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Pepper Weevil

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Introduction

Pepper weevil, *Anthonomus eugenii* Cano, is a beetle in the family Curculionidae in the order Coleoptera.

Description

Adult pepper weevils are small beetles measuring about 3 mm (0.125 inch) long. The body is dark colored with light-colored scales (Fig. 1). The body is pear-shaped, with a smaller head and a broader, strongly convex abdomen. A snout projects forward from the head, measuring about half the length of the body.

Figure 1. Adult pepper weevil (Alton N. Sparks, Jr., University of Georgia, Bugwood.org).

Pepper weevil larvae are grayish-white, C-shaped grubs with a pale brown head capsule (Fig. 2). Larvae are legless and measure up to 6 mm (0.25 inch) long.

Life History

Pepper weevil has a complete life cycle of egg, larval, and adult stages. Pepper weevils overwinter in warm climates, such as Florida. The adults migrate north in the spring, either through flying, or transport on pepper transplants or market fruit. In the spring, pepper weevils are found on solanaceous weed hosts, moving to pepper plants as they are planted in warmer weather.

Figure 2. Pepper weevil larvae and pupae inside a pepper fruit (David Riley, University of Georgia, Bugwood.org).

In early summer, adult females bore holes into pepper buds and fruit and deposit eggs, which they protect with brownish excrement. A female may lay as many as 200 eggs over a month. Larvae emerge from eggs in about 3-5 days and enter pepper pods. Pepper weevil larvae feed inside the pepper for over a week (Figs. 2 & 3). Pupation occurs inside peppers in a cell constructed of frass and the new adults emerge in about 4-6 days. The time span from egg to adult beetle is about 2-3 weeks in warm weather, but increases as temperatures drop.

Pepper weevil does not overwinter in our area, but is a sporadic pest occasionally imported on transplants or fruit from the South. Pepper weevil requires a constant availability of a pepper host throughout the year and therefore cannot survive north of South Carolina. There are multiple generations each year in states where host plants are available year-round.

Figure 3. Pepper weevil larvae in a developing pepper fruit (David Riley, University of Georgia, Bugwood.org).

Common Host Plants

Pepper weevil larvae attack all types of peppers. In addition to peppers, adult pepper weevils may feed on nearby tomatoes, tomatillos, and related species in the nightshade family. Wild hosts include nightshades, horse nettle, and related plants.

Distribution

Pepper weevil is found from Florida and southern Georgia to southern California. In Virginia, it has been reported from Virginia Beach.

Damage

Adult pepper weevils feed on foliage, blossom buds, and tender pods of host plants. Larvae feed only within pepper buds and pods, leading to discolored and deformed fruits. Buds and pods may drop off plants prematurely due to internal feeding by pepper weevil larvae.

Control

Rake and destroy any peppers that have dropped prematurely to kill any developing larvae or pupae inside them. Control nearby nightshade plants that may harbor adult pepper weevils. Remove and destroy pepper plants immediately after harvest.

No organic or biological controls are known for pepper weevil at this time.

Use a registered insecticide to control adult pepper weevils. Sprays are ineffective in controlling the larvae, which are protected by feeding in the fruit and buds. Homeowners should use a material labeled for foliage-feeding insects in the garden. Commercial growers should consult the Mid-Atlantic Commercial Vegetable Recommendations (VCE 456-420) for recommendations for pepper weevil. As with all pesticides, follow the label instructions carefully with regards to rates and precautions.

Revised

Theresa A. Dellinger, May 16, 2022.

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