dcr
Massachusetts

pest alert

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Winter Moth

Operophtera brumata

The winter moth was introduced to North America from Europe and was first recorded in Nova Scotia in the early 1930s. Infestations are now known to occur in New Brunswick, Prince Edward Island, British Columbia, Washington, and Oregon, and the pest is now established in coastal Massachusetts from Orleans on Cape Cod to Gloucester on Cape Ann. There are also unconfirmed reports of spotty infestations along Route 495 south of the Massachusetts Turnpike.

Female and male winter moth *(USDA Forest Service photo)*

Winter Moths in Massachusetts

For many years, defoliation on the south shore was attributed to cankerworms, a native insect that periodically defoliates the area. Typically, canker-worm outbreaks last two to three years before natural factors cause their collapse. When this failed to happen, it was suspected that another species was responsible. Specimens submitted to experts were confirmed to be winter moths. Winter moths feed on many deciduous trees and shrubs found in Massachusetts, including oak, apple, elm, maple, ash, crabapple, cherry, and blueberry.

Identification

Adults emerge in late November and December. Adult females are gray, wingless, and flightless, and can be found crawling on tree trunks and other objects. Adult males are light brown, small in size, and are attracted to females and light. After mating, females lay their eggs in host tree bark crevices or in other sheltered locations, and all adults die. The eggs hatch in the spring when temperatures average 55 degrees Fahrenheit.

After hatching, the young larvae crawl up tree trunks and produce silken threads that can carry them in the wind. This dispersal method, called "ballooning," is common among defoliators. Larvae are light green loopers (inchworms) that measure about one inch in length when fully grown. Young larvae feed within buds and on expanding foliage, while older larvae can consume entire leaves. Feeding is generally completed by mid-June when larvae pupate in the soil.

Control

No natural controls are known to be present in Massachusetts, but researchers at the University of Massachusetts in Amherst are actively collecting and rearing a parasite (*Cyzenis albicans*) that was very effective at controlling winter moth outbreaks in eastern Canada and the Pacific Northwest. Unfortunately, effective biological control is many years away. For recently defoliated trees, an application of a registered pesticide may be warranted.

For more information on currently registered pesticides, please contact your local extension service office or visit the cooperative extension website at: www.umassgreeninfo.org/fact_sheets

Winter moth larvae *(DCR photo)*

Many heavily defoliated trees will produce a second set of leaves. To help these trees, water them during growing season droughts. The Department of Conservation and Recreation publication "Helping Trees Recover from Stress" gives guidelines for proper tree care. To receive a free copy, please contact the DCR Forest Health Program at the address listed above.