

insect answers



POTATO FLEA BEETLES: BIOLOGY AND CONTROL

Potato flea beetles can be serious pests of a wide variety of vegetable crops, especially in western Washington. In addition to potato, they also attack tomato, pepper, eggplant, bean, cabbage, corn, cucumber, lettuce, radish, spinach, and several other plants. Potato and tomato are generally the most seriously affected.

Description and Life History

Two species of flea beetles are of major concern. These are the tuber flea beetle, *Epitrix tuberis*, and the western potato flea beetle, *Epitrix subcrinata* (Fig. 1). The adult tuber flea beetle is oval and black with reddish antennae and legs. It is approximately $\frac{1}{16}$ inch long (1.5–2mm). The western potato flea beetle somewhat resembles the tuber flea beetle except that it is a shiny bronze. The femur or midportion of the hind leg of these beetles is greatly enlarged, giving them the ability to jump considerable distances when they are disturbed.



Figure 1—Adult tuber flea beetle.
Photo—Ken Grey Collection

Flea beetles spend the winter as adults in protected places, such as under leaves and along ditchbanks. They emerge in the spring and feed on weeds, grasses, and wild vegetation until garden plants are available. They lay their tiny eggs on the soil around the plants. The larvae (immature stages) spend their lives feeding on underground portions of host plants.

The larvae of flea beetles are small, whitish, delicate, cylindrical grubs. Their development takes place in the soil and may take 3 to 4 weeks to complete. Pupation also occurs in the soil and takes from 7 to 10 days. There are one to two generations per year and sometimes a partial third.

Damage

Adults feed on the foliage of plants. Feeding damage consists of small round holes about $\frac{1}{16}$ to $\frac{1}{8}$ inch in diameter. When feeding is extensive, the damaged foliage appears to have been “blasted” with a shotgun causing severe stress or death of the plant (Fig. 2). Larvae feed on underground parts of plants, such as roots and tubers. Western potato flea beetle larvae largely restrict their feeding to the roots of potatoes but occasionally attack the tuber. Tuber flea beetle larvae feed extensively on potato tubers. The damage appears as a complex of winding grooves on the surface of the potato. Grooves are usually less than $\frac{1}{16}$ inch in diameter and very shallow. Larvae may also bore into the tuber, and this appears as a pinhole extending $\frac{1}{2}$ inch or less into the fleshy portion of the potato—occasionally holes will be deeper. Holes are commonly filled with a dark material which stains the white flesh of the tuber. Tuber flea beetle damage

to the tuber is usually not significant. However, damage does make the potatoes quite unsightly (Fig. 3). Feeding also makes an easy entry for many microorganisms that may cause rotting or reduce the storage potential of the potato. If beetle damage does not reduce the potato to an inedible state, damage and stain can be easily removed by extra peeling.

Control

To obtain information on current status of products to control these beetles, check with your local county extension agent, who has access to the annually revised *Pacific Northwest Insect Management Handbook*. We did not list products in this bulletin because of continuing changes of pesticides in the marketplace.



Figure 2—Tuber flea beetle damage to foliage.

Photo courtesy of Canadian Department of Agriculture



Figure 3—Tuber flea beetle damage to potato tuber.

Photo—Ken Grey collection.

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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.

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