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W035-Cotton Insects: Spider Mites

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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.

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 sometimes 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.