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Agricultural Extension Service
The University of Tennessee
W028

Cotton Insects

Cotton Aphid

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Classification and Description

Aphids are slow-moving, soft-bodied insects. Most aphids can be recognized by the occurrence of two cornicles (i.e., "tail pipes") on the end of the abdomen. The cotton aphid, *Aphis gossypii* (Homoptera: Aphididae) is the most common aphid found in cotton. Cotton aphids are only about 2-3 mm in length as adults. Like all aphids, both adults and nymphs have piercing-sucking mouthparts. Both winged and non-winged adults are encountered, but non-winged adults are most common in cotton when aphid populations are high. Winged adults are typically black and have two pair of transparent wings. Non-winged adults and immature stages vary considerably in color from pale yellow, bluish-green to grey-black.

Hosts, Life History and Distribution

The cotton aphid, also known as the melon aphid, has a wide host range and is distributed throughout the United States. Like many species of aphids, cotton aphids can reproduce sexually or asexually. Asexual reproduction occurs during summer months when populations are found on cotton. During asexual reproduction, each female gives live birth to 30-80 immature females. Nymphs are born pregnant and begin giving birth in 4-7 days during normal summertime temperatures. Aphid populations can grow very rapidly, and many generations are produced each year.

Pest Status and Injury

Aphids occur in most cotton fields every year but only occasionally cause economic damage. Significant damage appears more likely when environmental conditions such as dry weather are already stressing cotton growth. Aphids are often found on the undersides of leaves or feeding on the terminals and other parts of cotton plants. They feed by sucking sap from phloem tissue. Heavily infested leaves will often curl downward along their edges. The accumulation of honeydew causing the appearance of sticky and shiny

Cotton aphids

leaf surfaces often indicates the presence of aphids (or whiteflies). Severe infestations can seriously stunt plants and reduce yields, particularly if populations persist for a long period of time. Honeydew secretions on open bolls may result in lint staining or "sticky cotton." In Tennessee, where cleansing rains are common prior to harvest and late-season aphid infestations are generally low, this is rarely a concern.

Management Considerations

Aphid populations are flared by use of many insecticides that reduce populations of important predators and parasites. Natural enemies often keep cotton aphid populations under control. These include several species of lady beetles (adults and larvae); lacewing larvae; a small parasitic wasp (*Lysiphlebus testaceipes*, causing the appearance of aphid "mummies"); and the "aphid fungus" (*Neozygites fresenii*). Outbreaks of *Neozygites fresenii* typically occur in July. These epizootics often reduce aphid populations to non-economic levels.

Insecticides are recommended during the early season when aphids are present on numerous plants and some leaves are curled around the edges. During mid- and late-season, aphid treatment is not suggested unless aphids are very numerous and honeydew is accumulating. Recommended insecticides are listed 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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Agricultural Extension Service Charles L. Norman, Dean