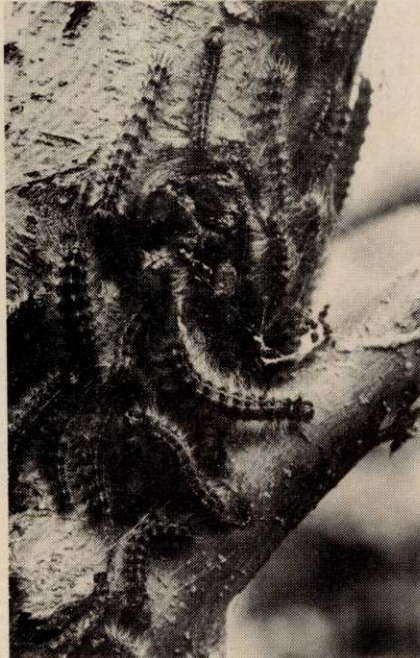




Going . . . .



Going . . . .



Gone . . . .

## Update: Gypsy Moth 1973

### Nature's Environmental Polluter

**G**YPSY MOTHS will begin eating their destructive way across the northeastern United States again this spring. Experts believe millions of acres could be defoliated in 1973, making it the worst shade and forest tree devastation on record.

The major threat is foreseen along the "leading edge" of the moth's infestation path — in central New York, the Pocono Mountains and southeastern Pennsylvania and southern New Jersey.

Serious problems were fortunately averted in 1972 through a combination of factors. Record rainfall contributed to viral and bacterial attack on moth populations. Continued wet weather helped hold down the moth hatch too. An estimated 1,361,500 acres in nine states were devastated in 1972, down about 600,000 acres from 1971.

Parasitic wasps and other natural predators along with chemical spray programs also helped contain the moth last year. Scientists also at-

tributed reductions in some areas to moths "peaking out" after larvae

populations ran out of food—repeating a cycle the pests have followed for a number of years.

In many quarters gypsy moths have become known as environmental polluters. They have earned this reputation by denuding woodland, causing changes in watershed patterns, and increasing soil erosion. They also remove wildlife shelter and reduce the amount of oxygen generated in the infested area.

As a result, scientists with agricultural research stations and forest research specialists across the northeast have been focusing their efforts on the gypsy moth for many years.

The pest was introduced to the United States in an effort to cross-breed it with silkworms. A chance wind storm caused the escape of a few specimens. These multiplied into the present major threat to shade and forest trees throughout the northeast.

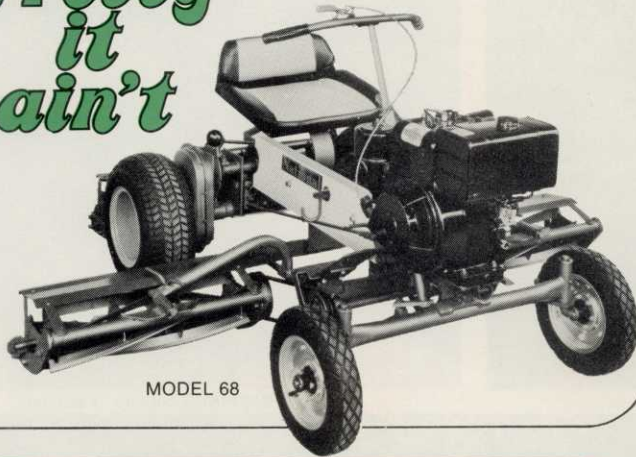
The early outlook for 1973 is not good. According to Pennsylvania's *(continued on page 26)*

#### Gypsy Moth Checklist

Scientists at Stauffer Chemical Company, who have been researching the gypsy moth as they sought a solution to its control offer a checklist for arborists and pest control specialists.

1. Recognize containment as a goal with gypsy moth.
2. Encourage use of natural predators and biological control agents.
3. Utilize effective, environmentally safe tree protection chemicals as recommended by state and federal authorities.
4. Check local recommendations and follow local ordinances regarding safe, effective spray programs with approved, recommended products to control gypsy moths.

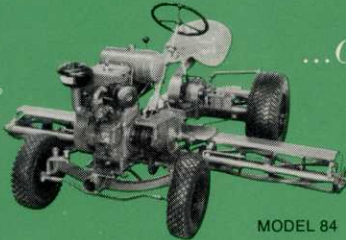
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## GYPSY MOTH (from page 24)

forest entomologist James Nichols, defoliation could range up to one million acres in Pennsylvania alone this year. This compares with 92,000 acres in 1971 and 404,000 acres last year in the state. Other northeastern in control specialists foresee similar problems in their states.

Agricultural scientists and forest researchers have been working to devise new weapons in the war on this major shade and forest tree pest. Imidan, used successfully for several years in the fruit and shade tree field, is the latest aid to entomologists and arborists in their fight against gypsy moth.

This new and environmentally safe compound has been approved for use against gypsy moth as well as elm spanworm and cankerworm, two other destructive tree insects. It is a biodegradable insecticide that has lower toxicity to man and animals than most other materials.

The product is relatively non-toxic to beneficial predators, including various species of mites,

thrips, beetles and flies. It fits into the environmental mix of natural



Apple tree in residential Connecticut shows work of Gypsy Moth larvae last season.

and selective insect control techniques needed to contain gypsy moths and other destructive insects.

The potential destructiveness of gypsy moth this year, scientists agree, is an acute problem. They point to the fact that a **single two-inch worm can devour a square foot of leaf surface in 24 hours.** With each egg mass capable of hatching out a thousand larvae from as many as 2,000 egg masses per acre, the gypsy moth presents a clear threat to forest, park, recreational and residential areas.

A survey of leading specialists involved in the gypsy moth battle in the northeast reveals both the severity of the problem and the potentials for success in the fight.

Dr. John Anderson, state entomologist at the Connecticut Agricultural Experiment Station has followed the battle for a number of years.

He reports that in 1972 a total of 514,000 acres were defoliated in Connecticut, a slight reduction from the 655,000 acres lost in 1971. He

*(continued on page 60)*

## GYPSY MOTH 1973

(from page 26)



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attributes this reduction to the wet year, accompanying viral and bacterial attacks, as well as "peak out" of populations. Although these factors and limited state spray programs and containment efforts have been successful, he speculates there will probably be continuing heavy infestations in the central, northwest and eastern sections of the state this year.

Dr. William Metterhouse, state entomologist in New Jersey, does not anticipate significant change in the overall gypsy moth picture. But he points out that all counties in the state are infested to one degree or another. In northern areas infestations are stabilizing, but in central areas such as Mercer county and points south he expects heavy to severe infestations.

Chemical and biological control programs are being researched in the Garden State to find the best methods for what Dr. Metterhouse refers to as containment.

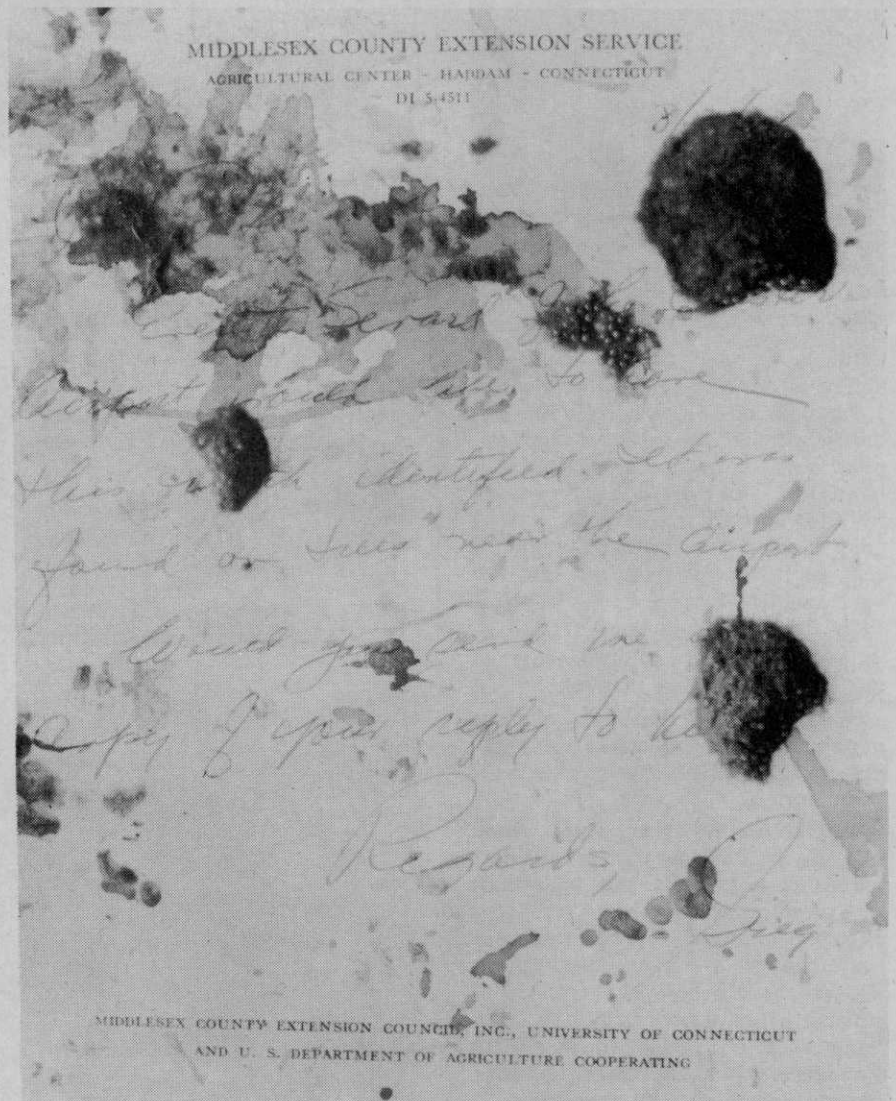
"We feel the gypsy moth is here to stay and our job is to contain it and prevent serious environmental imbalance," he says.

New Jersey sprayed 54,000 acres last year under a state and municipal program. Recommendations call for discriminate spraying in populated, recreational, and park areas this year.

New York State reports a drop in defoliated acres this previous year. E. G. Terrel, head of New York's Bureau of Forest Insect and Disease Control, attributes this to the wet cold year plus increased bacterial and viral disease.

The quarantine line in 1971 ran

The ultimate insult to an entomologist: his mail, a field report on Gypsy Moth infestations, spattered with egg masses.



north-south from Syracuse to Binghamton. It now has moved west to Rochester and south into Pennsylvania. Heavy infestations still exist in Long Island and Suffolk County with no significant decline noted. Severe infestations remain in the lower Hudson Valley.

Pennsylvania may take much of the brunt of the gypsy moth onslaught in 1973. Forest entomologist James Nichols reports that infestations are especially heavy in the central regions of the state, including Union, Bedford and Somerset counties. In fact, there are only six counties along the western boundary of the state that don't report some gypsy moth.

Virginia and West Virginia authorities also report some penetration by the voracious insect.

Spread of the gypsy moth is seemingly constant. They attach themselves to cars, trucks, and vehicles. Even wind currents can carry the tiny larva up to 20 or 30 miles and often greater distances. Natural predators are few. Mature larvae, with bristly hairs, are unpalatable to birds. Most entomologists and insect control specialists now agree that complete elimination of the gypsy moth is unlikely.

In New Jersey orchard pest advisor Jay Kilpatrick reports unexpected good luck controlling gypsy moth last year.

"I had two apple orchards last season — one in Manasquan and one in Freehold — both on an Imidan program to control plum curculio, codling moth, and red-banded leaf roller," Kilpatrick says. The large orchard in Freehold is over 200 acres.

"Last season both orchards were heavily infested with gypsy moth for the first time," he reports. "Around May 15 — or just about the time for the regular spray before petal fall — the caterpillar population was at its worst."

Kilpatrick applied between one and 1½ pounds of Imidan per 100 gallons of water. "Larvae were on every leaf, but the single spray knocked them out. Imidan didn't get its registration for gypsy moth last spring until the season had already started," he says. "Even so it showed me what it can do. What's more,

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it doesn't injure honey bees, it's good for aphid suppression, and it has a wide spectrum control of the pests we are trying to get."

Kilpatrick is an orchard pest advisor on the sales staff of Niagara Chemical, Mt. Holly, N. J.

Arborist Wayne Davis of Milford, Connecticut used Imidan on more than 15 residential applications in 1972. "Control in every case was excellent," Davis reports. "I could see no instance of failure—control

was uniformly good and we received no complaints from our customers." Davis indicates he plans to use more Imidan this season.

Elimination may be possible in selected areas using all the natural allies plus the newer, temporarily environmentally-approved insecticides. But the nature of the gypsy moth almost defies anything but containment. That is the real objective of most control programs today. □