

Are You Eating My Crops? 3: The cucurbit beetle

The cucurbit beetle (*Diabrotica speciosa*) is an important pest throughout southern South America, and is the third headliner in our new 12-month series called 'Are you eating my crops?'. Individual pests chosen for this series have not yet been reported in Texas, but are on the 'Watch List' due to their high level of pest importance or risk due to host availability. During this series, we will cover several different crop pests, what to look for, and what they look like.

The cucurbit beetle is grass green with three pairs of vertical yellow spots along the elytra and a set of red markings on the edges of the elytra like shoulder pads. The head is typically reddish brown to black with long filiform (threadlike) antenna almost as long as the body. The first three basal segments of the antenna are lighter than the rest, which are the same dark coloring as the head. The adults grow to between 5.5- 7.3 mm long. There are three larval instars (immature stages) which are differentiated by size. They are chalky white with dirty yellow to light brown heads, and the body is covered in long light brown setae (hairs). The third instar builds an oval cell in the soil in which they can pupate. The pupal form is long and white, about 5.7 to 7.1mm long.

The females can lay over 1000 eggs in their lifetime. The eggs are laid in the soil near the host plant. Maize, peanuts, and wheat are the preferred host plant of the cucurbit beetle. However, they are highly polyphagous and have been known to feed on the foliage, pollen, flowers, and fruit of many plants. These beetles can be detrimental to many different types of vegetation and crops. Feeding on young plants can cause a condition called "goose neck" where the plant experiences reduced vigor and grows bent due to reduced nutrient uptake. In some cases, this causes the plant to lie on the ground. The adults feed on the tassels, which prevents pollination and reduces kernel numbers in maize. The larvae are pests to the root systems of plants, which can cause stunted growth or plant death. In areas where the cucurbit beetle is present, there are years where the population is so heavy that vegetable crops are almost completely destroyed. Redistributing contaminated soil via farm equipment or through the sale of nursery plants is a concern as it can spread eggs and/or pupae unknowingly.

If you have question or concerns regarding the headliners, OR you believe you have identified a cucurbit beetle infestation, contact invasives@shsu.edu for further instructions.



Cucurbit beetle (*Diabrotica speciosa*). Credit: Dirceu N. Gassen. Modification of figure from Walsh *et al.* 2020. Biology and management of pest *Diabrotica* species in South America.



Cucurbit beetle damage on leaf. Credit: Jonas Janner Hamann



Cucurbit beetle damage, example of "goose neck". Credit: Jason Brock, University of Georgia/div>