



Colorado Potato Beetle

Leptinotarsa decemlineata (Say); Family: Chrysomelidae



Mating adults (each about 3/8 inch long).

Photo by Whitney Cranshaw,
Colorado State University, Bugwood.org



Larvae (1/2 inch long when full grown).

Photo from USDA APHIS PPQ Archive,
USDA APHIS PPQ, Bugwood.org

Injury

Larvae and adults feed on the foliage of potato, eggplant, tomato, and pepper plants. They may reach large numbers and strip all the foliage from the plant as well as spoil the fruit by eating into it. They are especially destructive to small plantings.

Description

The Colorado potato beetle was first described in 1824 from the upper Missouri River Valley, where it fed on a weed called buffalo bur or sand bur. When early settlers first began to plant potatoes, the beetles discovered a new food plant.

Adult Colorado potato beetles are yellow and have ten longitudinal dark stripes on their wing covers. They are about 3/8 inch in length, round to oval-shaped.

The larvae (or slugs as they are sometimes called) are brick red in color, hump-backed, soft bodied, and 1/2 inch in length when full grown. Larvae have two rows of black spots on either side of the body. Eggs are orange-yellow and laid in clusters on the underside of the leaves.

Life History

Adult beetles overwinter several inches below the soil surface, near the summer's crop plants. Adults emerge from their overwintering sites in the spring: mid-May on Long Island; about 7 to 10 days later in central New York State. As soon as potato plants are up, females begin laying eggs on the undersides of leaves. Eggs are laid in clusters of 20 or more. Larvae feed on foliage, grow rapidly, and complete their development in 18 to 21 days. The full-grown larva burrows into the ground and changes to the pupa (resting state). After about 10 days, the adult beetle emerges from the pupa, crawls up out of the ground, and after a short period of feeding, mated females lay eggs for a second generation in the same season.

Management

The Colorado potato beetle has become increasingly difficult to control with insecticides, because it has developed resistance to many chemicals. Management strategies should begin when the first beetles of the season are seen, or earlier.

- a. Hand picking is possible, especially for small gardens. The beetles are relatively large, showy and slow moving. Aim to inspect plants twice a week. Drop beetles and larvae into a container of soapy water.
- b. Trap cropping using eggplant transplants as living bait for the beetles prior to emergence of the potatoes has been suggested. Beetles and eggs on the eggplants need to be periodically removed and crushed or dropped into a container of soapy water.
- c. Lightweight floating row cover can be placed over plants as a barrier. Be sure to secure the edges when using this material. Potatoes do not need to be pollinated, so covers can remain in place for the growing season. However, other crops do require pollination, and covers on those should be removed when flowering begins.
- d. Crop rotation is often suggested for larger growing areas. Do not plant susceptible crops in the same area year after year – the farther away the better.
- e. Enhance habitat for natural enemies. General predators such as lady beetles, spiders, and lacewings may provide some control, but do not completely control the Colorado potato beetle. There are also some fly parasites, and a small wasp that parasitizes the eggs, but they are usually not abundant enough to give control.

Pesticides may be applied if necessary, but the insects may be resistant to some chemicals. Check that the label states that the product can be used for Colorado potato beetle, and on the kind of vegetable plant that is infested. Applications should begin as soon as egg hatch starts, to control the young larvae. Spray or dust weekly if needed.

*Prepared 1974 by Carolyn Klass & Arthur A. Muka, Dept. of Entomology, Cornell University
Updated 2012*

This publication contains pesticide recommendations. Changes in pesticide regulations occur constantly and human errors are still possible. Some materials mentioned may no longer be available and some uses may no longer be legal. All pesticides distributed, sold or applied in New York State must be registered with the New York State Department of Environmental Conservation (DEC). Questions concerning the legality and/or registration status for pesticide use in New York State should be directed to the appropriate Cornell Cooperative Extension Specialist or your regional DEC office. READ THE LABEL BEFORE APPLYING ANY PESTICIDE.

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