

Cross-Striped Cabbageworm: Insect Pest of Vegetable Crops

The cross-striped cabbageworm, *Evergestis rimosalis*, caterpillar feeds on a number of vegetable crops in the Brassicaceae (cole crop) family, such as broccoli, brussels sprouts, cabbage, cauliflower, and collards. The caterpillar also feeds on turnips and leafy-green vegetables. This publication provides information on pest biology, identification, and plant damage, along with strategies for managing cross-striped cabbageworm populations.

Biology and Identification

Adult moths are 0.4 to 0.6 inches (10 to 14 mm) long and brown with dark eyes and blotched markings on the tips of the wings (Figure 1). Females lay yellow, flat eggs in groups on the undersides of leaves. Larvae or caterpillars hatch (eclose) from eggs and are approximately $\frac{3}{4}$ inch (19 mm) long when fully grown (Figure 2).



Figure 1. Cross-striped cabbageworm adult. (Photo: Mississippi State University)



Figure 2. Cross-striped cabbageworm caterpillar. (Photo: Raymond Cloyd)

Caterpillars have black and white stripes across the body, two dots on each segment of the abdomen, and yellow lines that extend the length of the body on both sides (Figure 3). Cross-striped cabbageworm caterpillars may be found feeding on plants alongside caterpillars of the imported cabbageworm, *Artogeia rapae*. There are two to three generations per year.



Figure 3. Cross-striped cabbageworm caterpillar. (Photo: Raymond Cloyd)

Plant Damage

Caterpillars have chewing mouthparts and create irregular-shaped holes in leaves when feeding until only the veins remain (Figure 4). Caterpillars also feed on the terminal buds and top growth of certain vegetable crops (Figure 5). Leaves may be skeletonized as a result of extensive caterpillar feeding (Figure 6).



Figure 4. Cross-striped cabbageworm caterpillar feeding damage. (Photo: Raymond Cloyd)



Figure 5. Cross-striped cabbageworm caterpillars feeding on terminal bud. (Photo: Raymond Cloyd)



Figure 6. Extensive feeding by cross-striped cabbageworm caterpillars can result in skeletonization. (Photo: Raymond Cloyd)



Figure 7. A floating row cover used to prevent female adult cross-striped cabbageworms from laying eggs on vegetable crops. (Photo: Raymond Cloyd)

Plant Protection Strategies

Scouting. Susceptible vegetable crops should be inspected weekly throughout the growing season, focusing on the undersides of leaves where caterpillars are located. Early detection can reduce subsequent plant damage and help avoid outbreaks.

Cultural. Remove weeds that may harbor cross-striped cabbageworm caterpillars including wild mustard, *Sinapis arvensis*, and shepherd's purse, *Capsella bursa-pastoris*.

Physical/Mechanical. The placement of protective barriers or floating row covers (Figure 7) over plants will prevent females from laying eggs, thus reducing the number of caterpillars that can damage plants. Caterpillars can be removed by hand and placed into a container of soapy water.

Insecticides. Insecticides used to manage cross-striped cabbageworm populations are most effective if applied when caterpillars are small (less than $\frac{3}{4}$ inch or 19 mm). The insecticides *Bacillus thuringiensis* subsp. *kurstaki* and spinosad are stomach poisons that caterpillars must ingest as wet or dry residues on plant leaves to be negatively affected. However, once caterpillars are $\frac{3}{4}$ inch (19 mm) long or greater, stomach poisons will not be effective. Consequently, contact insecticides should be applied as needed to manage cross-striped cabbageworm caterpillar populations.

Beneficial Insects

Parasitoids or parasitic wasps such as *Trichogramma* spp. can be purchased from retail outlets and released into the garden. However, the parasitoids do not directly affect caterpillar populations because they only attack the eggs.

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