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W031-Cotton Insects: Tobacco Budworm

The University of Tennessee Agricultural Extension Service

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Cotton Insects

Tobacco Budworm

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Classification and Description

The tobacco budworm, *Heliothis virescens* (Lepidoptera: Noctuidae), is a common pest in cotton. This insect has complete metamorphosis, and it is the larval (caterpillar) stage that can injure cotton as it feeds. Egg and larval stages of this insect are very similar in appearance to bollworm, and these insects are often considered collectively (as a complex) in cotton. Adult moths are about $\frac{3}{4}$ of an inch long with a wingspan of 1-1½ inches wide. The forewings are yellowish to olive-colored with three slanted, darker lines. These slanted lines make three “chevrons” across the forewings.



Tobacco budworm larva feeding on cotton boll

Hosts, Life History and Distribution

Tobacco budworm larvae feed on a variety of wild and cultivated plants, although its host range is not as wide as the bollworm and it is rarely found in corn. It is found throughout Tennessee. The pupa is the

overwintering stage and is found in the soil. In Tennessee, infestations in cotton vary greatly from year to year. Larval development is nearly identical to bollworm, and three generations are possible in cotton.

Pest Status and Injury

The tobacco budworm typically does little damage to cotton grown in Tennessee because of the wide adoption of Bt cotton, to which it is highly susceptible. However, it is still a significant pest because of insect control costs associated with the use of Bt cotton. The damage it causes to non-Bt cotton is very similar to that of bollworm, feeding on squares, blooms and bolls. Injury to flowering cotton is more common and of greater economic concern. Injured fruiting structures often shed, and large bolls that are damaged may rot. As with bollworm damage, outbreaks of tobacco budworm are sometimes associated with previous insecticide applications that have reduced populations of natural enemies.



Tobacco budworm moth



Management Considerations and Thresholds

Cotton bolls become progressively less susceptible to injury as they mature. Bolls greater than 18-20 days in age (about 350 DD60's) are generally safe from attack except from larger caterpillars. Consequently, insecticide applications for this pest can typically be terminated about 350-400 DD60's past cutout (NAWF5). Because tobacco budworm is highly resistant to pyrethroid insecticides, it is extremely important to determine if tobacco budworms are present in non-Bt cotton fields when making an insecticide selection. Several methods are used to help distinguish

between tobacco budworm and bollworm infestations. Unless resistance develops, infestations in Bt cotton can be assumed to be bollworm.

Treatment thresholds in non-Bt cotton are eight larvae per 100 plants prior to bloom or four larvae per 100 plants after first bloom. Treating for eggs alone is generally not recommended unless counts are unusually high. Nevertheless, it is extremely important that insecticides be timed to control small larva (< ¼ inch in length) and hatching eggs. Currently recommended insecticides and rates are available in the Tennessee Cotton Insect Control Guide (Extension PB 387).

For information about the management of the major field crops grown in Tennessee, visit 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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