases of gypsy moths through detailed population monitoring and assessments, and utilization of the least toxic spray materials to control gypsy moth outbreaks. When populations exceed the limits of control afforded by the fungus disease and other natural predators, the Department of Agriculture recommends insecticide treatments to control the pest problem.

The Department of Agriculture develops a statewide-cooperative buying contract for spray application that enables municipalities to take advantage of the lowest price. Municipalities are responsible to pay the contracted vendor for the costs of the treatment. The Department of Agriculture supervises the aerial treatments, and seeks federal cost-share assistance from the USDA Forest Service on behalf of local governments that participate in the voluntary program.

One issue that kept some municipalities from embracing aerial application in 2007 was uncertainty over federal matching funds. While the federal government eventually provided 50-percent cost-share funding for those towns that participated in the cooperative suppression program, authorization of the funding came too late for some towns due to deadlines for submitting municipal budgets to the state Department of Community Affairs. Officials in those towns felt they could not take the risk of covering the entire bill for spraying from their local budgets if federal cost-share funds did not materialize.

Federal cost share funds should be available in 2008. The Omnibus Spending Bill signed by the President provides the US Forest Service's Forest Health Management Program with \$9 million for gypsy moth suppression cost share with states nationally. Our neighboring states are also proposing increased programs and seeking federal funds for suppression. The \$9 million budgeted will provide cost share at some level, but additional funding opportunities to assist local governments should be explored.

The Department of Agriculture is restricted to use the non-chemical insecticide, *Bacillus thuringiensis* (*B.t.k*) in the aerial suppression program. *B.t.k* is very effective in areas containing moderate levels of gypsy moth populations.

However in 2007, double applications of *B.t.k.* failed to control gypsy moth caterpillars in numerous treatment areas in areas with over 4,000 egg masses per acre. Each single egg mass may contain up to 1,000 eggs. Many areas treated with double applications still experienced heavy to severe defoliation by gypsy moth caterpillars, with no significant reduction in insect population.

Action: Local, state and federal officials must work together to give New Jersey the tools and resources needs to effectively control the gypsy moth caterpillar population.

For more information on the Department's Gypsy Moth Suppression Program, visit www.nj.gov/agriculture/divisions/pi/prog/gypsymoth.html.