



PLANTPRODUCTS®

Pepper Weevil

The pepper weevil (*Anthonomus eugenii*) is one of the most destructive pepper pests in North America, with severe infestations causing yield losses as high as 80%. This member of the Curculionidae family feeds almost exclusively on Solanaceae hosts, mainly peppers (no commercial pepper variety is immune), but also weeds like black nightshade, silverleaf nightshade, and horse nettle.

The pest is endemic to North, South and Central America and does not have a diapause (overwintering dormancy) stage. In colder growing regions, including greenhouse production areas, infestations are most often introduced on infested fruit or transplants rather than developing locally overwinter.

Life Cycle

A complete generation (egg to egg) takes roughly 20–30 days depending on temperature, allowing three to five generations per growing season. Development from egg to adult takes about 14–21 days on pepper and a female can lay approximately 340 eggs in a lifetime.

Egg	Larva	Pupa	Adult
 P.C.: Hugh Smith, UF/IFAS			
Laid singly inside punctures made in flower buds or young fruit; the entry hole is sealed with a fluid that hardens into a dark brown scar.	Whitish to gray, plump, and legless with a brown head capsule; grows to about 1/4 in (6 mm) through three larval stages, feeding entirely inside the fruit or bud.	Resembles a wingless adult; starts pure white and gradually yellows as the eyes darken before the adult emerges.	Oval body, 2–3.5 mm (about 1/8 in) long, with a long-curved snout longer than the head and thorax combined. Newly emerged adults are light brown, darkening over time to gray, reddish-brown, or nearly black with a brassy luster.
Duration approx. 4 days	Duration approx. 7–14 days	Duration approx. 3–6 days	Duration: Several weeks; females lay approx. 340 eggs
Location: Inside buds/fruit wall	Location: Feeding inside fruit core or flower bud	Location: Cell formed inside fruit/bud	Location: Emerges via exit hole; feeds/mates on plant

Damage & Symptoms

- Oviposition punctures and “warts” appear on the surface of young fruit and buds where eggs were laid.
- Feeding by larvae inside buds and fruit causes flowers and young fruit to abort and drop. Dropped fruit at the base of plants is a key early indicator.
- The calyx and stem of infested fruit often turn yellow, and the inner core can become brown and moldy.
- Adults create round exit holes in the fruit wall as they emerge; larger fruit that continue to develop may be deformed.
- Because damage develops inside the fruit, infested peppers frequently show no external symptoms beyond the original puncture wound until much later.

Management

1. Sanitation: Your First Line of Defense

Greenhouse Cleanup

- Remove all fallen fruit and leaf litter from the greenhouse floor.
- Place collected fruit and debris into plastic bags, seal securely, and remove from the farm for landfill disposal.

Crop Scouting

Regularly inspect the crop and check fruit for:

- Oviposition marks on small “chickpea-sized” fruit.
- Exit holes in larger fruit.
- Fruit with a yellowing calyx, commonly seen on fruit about the size of a golf ball.

If damaged fruit is found, remove it immediately, bag it, and dispose of it off-site.

2. Monitoring for Early Detection

Pepper Weevil Traps

- Install traps throughout the greenhouse at a common placement rate of approximately four traps per acre (about one kit per acre).
- Check traps one to two times per week.

Why traps matter

Traps are one of the best tools available for detecting activity in the crop. Traps will detect weevil presence at least seven days before pepper fruit is found.

First Line of Defense

Daily Sanitation

Trap Placement

4 traps or approx. 1 kit per acre

Trap Checks

1-2 times per week

Integrated Management Approach

Registered pesticides currently available primarily target the **adult stage** of pepper weevil. These tools can help reduce populations, but are most effective when used as part of an integrated program that includes both sanitation and monitoring.

Consider incorporating **BotaniGard®** into the rotation as an additional tool for managing adult weevils.

Contact your local Plant Products representative for more information.