

GREEN CRANBERRY SPANWORM

Common Name: Green cranberry spanworm
Scientific Name: *Itame sulphurea*
Order: Lepidoptera (butterflies and moths)
Family: Geometridae (the inchworm or looper family)

Several species of spanworms can be found in Wisconsin cranberry beds. They feed on foliage, buds, flowers, and/or fruit. If left uncontrolled they can be quite damaging. Green spanworm is one of the more common species.

Biology and Damage

Host Plants:

Cranberry, *Vaccinium macrocarpon*
Sweet gale, *Myrica gale*

Description and Diagnosis:

Eggs are deposited singly in the leaf litter. They are white to light green, 0.7-0.8 mm long, and are elliptically shaped with a rough surface. The larvae are caterpillar-like, with two pairs of prolegs at the hind end of the body and none in the middle. They move by "inching" or "looping" forward by stretching their bodies out, grasping the substrate with their front legs, and pulling their hindquarters forward. They are a uniform pale yellow to a light green in the early instars but in the later instars develop a herringbone pattern on the top of the head and white lines running down the length of the body. There are five instars. They have a smooth integument with just a few weak scattered hairs. They reach 17-24 mm in length. The pupae are 10-15 mm long, and are initially pale yellow before turning brown towards adult emergence. The two sexes are different in appearance in the adult stage. The male moth is grayish-brown on the head and body with the front wings being gray with two to three dark spots. The antennae of the males are slightly feathery. The wingspan is 21-23 mm. The female has a brownish head with a yellowish abdomen. Female antennae are hair-like. The front wings are bright yellow with three brown markings and a wingspan of 18-22 mm.



Fully grown larva.



Adult moths: male (l) and female (r).

Economic Importance:

Dense larval infestations of green cranberry spanworm can result in defoliation of the vines and a reduced fruit set. In the early summer, they feed on the terminal buds and switch to feeding on the blossoms in July.

Life Cycle:

Green cranberry spanworm overwinters in the egg stage in the leaf litter. The eggs hatch in mid-May through the beginning of June. At the end of June, the larvae begin to pupate in the leaf litter but some larvae continue to feed into July. The adults emerge 10-15 days after pupation. The adults are in flight from late June through early August while the female lays her eggs singly in the leaf litter for overwintering. There is only one generation per year.

Environmental Factors:

Flooding appears to have no effect on the egg stage.

Damage/Symptoms:

The larvae feed on the leaves and terminal buds. They also sever the stem at the blossom junction which can cause severe crop reduction. Unlike the blackheaded fireworm, they are open feeders and do not web the uprights together as they are feeding.

Monitoring and Controls

Scouting Procedure/Economic Threshold:

No synthetic pheromones are available for trapping. Routine sweep net sampling is the best way to scout for spanworm larvae. Egg hatch occurs earlier in the season than that of brown spanworm, starting as early as mid-May and continuing into June. Massachusetts has established an economic injury level of 18 spanworm larvae (all species combined) per 25 sweeps.

Natural Control:

No research has been conducted on natural controls of green spanworm. However, as a native insect, it most likely has a complex of natural enemies that attack it and provide some natural control.

Cultural Control:

Sanding provides some control of green spanworm by burying the overwintering eggs.

Biological Control:

Microbial insecticides containing *Bacillus thuringiensis* (Bt) are effective for controlling spanworms. Applications should be applied when the larvae are young. Because of its short residual activity, a second application of Bt after 5-10 days may be necessary if new larvae continue to hatch. Remember that Bt works only as a stomach poison, and therefore thorough spray coverage of the foliage is essential.

Chemical Control:

Most broad spectrum chemical insecticides are effective for controlling spanworms. Selective insecticides such as tebufenozide and spinosad are also registered. Applications should be made when larvae are young.

References:

Dittl, T. 1988. A survey of insects found on cranberry in Wisconsin. M.S. Thesis, University of Wisconsin, Madison.

Eck, P. 1990. The American cranberry. Rutgers. New Brunswick, New Jersey.

This information was prepared by Daniel L. Mahr, Professor and Extension Fruit Crops Entomologist, University of Wisconsin – Madison. It is revised and modified from the Pest Profiles section of University of Wisconsin Cranberry Crop Management software (CCM). November, 2005.

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