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## W029-Cotton Insects: Beet Armyworm

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# Cotton Insects

## Beet Armyworm

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### Classification and Description

Beet armyworm, *Spodoptera exigua* (Lepidoptera: Noctuidae), eggs are laid in a mass of 25-75 eggs covered loosely by white scales from the female moth's body. Moth forewings are mottled grayish-brown, and hind wings are silvery white. Moths have a wingspan of about 1-1¼ inches. The larvae are typically green, but a variety of color phases are possible. A characteristic small black dot is generally present on either side of larvae on the second segment behind the head. Like most other caterpillars found in cotton, except loopers, larvae have five pairs of prolegs. Larvae reach a maximum size of about 1¼ inch in length.

### Hosts and Distribution

The beet armyworm is widely distributed across the southern United States during the summer and fall. Like the fall armyworm, this pest is subtropical in origin. It is incapable of overwintering in Tennessee, and moths migrate into Tennessee from southern latitudes on an annual basis. Besides cotton, the beet armyworm is an occasional pest of soybeans and a number of vegetable crops. It also feeds on a variety of wild hosts including pigweed, which is a preferred host.



Beet armyworm larvae

### Life History

Beet armyworm eggs hatch in 2-4 days, and after hatching, small beetle armyworm larvae usually feed gregariously for about 5 days. The larvae then disperse. Larvae go through 5-6 instars before pupating in the soil. It takes 25-30 days for development from the egg to adult stage at normal summer temperatures. Four or more generations per year are possible.



## **Pest Status and Injury**

The beet armyworm is an occasional pest of cotton, particularly during dry years. Economic infestations are much more likely when broad-spectrum insecticides have reduced populations of natural enemies. This pest can completely destroy cotton fields when population levels are high. Larvae are primarily defoliators but will also feed on squares and bolls. The windowpane feeding of small larvae (pictured above) is characteristic of their feeding. In cotton, these feeding sites are called “hits” (= actively feeding group of larvae on leaf or plant). Beet armyworms are capable of causing economic damage to the original Bt cotton technology (i.e., Bollgard Cotton).

## **Management Considerations**

Beneficial insects are important in preventing beet armyworm outbreaks. Besides general predators, a parasitic wasp (*Cotesia marginiventris*) will attack both beet and fall armyworm larvae. This species makes a characteristic cocoon on the plants after it emerges from a parasitized larva. Current treatment thresholds are based on the number of feeding hits found in a given number of row feet. Current treatment thresholds and recommended insecticides are listed in the Tennessee Cotton Insect Control Guide (Extension PB 387). Historically, beet armyworm larvae have been difficult to control with insecticides, but newer classes of insecticides such as Tracer, Steward and Intrepid are more effective. Second-generation Bt cottons (e.g., Bollgard II) provide much better control than the original Bt cotton technology.

For information about the management of the major field crops grown in Tennessee, visit [www.utcrops.com](http://www.utcrops.com)

### **Precautionary Statement**

To protect people and the environment, pesticides should be used safely. This is everyone's responsibility, especially the user. Read and follow label directions carefully before you buy, mix, apply, store, or dispose of a pesticide. According to laws regulating pesticides, they must be used only as directed by the label. Persons who do not obey the law will be subject to penalties.

### **Disclaimer Statement**

Pesticides recommended in this publication were registered for the prescribed uses when printed. Pesticides registrations are continuously reviewed. Should registration of a recommended pesticide be canceled, it would no longer be recommended by the University of Tennessee. Use of trade or brand names in this publication is for clarity and information; it does not imply approval of the product to the exclusion of others which may be of similar, suitable composition, nor does it guarantee or warrant the standard of the product.

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