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Winter Moth Basics for 2014

excerpted from Sonia Schloemann, UMass Extension

Winter Moth (WM) (*Operophtera brumata*): Moths emerge from the soil usually in late November and may be active into January. The male moths are light brown to tan in color and all four wings are fringed with small elongate scales that give the hind margins a hairy or fringed appearance. The female is gray, almost wingless and cannot fly. Females are usually found at the base of trees or scurrying up tree trunks. Winter moth caterpillars are pale green caterpillars with a white longitudinal stripe running down both sides of the body. They are “loopers” or “inchworms” and have just 2 pairs of prolegs. At maturity, the caterpillars will be approximately 1 inch long, whereupon they drop to the soil for pupation. Pupation occurs from late May into early June.



Winter Moth Larva



Bruce Spanworm Larva

Life Cycle: After mating, the female deposits eggs loosely in bark crevices, under bark scales, under lichen, or elsewhere. The adult moths then die and the eggs overwinter. Eggs are dark-colored at first but turn orange within 3-4 weeks. In late-March or early-April, **just prior to hatching, they turn red and eventually a deep, shiny blue**. Eggs hatch when temperatures average around 55 °F. **It is believed that egg hatch in Massachusetts occurs when approximately 177-239 GDD above a base of 40° F (starting Jan 1) have accumulated.** After hatching, the larvae wriggle between bud scales of newly swelling buds and begin feeding.

GDD can be variable. As of April 7, Norton has 122 GDD, E. Freetown is at 103, and E. Wareham has 76. Check <http://newa.cornell.edu/> or <http://www.weather.com/outdoors/agriculture/growing-degree-days/01002> to calculate the Growing Degree Days for your location.

Damage: Caterpillars feed within both flower and foliar buds. Once a bud has been devoured from within, the caterpillar will migrate to other buds and repeat the process. Older larvae feed in

expanding leaf clusters and are capable of defoliating trees and other plants. Injury may occur to upright tips before populations can be detected.

Management: Insecticides sprays timed to coincide with egg hatch are the most effective way of controlling this pest. The timing is important because if the newly hatched caterpillars are allowed to crawl inside the expanding buds, they are protected from any insecticide that might be applied.

Scouting should be started early (ca. May 1) to catch these populations. Populations may re-occur as larvae can balloon in. **Avaunt, Delegate, and Intrepid** are the best choices for control of WM on cranberry. If you have a history of WM, you may need to apply a prophylactic spray early in the season. The Action Threshold for WM is 18 average per sweep set.

Organic growers can use **Entrust** (spinosad), or one of the Neem products such as **AzaDirect, Neemix, or Ecozin** in place of the insecticides listed in the table above. Products that contain B.t., may also be effective but depend on the caterpillars ingesting enough product to be effective.

For detailed information concerning the biology and management of Winter Moth, visit the following:

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

<http://extension.umass.edu/landscape/fact-sheets/winter-moth-overview>