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W034-Cotton Insects: Loopers

The University of Tennessee Agricultural Extension Service

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Cotton Insects

Loopers

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Classification and Description

Two kinds of loopers sometimes infest cotton grown in Tennessee. The cabbage looper (*Trichoplusia ni*) and soybean looper (*Pseudoplusia includens*) both belong to the same family of insects (Lepidoptera: Noctuidae) and are difficult to distinguish from each other. The adults of both species range from brown to black with a wingspan of about 1 1/3 inches. The forewings of both species are often mottled with prominent silver markings near the center. Eggs are typically laid singly and are similar in size and appearance to bollworm or tobacco budworm eggs, although slightly more flattened. Unlike bollworm and tobacco budworm, loopers often lay their eggs on the undersides of leaves. Larvae are typically green, with a longitudinal white strip that runs the length of the body on either side. Larvae are tapered toward the head and move with a characteristic inch-worm, looping fashion. Both soybean and cabbage loopers can be distinguished from other caterpillars commonly found in cotton because they have only three pair of prolegs on the abdomen (one pair at the tip of the abdomen and two additional pair). As a general rule, larvae of the soybean looper are likely to have black-colored true legs (behind the head) and/or black spots on the body.

Hosts and Distribution

Both species of loopers have a relatively wide host range and may be found on a number of wild, vegetable and field crops. Infestations in soybeans are common. Cabbage loopers are native to most of North America. Soybean loopers are subtropical in origin, and infestations in Tennessee result from the migration of moths from southern latitudes. Consequently, soybean looper infestations are more common in states bordering the Gulf Coast.



Looper



Life History

Eggs take three days to hatch, and the larvae develop through five to six instars, reaching a maximum length of about 1¼ inch. Cabbage loopers pupate in the soil; soybean loopers usually pupate on the undersides of leaves. Soybean looper larvae spin a loose, white silken cocoon in which they pupate. It takes about 25-30 days for development from egg to adult. Each female moth lays 600-700 eggs.

Pest Status and Injury

In Tennessee, loopers may occasionally cause economic damage to cotton by feeding on leaves. Excessive defoliation can indirectly impact yields by reducing the amount of photosynthate produced by the leaves for boll maturation. Cabbage loopers may be found in small numbers throughout the season. Soybean loopers are usually observed in late August and September. Outbreaks, particularly for soybean looper, are more common following insecticide applications that reduce populations of natural enemies.

Management Considerations

Insecticide treatments are prescribed when larvae threaten premature defoliation. Specific threshold and insecticide recommendations are available in the Tennessee Cotton Insect Control Guide (Extension PB 387). Cotton is most susceptible to defoliation during the peak boll maturation phase, approximately 2-6 weeks after blooming begins. However, in Tennessee, serious infestations are uncommon until September. As cotton fields approach physiological maturity, NAWF5 + 850 DD60's, they are less susceptible to defoliation. Indeed, some level of defoliation may be beneficial by increasing airflow in the canopy and reducing boll rot. Beneficial arthropods and diseases are important in reducing the likelihood of looper outbreaks. Soybean loopers are more difficult to control with insecticides than are cabbage loopers, in part because resistance has developed to pyrethroid insecticides. Bt cotton may only suppress looper populations, but second-generation Bt cottons (e.g., Bollgard II) are highly effective against these pests.

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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