Massachusetts Master Gardener Association

FACT SHEET

Have Gardening Questions? The **Master Gardener Help Line Hours** are 10 a.m. – 2 p.m. on Fridays (all year) as well as Wednesdays (March-November) and Mondays (April-October).
Phone: 617-933-4929 Email: mghelpline@masshort.org.

Winter Moths

Many deciduous plants are hosts for the winter moth including oaks, maples, basswood, ash, white elm, crabapples, apples, blueberries, cherries, linden and some spruces.

Adult moths emerge in late November and can be active into January under the right weather conditions. Females are small (8mm), gray and wingless. They can be found crawling up tree trunks, houses and other vertical surfaces. Males are small (wingspan of ½ inch) and light brown to tan in color. In early winter, large numbers of males are attracted to lights at night. After mating, females lay egg clusters on tree trunks and branches, under lichens and in bark crevices. The eggs initially are pale green before turning reddish orange. Larvae are pale green caterpillars with a white stripe running down each side of the body. They move like inchworms and grow to be about one inch long at maturity. Larvae feed until mid-June when they migrate to the soil to pupate.

Larvae appear as early as March. Eggs hatch when temperatures average around 55°F. Young larvae tunnel into buds, especially the flower buds of fruits, and feed inside buds. Once the bud has been devoured, the larvae move to another bud to feed. Older larvae feed on foliage. In areas with large infestations, winter moth larvae can completely defoliate trees and shrubs.

Controls

There are no effective control options for adults, newly hatched caterpillars inside buds, or pupae in the soil. Horticultural spray oil can offer some control during the egg stage. Oil sprays should be applied when temperatures are above 45°F, when the temperature will not dip below freezing for 48 hours after application, and during dry weather so that the oils dry quickly. These conditions minimize the chance of damaging the plant. Oils work by suffocation; they must cover the target (egg clusters) at the time of application or no insecticidal effects will result. Eggs that are protectively hidden within crevices and under lichen will not be covered by the spray nor killed. In years of heavy winter moth pressure, oil sprays will most likely only achieve limited results; eggs are deposited virtually everywhere on trees and shrubs and new caterpillars will quickly migrate from untreated areas to the oil-treated plants. For large plants, consider hiring a certified arborist to ensure complete coverage of the entire tree trunk and canopy for maximum effectiveness.

Once the buds open, the larvae are known as “free-feeders” because they are now on the foliage and free to move readily from one area to another. Winter moths will be in this stage until late May or early June when they drop to the soil and almost immediately spin a cocoon and pupate. While still on the host plant, however, they are exposed and very treatable with a variety of products, the best of which is Bacillus thuringiensis (kurstaki), also commonly known as B.t.k. This product is a bacterium that is specific to butterfly and moth larvae, which means it has no effect on anything else. Since it must be ingested to be effective, it should not be applied until there are a significant number of caterpillars visible. For large plants (trees), hiring a certified arborist may be necessary to ensure there’s enough coverage to be effective.

For more information, see http://www.hort.uconn.edu/ipm/general/biocntrl/wintermoth.htm

http://extension.umass.edu/landscape/fact-sheets/winter-moth-identification-management