MISIN Midwest Invasive Species Information Network

European grapevine moth

Lobesia botrana

Description

First detected in the Napa Valley of California in October 2009.

Identification

Adults are 0.24 to 0.3 inches (6-8 mm) long, with a wingspan of 0.4 to 0.5 inches (11-13 mm). Females are slightly larger. Mosaic-patterned wings. Forwings are tan-cream in color, mottled with gray-blue, brown, and black blotches. The second pair of wings is gray with a fringed border. Held in a bell shape over the abdomen when at rest. They can only fly about 30 yards.

Habitat

Native to southern Italy. Grape (Vitis vinifera) and spurge laurel (Daphne gnidium) are preferred hosts, but it has also been reported on blackberry (Rubus fruticosus), gooseberry (Ribes spp.), black and red currant (Ribes nigurm), olive (Olea europaea), cherry (Prunus avium), prune (Prunus domestica), persimmon (Diospyrus kakis), kiwi

Source: MISIN. 2024. Midwest Invasive Species Information Network. Michigan State University - Applied Spatial Ecology and Technical Services Laboratory. Available online at https://www.misin.msu.edu/facts/detail.php?id=245.

(Actinidia chinensis), pomegranate (Punica granatum), carnation (Dianthus spp.), and a number of other wild hosts.

Reproduction

2 ? 3 generations a year with the first being the largest. Pupae overwinter inside cocoons and emerge when air temps exceed 50 degrees Fahrenheit. Males emerge a week before females. Egg laying begins 1-2 days after mating. A female can lay as many as 80-140 eggs. Lifespan is 1-3 weeks depending on climate. Egg hatch depends on temps and ranges from 3-5 days in the summer to 10 to 11 in spring. Larval development is completed in 20- 30 days and adults emerge 6-14 days after pupation.

Impact

In May and June, first generation larvae feed on the flower clusters. Second generation larvae (July-August) feed on the green berries. Young larvae penetrate the berry and hollow them out, leaving the skin and seeds. Third generation larvae (August - Sept) cause the greatest damage by webbing and feeding inside berries and within bunches, which become contaminated with frass (excrement).

Similar

Grape berry moth (Endopiza viteana).

Monitoring and Rapid Response

Main target is second generation due to the prolonged emergence of the first and because of possible reinfestation from untreated neighboring areas. Treatment of first generation is recommended if

populations are high or if treatments are conducted on an area-wide basis. Several reduced-risk insecticides are registered such as insect growth regulators, spinosyns and Bacillus thuringiensis. Predators and parasitoids are also used and include 4 species of tachinid flies and nearly 100 species of parasitic wasp in the ichneumonid, braconid, pteromalid and chalicidoid families.

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