

Mint Flea Beetle in Oregon

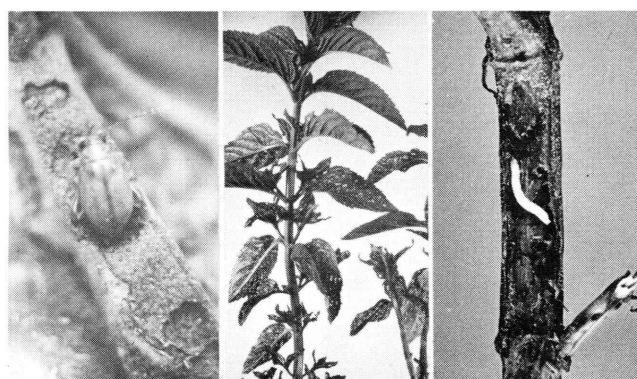
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Importance

Available indicators suggest that populations of the mint flea beetle, *Longitarsus waterhousei* Kutsch, are steadily increasing on peppermint in Oregon. During 1972, adult populations averaging up to 56 per sweep were encountered in Marion County, and they were responsible for the loss of at least 100 acres of mint near Stayton, Oregon. Adults of this pest also were found in Jefferson, Crook, Umatilla, Benton, and Linn counties in 1972. The mint flea beetle has been found to feed only on plants in the mint family (Labiatae).

Description

Adult flea beetles are small, elongate-oval insects about one-twelfth of an inch long, pale brownish or brownish-yellow in color with a darker, reddish-brown head, and have black eyes. The hind legs are long and thickened for jumping. The beetles feed on the mint leaves, riddling them with small holes.



Adult beetle, damage on mint, and larvae.

Eggs are elongate-oval, orange-yellow, about one-fortieth of an inch in length, and are found in or on the soil.

Larvae are slender and worm-like, about one-fifth of an inch long when fully grown. They are white with a shining, pale-brown head and have three pairs of legs. The larvae cause more serious damage than the adults since they feed on the underground parts of the plant and destroy the stolons and root system. They attack the small roots first. They tunnel through these roots and later through the larger ones. Sometimes they girdle the roots, while at other times they tunnel up the roots and into the stem. Affected plants are stunted and often reddish-purple in color.

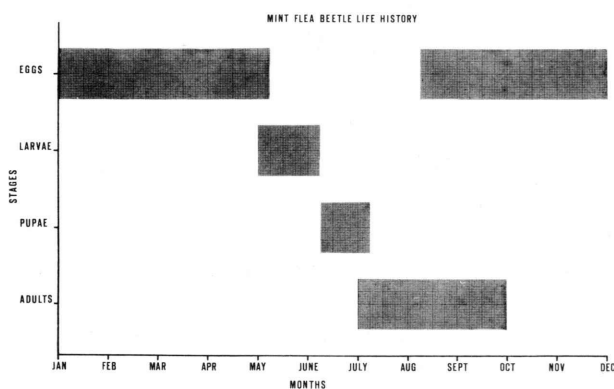
Pupae, which transform to adults, are about one-tenth of an inch in length and are whitish in color, somewhat resembling the adult in form. They are found in cells, mostly within the upper 3 inches of the soil.

Life history

The mint flea beetles overwinter in the soil as eggs (deposited during the previous summer). The eggs hatch into tiny larvae during May. These larvae begin feeding on the rootlets and then tunnel in the roots and underground stems. After about a month of feeding, they become fully grown and leave the roots to make small cells in the soil where they change to the pupal or resting stage. Adults emerge three to four weeks later during early July, mate, and begin depositing eggs about three weeks later in early August. Egg laying may continue well into the fall or until freezing weather. The eggs then overwinter, thus completing the single generation per year.

Habits in relation to control

The males lack inner wings and are therefore unable to fly. Most of the females have fully developed wings and are able to fly short distances. The adults feed primarily at night, in the early morning, or in the late afternoon in the shade of tall mint. During the day the beetles remain in



hiding among dead leaves or other objects beneath the plants and are not easily seen. Adults move rapidly from fields in which the mint has been cut to seek the shelter of nearby standing mint. Under certain conditions, there may be a migration back and forth between fields. When no second-growth mint is present in the cut field to give protection to the beetles, most of them will go to the outer rows of standing mint of an adjoining field within a short time.

New mint plantings are usually free from infestation until beetles migrate into them, since the

roots are ordinarily planted in ground that has been summer-fallowed or clean-cultivated.

Natural spread usually comes about by a gradual migration from infested to uninfested fields. The infestation also may be spread by means of eggs carried to new plantings when roots are dug from infested fields and the soil is not thoroughly shaken from them.

Control

Mint should be planted on land that has not grown mint for at least two seasons or on ground that has been clean-cultivated or summer-fallowed. The roots should be dug from fields free of infestation and should be thoroughly shaken to remove dirt and eggs before transplanting in new fields.

Malathion is registered for control of adult mint flea beetles. Applications of one pound active ingredient (AI) of Malathion per acre should be made after adults emerge in early July and before egg laying begins (early August). After harvest, it is important to check field margins and ditch banks for adult beetles which may have moved to seek the shelter of standing mint. Malathion should be used to treat field margins if adult beetles are found.