

Imported Cabbageworm

By Master Gardener Teresa Casey

Description

The imported cabbageworm (*Pieris rapae*) is the caterpillar stage of a white butterfly that has a black area near the tip of each forewing and a small black spot on the front edge of each hind wing. Imported cabbageworm caterpillars are green with yellow markings and are commonly found on the undersides of leaves. Adult butterflies emerge from chrysalis early in spring, as early as March.

Damage

The imported cabbageworms feed on Alyssum, sweet alyssum (*Lobularia maritima*), nasturtium, stock (*Matthiola*), flowering kale, ornamental cabbage, and weeds and other crops in the mustard family. Young caterpillars feed superficially, leaving the upper surface intact. Larger imported cabbageworms chew holes between plant veins and even bore into the center of the heads of edible cultivars leaving masses of wet, greenish-brown excrement. The imported cabbageworm caterpillar can completely defoliate plants. Feeding and resting occur on the underside of leaves which should be viewed when looking for imported cabbageworm caterpillars and chrysalis.

Biology

The imported cabbageworm life cycle includes an egg, larva (caterpillar), pupa (chrysalis), and adult stage. The life cycle can be completed in three to six weeks. Mated females live about three weeks and can lay up to 400 eggs on the underside of vegetable crop leaves. Female butterflies attach single, very small, pale yellow, bullet-shaped eggs upright on a leaf surface. About a week later, tiny velvety green caterpillars hatch. Older caterpillars have a faint yellow stripe down the back and a row of faint yellow spots on each side. The caterpillars grow to just over an inch long in about two weeks. They



Imported cabbageworm.

Credit: J. R. Baker, NC State University

have three pairs of legs near the head, and five pairs of prolegs. They then molt into a gray, green, or brown, sharply-angled chrysalis (pupa) about 7/8 inch long. Chrysalis with frilled edges are attached to the leaf surface by a silken loop. Imported cabbageworm butterflies usually molt from chrysalis in a week or two although they do overwinter as pupae attached to host plant debris. There are three or four generations per year. Female butterflies have two black spots on each forewing; males have only one. Females have a wingspan of about 2 inches while males are slightly smaller.



Imported cabbageworm chrysalis.
Credit: Russ Ottens, University of Georgia, Bugwood.org



Imported cabbageworm butterfly.
Credit: David Cappaert, Bugwood.org

Control Methods

Managing imported cabbageworm caterpillars to minimize plant damage involves regularly scouting vegetable crops, removing plant debris and weeds, manually removing imported cabbageworm caterpillars from plants (and submerging them in a container of soapy water), and applying insecticides during the growing season. Certain insects, such as ladybird beetles, green lacewings, assassin bugs, and minute pirate bugs, feed on imported cabbageworm caterpillars.

One natural remedy is the parasitoid, *Cotesia (Apanteles) glomerata*, a small wasp, which lays 20 – 60 eggs into an imported cabbageworm caterpillar. Parasitoid larvae result in dead caterpillars after 15 – 20 days when the wasp larvae emerge.

Although imported cabbageworms are attacked by several disease organisms and parasites, insecticides may have to be used to protect flowering crucifers. Most of the insecticides labeled for landscape use in home grounds and gardens should give adequate control. Products containing pyrethroids (bifenthrin, zeta cypermethrin, esfenvalerate, etc.), Spinosad, Bt (*Bacillus thuringiensis*) are currently most effective.