



Imported Cabbageworm

Introduction

The imported cabbageworm (ICW), the larval form of the delicate white butterflies that flutter around the summer garden, is a serious pest of cabbage-family crops. The well-camouflaged green caterpillars feed on the leaves of cabbage and other cruciferous crops and may infest the flower heads of broccoli and cauliflower.

Description

ICW larvae are cabbage-green, with a velvety appearance. Mature larvae may be up to an inch and one-quarter long and may have one faint yellow-orange stripe down their backs and broken stripes along the sides.

Cabbageworms move slowly and are sluggish but they feed voraciously on both the outer and inner leaves of crucifers, often feeding along the midrib, at the base of the wrapper leaves or boring into heads of cabbage. After 2 to 3 weeks of feeding the larvae pupate, attaching their delicate chrysalids by a few strands of silk to host plant stems or other nearby objects. Pupae have sharp, angular projections from the back and front, and are pale green or tan, with faint yellow lines down the back and sides.



The adult of the ICW is a common white butterfly with a wingspan about 1-1/2 inch and black spots on the wings. It may be seen fluttering about in fields and gardens from early spring to late fall.

Life Cycle

Imported cabbageworms overwinter as pupae attached to host plant debris, a nearby building or other object near the cabbage patch. Adults emerge early in spring. Soon after mating, females begin laying yellow eggs, gluing them singly to leaf undersides of cruciferous cultivated plants, or wild hosts until the cultivated crops become available. Each female may lay several hundred eggs. Eggs hatch in about a week with larvae feeding and reaching maturity in 10-14 days.

When mature, the larvae pupate, fastening themselves to lower leaf surfaces by silken bands. During spring and summer, the pupal stage lasts 7 to 12 days before a new generation of butterflies emerges. In New Hampshire there are typically three or four generations each year.

Early-maturing cole crops tend to be less severely damaged because plants reach maturity before ICW populations have built up significantly. From about mid-July on, ICW is likely to be a serious pest of cabbage-family crops if growers do not take control measures.

Control

Prevention and non-chemical control

Spun-bonded floating row covers are an effective barrier against egg-laying ICW butterflies. Monitor uncovered cole crops often for signs of ICW. Handpicking can be an effective control for small gardens.

Occasionally a gardener may see parasitized ICW, in the form of whitish masses on the leaf next to a dead caterpillar. These are usually the cocoons of a small braconid wasp. The cocoons will soon hatch and another generation of adult parasites will emerge and begin laying eggs on other cabbageworms. After the eggs hatch, the wasp larvae feed on the bodies of the caterpillars, killing them.

Bacillus thuringiensis (Bt) is an effective biological control registered for use against ICW. This product is most effective against young larvae, so apply at the first sign of infestation. Repeat after a rain. Water Bt-treated plants around the base of the plants only; wetting the foliage can wash off the pesticide.

Chemical control

Carbaryl, esfenvalerate, neem, permethrin, pyrethrins and spinosad are among the many chemical pesticides registered to control ICW. Follow the manufacturer's recommendation for rates and timing of applications. The days-to-harvest interval may vary with crop being sprayed.

Stop! Read the label on every pesticide container each time before using the material. Pesticides must be applied only as directed on the label to be in compliance with the law. All pesticides listed in this publication are contingent upon continued registration. Contact the Division of Pesticide Control at (603) 271-3550 to check registration status. Dispose of empty containers safely, according to NH regulations.

*Reviewed and amended by Dr. Alan Eaton, UNH Cooperative Extension Entomology Specialist.
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