

Management of pepper weevil, *Anthonomus eugenii* Cano

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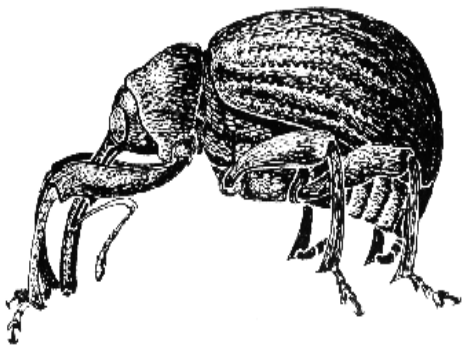
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Pepper is an important crops in the USA growing about 65,650 acres of Bell pepper in 1997, with a total yield of 16,773,000 cwt (average yield = 30 cwt/acre), and a total value of \$502,595,000. The pepper weevil (*Anthonomus eugenii* Cano) is a major pest of pepper in Florida and other pepper growing areas in the United states. The pepper weevil likely originated in Mexico arrived in Florida in 1935.

Biology.

The adult weevil lays eggs in the flower buds and young pepper fruits. The immature stages of pepper

weevil are commonly known as grubs. The grubs on hatching bore inside the fruits where it feeds on pepper tissues. The grubs undergo three development stages inside the fruits to transform into a nonfeeding pupal stage. The pupae of pepper weevil turn into adults and emerge out of the fruit by making a narrow, round hole. The newly emerged adult is light-brown which turn into dark, metallic in a day. Development from egg to adult takes about two weeks during hot growing season. A thorough knowledge on the biology of pepper weevil is essential to develop a successful management program.



Sampling.

Pepper weevil adults are active during the day with the peak activity at 10.00 -13.00 EST. During the peak activity they can be detected by using the following methods:

- a. Checking terminal buds for adults and their feeding damage
- b. Checking young flower buds and young fruits for feeding punctures
- c. Looking for fallen flower buds and fruits on the ground
- d. Inspecting whole plants for adults
- e. Placing yellow sticky cards at the edge which should be initiated two weeks before flowering

Recommended Management Practices for Pepper Weevil

1. Use pepper weevil resistant varieties (if available)
2. Avoid planting pepper in a field with pepper weevil history in the previous years
3. Avoid planting pepper near to an infested field
4. Avoid using pruned plants for the second crop
5. Destroy nightshades (alternate host) around the pepper fields.
6. Use sticky cards at the edge of the field from the beginning of planting
7. Initiate management program at the first sight of adults on pepper plants and sticky traps
8. Spray droplets should be fine to achieve good coverage
9. Scout fields weekly

Insecticides registered for the pepper weevil

Insecticide	Rate (lbs. a.i./acare)	Pre-harvest interval (days)
Permethrin	0.1 – 0.2	3
Esfenvalerate	0.025-0.05	7
Oxamyl	0.5 – 1.0	7
Thiamethoxam (Actara 25WG)	0.063	12
Cryolite	25 - 50	0

Comments. Use permethrin or esfenvalerate in combination with Cryolite. Avoid using one insecticide more than two subsequent sprays.