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Winter Moth, a New Forest Pest in New England

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Winter is not the time of the year when people usually think about pesky insects flying around. Well, you can put that notion aside, because we now have Winter Moth, a new insect that was accidentally introduced to North America from Europe and may become a serious pest in forests and apple orchards in New Hampshire. With the increase in global trade, invasions of new foreign pests are increasing dramatically in the United States and this may be a significant threat to our nation's agriculture and forest resources. Take for example Citrus Canker. This is an alien plant disease that kills citrus trees and has invaded Florida recently where it is going to probably cause losses in the billions of dollars.

Winter Moth is one of many new pest invaders in the USA that may have a significant impact in New England. The caterpillars of Winter Moth attack trees, including apple, ash, basswood, blueberry, crabapple, maple, oak and some species of spruce. They cause injury in the spring by burrowing into buds and later by feeding on tiny young leaves. When the caterpillars reach full size (one inch long) they crawl into the ground and then turn into pupae. Adult moths emerge from the soil in November and remain active through to January. During this time males may often be seen flying around outside lamps and Christmas lights. Female moths are wingless and after mating deposit their eggs in clusters on tree trunks and branches. The eggs hatch in early spring. Heavy infestations of caterpillars in forests can cause high levels of defoliation (loss of leaves) in apple orchards. Because damage occurs on both leaf and fruit buds, they can cause high losses in fruit production. Outbreaks in both forests and orchards, when there is significant defoliation over three or four consecutive years, can result in the loss of branches or the death of trees.

Winter Moth is one of the many Geometers that occur in North America. The name, Geometer, meaning earth measurer, refers to the way the caterpillar crawls by drawing the rear of its body up to its front legs (forming a loop) and then stretching its body straight forward, and due to this characteristic they are also known as loopers, inchworms and spanworms. Geometers are a major component of the spring caterpillar populations and are an important part of the diet of many birds. A few other Geometers like the Fall Cankerworm, Spring Cankerworm and Bruce Spanworm are serious defoliators in New Hampshire.

Winter Moth caterpillars are recognized by being pale green with a white racing stripe down each side and by looping as they crawl, the way inchworms do. Specific identification of caterpillars however can be difficult, because they are very similar to Bruce Spanworms, and it takes a skilled entomologist to tell the two species apart. In fact, some of the first outbreaks of Winter Moth in New England were identified mistakenly. There is a high level of difficulty in recognizing many new alien pests for the first time, because it requires knowing how to identify something that neither you nor anybody else has ever seen before in North America. So, it is not uncommon for errors to occur in the identifications of new invaders.

At the present time, there is not enough information known about Winter Moth to accurately predict the impact that it will have in the Northeast. There have been some observations of as much as 40% mortality in a few acres of Red Oak in Canada and there have been some defoliated areas reported in Massachusetts. So, it is possible that this pest may become a serious risk to some of our forests. This coming spring, many forest entomologists in the New England will be keeping a watchful eye on Winter Moth. If you should happen to see any major tree defoliation this spring and masses of little green loopers, then you may help in the cause by contacting John Weaver, Entomologist, New Hampshire Department of Agriculture, Markets & Food, (603). 271-7384, or piera.siegert@agr.nh.gov.

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