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# Cotton Insects

## Fall Armyworm

Scott D. Stewart, Associate Professor  
Entomology and Plant Pathology

### Classification and Description

Fall armyworms, *Spodoptera frugiperda* (Lepidoptera: Noctuidae), are similar to other armyworm species in that females lay an egg mass (usually 50-200 eggs). The egg mass of fall armyworms is loosely covered by tan scales from the female body. Moths have a wingspan of about 1½ inches. Hind wings are grayish white, and the front wings are dark brown to gray and mottled with patches of white, yellow or gold. Larvae have various color phases, ranging from light to dark brown or green, and reach a maximum length of 1½ inches. The body is slightly tapered toward the head. The most distinguishing characteristic of this species is the presence of a prominent, light-colored inverted “Y” on a relatively dark head capsule, although this may not be visible on small larvae. Like several other caterpillars that may be found in cotton, fall armyworms have five pair of prolegs (including the pair at the end of the abdomen).

### Hosts and Distribution

Fall armyworms are subtropical, and infestations in Tennessee result from spring and summer migration of moths from the extreme southern U.S. and Central and South America. Thus, this insect is more problematic in the southern Cotton Belt. However, fall

armyworm is often found throughout Tennessee and as far north as Canada during the late summer and early fall months. This species has a wide host range that includes cotton, corn, soybean, sorghum, wheat, bermudagrass and a number of uncultivated plants.

### Life History

Fall armyworms eggs hatch in 2-5 days, but unlike beet armyworm, the larvae disperse shortly after hatching. Larvae pass through five or six developmental instars, and pupation occurs in the soil. In normal summertime temperatures, it takes about



Fall armyworm

30 days for development from egg to a newly emerged adult. Research has indicated that there are two strains of fall armyworm, one that typically feeds in cotton and corn, and another that prefers bermudagrass. The strain commonly found in cotton is more difficult to control with insecticides. Occasionally, infestations in cotton result from the “bermudagrass strain” infesting weedy grasses within fields. This insect is sometimes confused with the true armyworm, which is rarely



found in cotton. True armyworms commonly infest wheat and seedling corn in the spring. Fall armyworms are occasional pests of seedling wheat in the fall and only rarely infest wheat during the spring.

### **Pest Status and Injury**

Fall armyworms are occasional pests of cotton grown in Tennessee. Although it may cause some



*Fall armyworm feeding damage on cotton boll*

suppression of fall armyworm infestations, Bt cotton does not provide complete control. Fall armyworms are likely to feed on both blooms and bolls. Small larvae are difficult to detect because

they often feed on boll bracts and on the surface of bolls, hidden behind the bracts. Larger larvae are often the first to be detected while feeding in blooms. Fall armyworms feed on a relatively small number of bolls. Thus, it takes more larvae to do as much damage as a smaller number of bollworm or tobacco budworm larvae.

### **Management Considerations**

The “cotton strain” of fall armyworms is inherently difficult to control with insecticides, and larvae are often found deep in the canopy in protected areas. The current treatment threshold is based on the number of larvae found in a given number of blooms and bolls or the number of larvae per plant. Recommended insecticides are listed in the Tennessee Cotton Insect Control Guide (Extension PB 387). 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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