

Cotton Insects

Spider Mites

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Classification and Description

Mites (Order Acari) are not insects, but rather are more closely related to spiders. The two spotted spider mite (*Tetranychus urticae*) is the most common mite found infesting cotton. At full size, spider mites are only 0.3-0.4 mm long. They are greenish-yellow to orange, and under magnification, a dark spot can be seen on either side of the body. The adult and nymphal stages have eight legs, but the larval stage that emerges from the egg has six legs. Both immature and adult stages of spider mites cause injury to cotton with piercing-sucking-like mouthparts. As their name suggests, the mites produce fine silken webbing, which may be observed on infested leaves.

Hosts and Distribution

The two spotted spider mite is distributed worldwide and has an extremely wide host range that includes cotton, corn, soybean, orchard, greenhouse and ornamental plantings. A number of wild hosts, including cutleaf evening primrose, may be important in helping to establish mite populations in cotton fields.

Life History

Spider mites overwinter as adults but may remain partially active throughout the year. They have no

wings, so mites disperse by crawling or wind transport. Eggs are usually deposited on the underside of leaves. Spider mites can complete a generation in as little as 4-5 days, giving them a very high reproductive potential. Many generations are possible in cotton.



Spider-mite-damaged cotton leaf

Pest Status and Injury

Two spotted spider mites are only occasional pests in Tennessee cotton. Infestations are often most severe during hot and dry weather, in part because a fungus (*Neozygites floridana*) that attacks this species is not effective in these conditions. Spider mites injure cotton by feeding on the contents of individual cells. They



may feed on all plant structures but are most commonly observed on the undersides of leaves. Infested leaves often have white or yellow stippling, and a purpling around leaf veins may also be seen. Mites reduce the plant's ability to produce photosynthate, and under severe infestations, may cause defoliation.

Management Considerations

Spider mite infestations often start and end suddenly. Population crashes following a rain are some-

times observed because this triggers a *Neozygites* epizootic. Spider mites can be difficult and expensive to control. Two successive pesticide applications at a 4-5 day interval may be needed to control mites and those that subsequently hatch from eggs. Miticides are listed in the Tennessee Cotton Insect Control Guide (Extension PB 387). The current treatment threshold is when 50 percent of plants are infested.

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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