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Cabbage Webworm

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Classification: Lepidoptera: Pyralidae, *Hellula rogatalis* (Hulst)

Distribution: The cabbage webworm is found throughout the southern United States and west to California. It is rarely a pest in northern climates. In eastern Virginia, it is a common pest on broccoli and cabbage, particularly late in the summer and fall.

Figure 1 Larval cabbage webworm. Alton N. Sparks Jr., University of Georgia, Bugwood.org

Life cycle and description: In Virginia, the pest usually does not appear until late summer. There may be multiple generations per year. Eggs are laid when temperatures are between 68°F - 86°F. Eggs of the cabbage webworm are oval, flattened, gray to yellowish green in color, and are 3/32 inches (0.3 mm) - 3/16 inches (0.5 mm) in length. Eggs are usually deposited singly or in small masses on terminal leaves of plants and as eggs age, they turn pink in color. After ~3 days, the egg hatches and the young larval emerges. The young larva is yellowish gray with no stripes, but as it grows, becomes yellowish-gray with 5 dark stripes traversing head to tail, a black head, and long yellow or brownish hairs. Larvae produce a lot of silk, in which they form webs on leaves for protection. The larval stage progresses through five instars in ~2 weeks after which they pupate. Webbed cocoons containing yellowish-brown pupa are found in the soil and are about 0.25 inches long. The cocoon stage lasts ~5 days at 86°F. The moth that emerges can survive for 7-14 days. One female adult can lay 150 – 300 eggs and will begin laying eggs 3-5 days after emerging and mating. Moths are about 0.8 inches long and have brown front wings with white bands and a dark kidney shaped spot and grayish white hind wings (Fig. 2)

Plants attacked: In Virginia, the cabbage webworm is a common defoliator of broccoli. It also attacks several other crucifer crops including cabbage, collards, kale, mustard, radishes, rutabaga and turnips.

Figure 2 Cabbage webworm adult. Natasha Wright, Bugwood.org

Damage: During fall, cabbage webworms become numerous enough to cause significant damage in Virginia. Initially, the larvae feed by mining the lower surface of leaves and will eventually begin to web and fold the plant's foliage. In young plants, cabbage webworms may cause enough damage to destroy the growing tip and buds of the plant.

Cultural control: Because cabbage webworms occur late in the season in Virginia, the simplest control is to plant early maturing cultivars before cabbage webworms become numerous enough to cause much damage. Some success has been reported using early mustard as a 'trap crop' to attract the cabbage webworm and reduce damage on the more valuable cabbage and broccoli crops.

Organic/Biological control: Unlike many of the other lepidopteran pests occurring on cole crops such as diamondback moth, imported cabbageworm, and cabbage looper, there are relatively few natural enemies of the cabbage webworm. The webbing produced by this species helps to protect it from natural enemies. There are organic insecticide options to control cabbage webworm. Commercial formulations of *Bacillus thuringiensis* (Bt) typically provide effective control.

Chemical control: Insecticidal control of cabbage webworm can be difficult due to the cryptic feeding of larvae as well as the webbing on leaves. To protect the rapidly growing terminal leaves or young forming cabbage heads, insecticides should be applied when this pest first appears and larvae are small. For control recommendations on vegetables, refer to the most recent Mid-Atlantic Commercial Vegetable Production Recommendations VCE Publ. No. 456-420 (SPES-103P) https://pubs.ext.vt.edu/456/456-420/456-420.html Control of most insects on cole crops is best achieved with the addition of a spreader-sticker or adjuvant in order to ensure proper coverage of the waxy leaves of these crops.