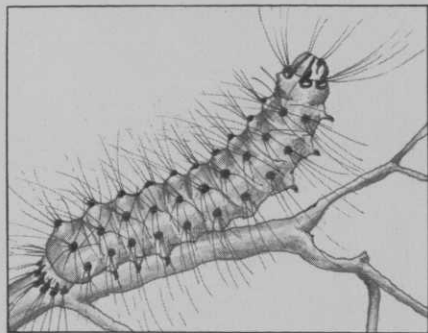


The Gypsy Moth Invades Northeast



For the second consecutive year the pest gypsy moth, *Porthetria dispar* (L.), is ravaging golf courses in the Northeast by defoliating trees. The gypsy moth is a serious problem in Westchester County, N.Y., and Fairfield County, Conn. The moth has also reached epidemic proportions in sections of New Jersey, northern New York, Massachusetts, Rhode Island and in northern New England. Infestations have also been found in Pennsylvania and Michigan.

History

The gypsy moth is a native of Europe, Asia and northern Africa. It was introduced into Massachusetts in 1869 by a French naturalist who was conducting experiments with silkworms. Within the next 20 years, the species had increased and defoliated a number of forest, shade and orchard trees in the Northeast. Since that time, the gypsy moth has gradually worked its way north, south and west.

Hosts

Tree species preferred by the larvae of the gypsy moth are oaks, willows, poplars, speckled alder, basswood, apple, gray birch and river birch. The larvae will also eat cherries, elm, hickories, chestnuts, maples and have been known to eat native eastern pines and spruces, southern white cedar, hemlock and beech. The tree species disliked by the larvae include black walnut, butternut, ash, catalpa,

flowering dogwood, American holly, yellow poplar, locusts, sycamore, red cedar and balsam fir.

One complete defoliation will usually not kill thrifty hardwoods, but may be fatal to conifers. However, repeated defoliation of hardwoods will reduce their vigor so that other insects and disease-producing organisms may cause the death of some of the trees. Tree losses have been noted after one or two years of complete defoliation during drought periods.

Description

The non-flying female gypsy moth does no damage to the trees. She is nearly white with yellow to buff hairs on the abdomen. The forewings are marked with irregular blackish bands. There is a line of black dots near the outer edge of the wings. Wingspread is about two inches. The flying male moth also does not damage the trees. He has a brown body and light to dark brown wings with black markings.

The eggs of the gypsy moth are usually deposited on the heavy bark areas on trees (usually the trunk and larger trunk limbs). The egg masses contain from 100 to 700 or more eggs covered with the buff to yellowish hairs from the abdomen of the female. Each egg mass is approximately one inch long and one-fourth inch wide. Each tree usually contains many egg masses, some completely covering the tree.

The larvae stage (the one which does all of the damage to trees) emerges over a six-week period from early May to mid-June. The hairy caterpillar or larvae is between one and two inches long and one-fourth inch wide. It has a dusky to sooty colored or slate-colored body, and on the back, behind the head, a double row of blue spots (five pairs) followed by a

The gypsy moth is again defoliating large numbers of trees. GOLFDOM examines the problem and offers some suggestions on identification and control

double row of red spots (six pairs). The larvae start by eating pin holes in the leaves of preferred plants and as they become larger, devour all green plant material on the host plants. By July they are fully grown and spin a few strands of silk and transform to the pupal or resting stage. In about 17 days, the moths emerge. There is one generation a year.

Control

Although the eggs of the female have already been laid for 1972, natural biological controls and chemical controls can prevent the gypsy moth from hatching and raising havoc for 1972. Scraping off the egg masses is one way of control. Low temperatures also cause egg mortality. Insects that are predators or parasites (certain species of flies, wasps and beetles) attack various stages of the gypsy moth. Disease producing organisms also take their toll on the moth. Because the gypsy moth overpopulates, it is sometimes self-destructive because after stripping the trees in an area, the moths may die from a lack of food. Although all of the above natural controls contribute towards retarding population, insecticides are still the only way man is able to prevent serious damage. (The preceding information was supplied by the State University College of Forestry at Syracuse, N.Y.)

Because of the controversy surrounding DDT and lead arsenate (they are banned in some states) the best substitute to date in killing the gypsy moth at any stage in its life cycle has been Sevin (carbaryl). Federal and county governments have been spraying park lands with Sevin to kill the moths. Although Sevin has a shorter residual life and is far less toxic to mammals than DDT, in some forms it is still toxic to bees, so

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caution in application should be exercised. An insecticide extender, Pinolene, has been added to Sevin to increase the residual powers with little harmful ecological effects. Methoxychlor is also doing a good job in certain areas. The Cooperative Extension Service of Westchester County recommends an application of Sevin at the rate of two pounds of 50 per cent wettable power, per 100 gallons of water, sprayed to tree foliage during May.

Aerial application is inexpensive and economically feasible if several golf courses in an area ban together. It is probably the most efficient and quickest means of eliminating the spread of the gypsy moth. Golf courses in Westchester County will hopefully be spared massive defoliations and dead trees in 1972 because of the foresight of Charles Pound, Commissioner of Parks, Recreation and Conservation for Westchester County. Commissioner Pound anticipated a gypsy moth infestation this year and prepared the county budget accordingly. Last year Mohansic GC in Westchester County had nearly 100 per cent defoliation. This year Pound conducted an extensive spraying program using Sevin on 8,000 and 9,000 acres aurally. The total cost to the County of Westchester, after bids were received for the spraying, for manpower, equipment and chemicals, amounted to \$2.90 per acre or approximately \$25,000. Pound believes they received 99 per cent control of the gypsy moth.

One problem superintendents may face with either aerial or ground applications of insecticides may come from environmental groups. In the case of Westchester County, the Audobon Society sought a temporary injunction to halt Pound from spraying the afflicted areas. The courts, however, believed that the charges against the chemicals to be used were not documented in regards to harmful ecological effects, and the timing was so critical if the disease was to be stopped for 1972, that they denied the society's plea.

Superintendents are urged to contact their county extension service agent for information regarding control of the gypsy moth. □