COLORADO POTATO BEETLE

The Colorado potato beetle, *Leptinotarsa decemlineata*, is a native pest of the Rocky Mountain region. For many years the Colorado potato beetle was not considered an important insect. It fed on native weed host plants such as sandbur (nightshade). When the early pioneers moved westward they brought the potato with them. Since the potato is its preferred host, the Colorado potato beetle gradually infested most areas in the country where the potato is grown.

**Description of Life History**

Adult Colorado potato beetles are about three-eighths-inch long, one-quarter-inch wide, and somewhat rounded in shape. The head and shoulders are brownish orange to yellow and covered with various shaped black markings. Ten black lines run the length of the yellow wing covers.

These beetles spend the winter 3 to 6 inches in the soil. In the spring, they emerge from their cells beneath the soil and begin to lay eggs. The female produces 300 to 500 eggs over a period of about a month, then dies.

The elongate orange eggs are arranged in clusters of 10 or more, usually on the undersides of host plant leaves. Eggs hatch in about a week. Small, dark grubs emerge and develop rapidly into orange or red humpbacked, full-grown grubs or larvae.

The larvae have two rows of dark spots along the sides of their bodies. There are four larval grub stages, which take about 2 to 3 weeks for completion. At maturity, the

**Active leaf damage**

**Colorado potato beetle eggs on leaf**

**Larval stage**
grubs stop feeding, drop to the ground, and change to a resting stage (pupa) in the soil. Adults emerge in a week or two. These mate and lay eggs for the second brood. In Washington there are two generations per year.

**Hosts**

Although chiefly a pest on potatoes and sometimes on tomatoes, these beetles can survive on cabbage, eggplant, and many weeds when potatoes are not available.

**Damage**

The adult and larval stages feed on foliage; however, the larvae do most of the damage. Extensive feeding on the leaves and stem tips can prevent tuber development in potatoes or fruit development on other host plants and therefore reduce yields.

**Control**

When the first adults emerge in the spring, potato plants have not yet broken through the ground. When potato plants are not available, beetles use weeds such as nightshade and groundcherry as a food source. After potatoes become available, the beetles leave the weed hosts for the potato. Elimination of these weed hosts, particularly in home gardens, offers a measure of control.

Home gardeners may find physical destruction of the beetles a useful approach when numbers aren’t too high. Rotation every other year may be very useful under circumstances when potatoes or other hosts aren’t grown annually in close proximity.

Chemical controls for Colorado potato beetle follow.

**Home Gardens**

**Potatoes.** carbaryl (Sevin), 5% dust; rotenone dust; endosulfan (Thiodan), 9.15% spray; or a *Bacillus thuringiensis* var. san diego product, e.g., Ringer Colorado Potato Beetle Attack are choices for the homeowner.

**Remarks.** Dust with carbaryl or rotenone in late May when beetles appear on foliage, or spray with 2 teaspoons Sevin 50% wettable powder per gallon of water. Use 2 tablespoons Thiodan 9.15% spray per gallon of water. Apply 1 gallon of this mixed spray to 275 square feet of garden area. Several applications may be needed.

**Tomatoes and Eggplant.** carbaryl (Sevin), 5% dust; or endosulfan (Thiodan), 9.15% spray are useful. This formulation of Thiodan is not registered for eggplant.

**Remarks.** Apply carbaryl dust to foliage as needed. Use 2 tablespoons Thiodan 9.15% spray per gallon of water. Apply 1 gallon of this mixed spray to 275 square feet of garden area (Tomatoes only). Repeat as necessary.

**Commercial Crops**

**Potatoes.** Monitor, Thiodan, Foil, Trident II, Sevin, Permethrin, Dasanit, Guthion, Furadan, phosphamidon, Di-Syston, Imidan, Thimet, Asana, and several other chemicals are all registered for control of Colorado potato beetle in *commercial* potatoes. Check the labels or check with your county agent for rates per acre and other important considerations.

**Tomatoes and Eggplant.** carbaryl (Sevin) or endosulfan (Thiodan). Check labels or check with county agent for rates per acre, etc.

**Remarks.** If Thiodan is used, do not plant any root crop the following year except carrots, potatoes, sweet potatoes, or sugar beets. Many of these materials are hazardous to bees, so if drift to adjacent flowering crops is a risk, consider one of the less hazardous alternatives. Carbaryl tends to create mite problems and is highly injurious to bees.

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Use pesticides with care. Apply them only to plants, animals, or sites listed on the label. When mixing and applying pesticides, follow all label precautions to protect yourself and others around you. It is a violation of the law to disregard label directions. If pesticides are spilled on skin or clothing, remove clothing and wash skin thoroughly. Store pesticides in their original containers and keep them out of the reach of children, pets, and livestock.

This law requires that pesticides be used as the label directs, and only on target site or crops listed on that label. Uses against pests not named on the label and lower application rates are permissible exceptions. If there is any apparent conflict between label directions and the pesticide uses suggested in this publication, consult your county Extension agent.