



Cooperative Extension

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Injury

Several species of flea beetles are a major pest of corn, all of the cucurbits, eggplant, potato, and tomato, and also feed on cabbage and related crops, carrot, celery, lettuce, horseradish, mustard greens, radish, parsley, pepper, spinach, sweet potato, and watermelon. Adults have hind legs with an expanded femora which enable them to jump considerable distances (hence the name "flea" beetle) when disturbed. Flea beetles chew many small holes in the leaves, often riddling the foliage and stunting the growth of young plants. Larvae generally feed on underground portions of the plant and may be very destructive, causing blemished or pimply potato tubers and other root crops; larvae of the spinach flea beetle, like the adults, feed on leaf undersides, chewing holes through the leaf tissue. One species, the corn flea beetle, transmits Stewart's bacterial wilt disease of corn, which reduces yields if plants are infected early in the season.

Description

- Potato flea beetle, *Epitrix cucumeris* (Harris), adults are 1/16-inch long and shiny black with prominent antennae and yellowish-brown legs. Full-grown larvae are whitish in color with a brown head and a yellowish-brown shield behind the head.
- Eggplant flea beetle, *E. fuscula* (Crotch), adults are about the same size and color as the potato flea beetle but slightly more hairy, less shiny, oval in shape with black legs.
- Striped flea beetle, *Phyllotreta striolata* (Fabricius) adults are brownish with a crooked, yellowish-white stripe down the wing cover, about 1/10" in length.

- Spinach flea beetle, *Disonycha xanthomelas* (Dalman), adults are one of the largest (1/5-inch long) flea beetles with greenish-black wing covers, yellow thorax, and a black head.
- Corn flea beetle, *Chaetocnema pulicaria* (Melsheimer), adults are small (1/20"), oval in shape, shining black with a bronze or bluish-green luster and yellowish markings on the legs. The basal segment of each antenna is orangish in color.
- Palestriped flea beetles, *Systema blanda* (Melsheimer), have an orangish head, black thorax and body, and a broad pale yellow stripe along the back on each wing. Adults are ~1/10" in length.
- Crucifer flea beetles, *Phyllotreta cruciferae* (Goeze), are less than 1/10" long and are metallic blue-black in color except for the antennae and tarsi, which are orangish-brown.

Life History

Flea beetles spend the winter as adults in protected places, such as under leaves and along ditch banks and hedgerows. They emerge in early spring and feed on weeds such as ground-cherry, grasses, etc. (depending on species) until cultivated crops appear. Females deposit eggs in the soil from mid-May through June. Eggs hatch in a short time and larvae feed on crop roots, pupate in 3-4 weeks, and emerge as adults in late June and July. Some female beetles may lay eggs to begin a second generation of beetles that mature in August or September. This second generation, however, does not lay eggs during the season but overwinters and lays eggs the following spring.

Management of Flea Beetles

1. Destroy solanaceous weeds (ground-cherry, nightshade, etc.) and weedy grasses that may be growing nearby to help reduce flea beetle populations.
2. Plants growing from small seeds are less tolerant to flea beetle damage than transplants, thus plant large-seeded crops or use transplants if possible.
3. Early season plantings usually have more severe flea beetle infestations. Delay planting, if possible, to reduce flea beetle problems.
4. Cheesecloth, nonwoven nylon or other row covers protect young plants from adult infestations. Covers can be removed later in the season as plants mature because large plants are less susceptible to flea beetle damage than seedlings or small plants (unless beetles are especially abundant).
5. Multiple foliar applications of an insecticide may be necessary for good flea beetle control if weather conditions are favorable to the beetles. Higher beetle populations generally appear in spring after mild winters, and less beetle damage is observed after harsh winters.



Photo Captions

Page 1 (l-r): Damage to parsley, damage to eggplant. spinach flea beetle.

Page 2 (t-b): Potato flea beetle and damage to potato, orn flea beetle and damage, Larval damage to potato



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