



Insect Pests of Potatoes in Home Gardens

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Colorado Potato Beetle

Description Adults are orange with stripes on the abdomen and spots on thorax and are about 3/8-inch-long by 1/4-inch wide. Larvae are 1/2-inch-long, orange-pink in color, and have spots on their sides.



Colorado Potato Beetle larva by Eric Day

Plants Attacked: It is a major pest of potatoes, eggplant, and tomatoes and subsists on various weeds such as horse nettle and buffalo burr.

Damage: Both larvae and adults strip away the foliage often leaving only the midribs and stems. Heavily damaged plants have lower yields.

Life cycle: The CPB overwinters in the soil as an adult. After emerging in late spring, they find and start feeding on potato plants. Shortly after that, they lay eggs. After egg hatch the larvae feed in groups on the undersides of leaves.

Organic Control: insecticides containing *Bacillus thuringiensis* San Diego, neem (azadirachtin), spinosad, or cryolite are effective if applications are timed to coincide with peak egg hatch and small-larvae activity.

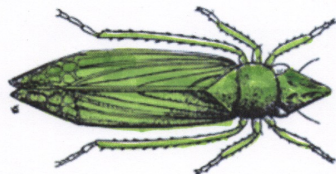
Cultural Control: Rotating potatoes to a different part of the garden and using heavy mulch at planting time will reduce the numbers of beetles that find the plants. Hand picking will help, but is time consuming. Beetle should be dropped into soapy water.

Chemical Control: Foliar sprays of spinosad, abamectin, and the materials listed under organic control. Older materials such as the organophosphates phosmet, phorate, and methamidophos; the organochlorine endosulfan; and numerous pyrethroids (esfenvalerate, permethrin, bifenthrin, cyfluthrin, lambda-cyhalothrin, etc.) may still provide effective control in regions where resistance is not a major problem.

Potato Leafhopper

Description: Several species. Adults: Green wedge shaped, up to 1/8 inch long; they fly quickly when disturbed. Nymphs resemble adults but are smaller; they crawl sidewise like crabs.

Common Host Plant(s): Beans, lettuce, alfalfa, and potato. Also, can damage shade trees such as maple.



Leafhopper (USDA)

Damage: Adults and nymphs attack beans and potatoes. Leaves of beans curl, or roll downward, crinkle, and tend to become yellow or bronze. Some plants are dwarfed and may die. Potatoes attacked by leafhoppers develop a condition called hopperburn. Tips and sides of potato leaves curl upward, turn yellow to brown, and become brittle.

Distribution: Throughout Virginia.

Cultural Control: Pick and destroy infested leaves.

Organic/Biological Control: Lacewings, damsel bugs, lady beetles, minute pirate bugs, and spiders are included among the natural enemies of leafhoppers. Dusting plants lightly with diatomaceous earth may help control leafhoppers.

Chemical Control: Treat with a registered insecticide when damage first appears.



Potato Tuberworm

Description: Pinkish white, brown head, up to 1/2-inch long.



Larva of the potato tuberworm, *Phthorimaea operculella* (Zeller). Photograph by Oregon State University Extension.

Common Host Plant(s) Potato. Also found on eggplant, tomatoes and pepper.

Damage: Tunnels in stems, leaves, and tubers. Shoots wilt and die.

Distribution: Throughout Virginia

Lifecycle: Larvae or pupae overwinter in tubers or in the soil. Moths appear in spring and may be seen at dawn or dusk when they are normally active or when plants are disturbed. Females lay 60-200 eggs, singly, on plants in as little as four days. Usually eggs are deposited in the tuber eyes or on the underside of potato foliage. Larvae emerge in 3-6 days. Larvae often enter potato tubers through the eyes, leaving frass around the eye. Larvae may feed near

the tuber surface or tunnel deeply into the tuber, leaving a trail of excrement along their path. During the summer larvae mature in 7-10 days and pupate in soil or plant debris around potato plants. Second generation moths emerge in approximately a week. Multiple generations occur annually in Virginia.

Cultural Control: Protective measures for controlling the potato tuberworm include the following:

- 1) plant only seed pieces that are not infested,
- 2) cultivate so as to hill the soil against the plants - keeping at least 2 inches of soil over the developing tubers,
- 3) harvest as soon as the crop is mature. During harvest, do not leave the dug potatoes in the field overnight, and do not cover piles of potatoes with potato tops,
- 4) destroy all culled or infected potatoes as soon as possible,
- 5) store tubers at temperatures below 52 degrees F is possible and practical. Use either new or thoroughly cleaned bags or baskets when storing. The storage area should be screened or enclosed in such a way that moth cannot get in. Without such an enclosed storage area, moths can still fly in and still become a problem even though the storage area was clean and potatoes insect-free when stored.

Organic/Biological Control: Natural enemies of the potato tuberworm include two braconid wasps (*Orgilus lepidus* Muesebeck and *Bracon gelechia* Ashmead), which parasitize the larvae.

Chemical Control: There is no known chemical control for this insect in stored potatoes.