

(revision date:2/14/2019)

## ***Broccoli, Cole crops: Imported cabbageworm***

*Use Integrated Pest Management (IPM) for successful plant problem management.*

### ***Biology***

The imported cabbage worm is the larval stage of the cabbage butterfly. The adult butterfly has white wings, with black tips and spots on the forewings. Wingspan is about 1-1/2". Eggs are laid in the spring on the leaves of host plants, which include cole crops such as broccoli and cabbage, as well as radish, turnip, and nasturtiums. The caterpillars are green with faint yellow stripes along the back and sides. They feed on the leaves, chewing irregular holes in the leaf tissues. Mature caterpillars are about 1" long and may also feed in the center of cabbage heads. Black pellets of frass (excrement) are often present on the leaves. The caterpillar pupates in a pale green chrysalis which may be attached to any convenient object in the garden. Three to five generations may occur in a single season.

### ***Management Options***

#### **Non-Chemical Management**

- ~ Cover crops with floating row covers or screen cages to prevent egg-laying by adult butterflies.
- ~ Hand-pick any caterpillars found on leaves.
- ~ Pick and destroy any pupae found.
- ~ Natural enemies of caterpillars include predacious beetles, parasitic wasps, and birds. Avoid use of broad-spectrum insecticides when possible to conserve beneficial insects.
- ~ Remove debris which may shelter pupae.

***Select non-chemical management options as your first choice!***

#### **Chemical Management**

***IMPORTANT: Visit Home and Garden Fact Sheets for more information on using pesticides***

Use product according to label instructions. Read the product label for timing between last application and harvest. Apply in spring about 10 days after flights of mating pairs are observed. Use a spreader-sticker with liquid Bt formulations.

**Listed below are examples of pesticides that are legal in Washington. Always read and follow all label directions.**

- ~ Bonide Captain Jack's Deadbug Brew R-T-U [Organic]
  - active ingredient: *spinosad (spinosyn A+D)*
  - EPA reg no: 4-472
- ~ Bonide Eight Insect Control Garden & Home R-T-U
  - active ingredient: *permethrin*
  - EPA reg no: 4-406
- ~ Bonide Thuricide BT Conc
  - active ingredient: *Bacillus thuringiensis subsp. kurstaki*
  - EPA reg no: 4-226
- ~ Bug Buster-O [Organic]
  - active ingredient: *pyrethrins*
  - EPA reg no: 1021-1771-54705
- ~ Bull's-Eye Bioinsecticide
  - active ingredient: *spinosad (spinosyn A+D)*
  - EPA reg no: 62719-314-56872
- ~ ferti-lome Dipel Dust
  - active ingredient: *Bacillus thuringiensis subsp. kurstaki*
  - EPA reg no: 7401-290
- ~ Safer Brand Caterpillar Killer for Trees, Shrubs & Vegetables Conc II [Organic]
  - active ingredient: *Bacillus thuringiensis subsp. kurstaki*
  - EPA reg no: 70051-106-42697

- ~ Safer Brand Caterpillar Killer/Trees, Shrubs, & Vegetables Conc
  - active ingredient: *Bacillus thuringiensis subsp. kurstaki*
  - EPA reg no: 42697-23
- ~ This list may not include all products registered for this use.

*Broccoli, Cole crops: Imported cabbageworm*

*Images*



*~ Caption: Imported cabbage worm and damage on cabbage  
~ Photo by: A.L. Antonelli*



*~ Caption: Imported cabbage worm adult  
~ Photo by: A.L. Antonelli*