

IMPORTED CABBAGEWORM

By Eric Day and Alexandra Spring

DESCRIPTION: Velvety green with faint yellow longitudinal stripes and many fine hairs; up to 1 and 1/4 inches long.

COMMON HOST PLANT (S): Cabbage, cauliflower, collards, Brussels sprouts, mustard, turnip and kale.



Fig. 1: Adult and larva of Cabbageworm, with leaf damage. Left photo: *David Cappaert, Michigan State University, Bugwood.org*, right photo: *Clemson University - USDA Cooperative Extension Slide Series, Bugwood.org*

DAMAGE: Feeds on underside of leaves, producing ragged holes; bores into heads.

DISTRIBUTION: Throughout United States.

LIFECYCLE: Imported cabbageworms overwinter in plant debris as pupae. The time span from egg to adult moth is about four to five weeks. Multiple generations occur annually in Virginia.

THRESHOLDS: Since several pests appear simultaneously on crucifers, all must be considered when applying thresholds. Therefore, the following thresholds take into account the combined levels of the following cole crop caterpillar pests: diamondback moth, imported cabbageworm, cross-striped cabbageworm, and cabbage looper. These thresholds are for fresh market quality cabbage, broccoli, and cauliflower; if more damage is economically acceptable, a 75% infestation may be tolerated before treating plants, see table on 2nd page.

Fresh Market Cabbage

	Treatment advised if:
Seedbed	10% or more plants infested
Transplant to cupping stage	30% or more plants infested
Cupping to early heading	20% or more plants infested
Early heading to mature	10% or more plants infested

Fresh Market Broccoli and Cauliflower

	Treatment advised if:
Seed bed	10% or more plants infested
Transplant to first flower	50% or more plants infested
Flowering to mature head	10% or more plants infested

CULTURAL CONTROL: Handpick caterpillars where found. Conduct thorough postharvest cleanup in gardens where the imported cabbageworm has been a problem in the previous year.

ORGANIC/BIOLOGICAL CONTROL: *Bacillus thuringiensis*, or Bt, (Bactur, Dipel, SOK BT, Thuricide) 2.0 to 3.0 tbsp in 1 gallon water. It is not necessary to wait before harvesting after an application of Bt.

A parasitic wasp, *Trichogramma* sp., attacks imported cabbageworm eggs; mass releases of *Trichogramma* sp. may be successful in reducing pest populations. Several other parasites attack pupae and larvae of the imported cabbageworm. The braconid wasp *Apanteles glomeratus* is most effective. The imported cabbageworm is also susceptible to attack by generalist predators such as stinkbugs and *Polistes* sp. wasps. Natural control by viruses and bacterial diseases occurs as well.

CHEMICAL CONTROL: Treat with a registered insecticide every 4 days after first true leaves appear until harvest if worms are still present. Direct insecticides to the undersides of leaves.

REFERENCES:

Foster, Rick and Brian Flood. 1995. Vegetable Insect Management, Meister Publishing Company, Willoughby, Ohio, pp. 104-107.