



The University of Georgia

## Cooperative Extension Service

College of Agricultural and Environmental Sciences

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### *COTTON PEST MANAGEMENT NEWSLETTER #10*

**COTTON SITUATION:** The Georgia Weekly Crop Progress and Condition Report for the week ending August 12<sup>th</sup> listed the crop as 87 percent setting bolls and 1 percent opening bolls. It is still hot.

**INSECT SITUATION:** The insect situation has not changed significantly since last week with the exception of whiteflies. Corn earworm and fall armyworm continue to be reported from various areas. Stink bugs remain variable; however a few folks have reported more widespread boll damage this week. Spider mites continue to be present in some areas (but populations have not exploded – yet). Silverleaf whitefly populations have built to high numbers in some areas near Tifton.

**Silverleaf Whitefly:** Silverleaf whitefly (SLWF) populations have increased significantly in historical whitefly areas and a few other locations (SLWF reported in parts of Tift, Colquitt, Cook, Berrien, Turner, and Brooks counties). Reproduction is occurring in many fields and we expect populations to continue building. Heavy rains will often suppress adult SLWF, but we do not believe the problem will be solved by rain alone since reproduction is occurring in cotton and adults will be constantly emerging. On late planted cotton that is infested with SLWF, it is likely that treatment will be needed. Be sure to watch hairy leaf cottons closely as they are more attractive to SLWF compared with smooth leaf cottons. Treat other pests on an as needed basis only, conservation of beneficial insects can be of great benefit. If other pests must be treated in SLWF infested fields, consider using an insecticide which will also suppress SLWF.

Correct identification of whiteflies is important. More of us are familiar with the banded winged whitefly which has faint but visible grayish bands on the wings whereas the SLWF is solid white. Banded winged whiteflies are much easier to control compared with SLWF. The adult SLWF is about 1/20 inch in length, solid white, and holds its wings roof-like over its body. Eggs are oblong, pointed, yellowish brown in color, and laid on the underside of leaves. The first immature stage is known as the “crawler” and moves about on the underside of the leaf searching for a suitable site to feed. The crawler attaches itself to the leaf and completes three more molts as a flattened oval nymph which is yellowish in color. These scale-like nymphs remain stationary on the underside of the leaf feeding on plant sap. As the nymphs develop, red eye spots will become visible. The red eye spots are easily seen during the pupal stage. It requires about 16-18 days to develop from egg to adult.

Both adult and immature SLWF feed on the underside of leaves by sucking plant sap with their piercing sucking mouthparts. Whiteflies produce honeydew similar to aphids which can serve as media for sooty mold development. Honeydew accumulation on open bolls is problematic. Excessive feeding also results in a general decline of leaf health which may cause premature defoliation (especially if under drought stress). For some reason, SLWF populations tend to be more severe in dry corners of pivots compared with irrigated areas.

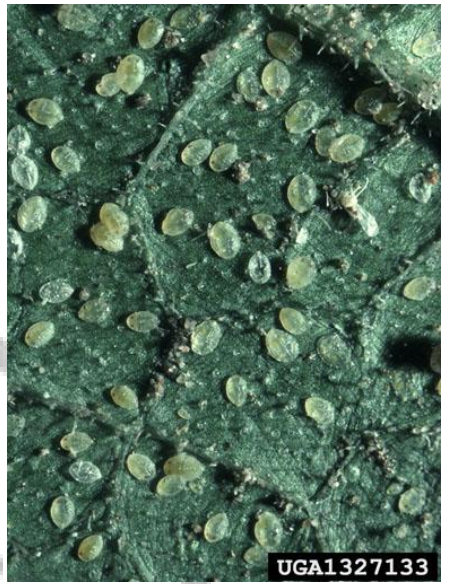
When scouting SLWF, examine the 5<sup>th</sup> expanded leaf below the terminal. The number of adults per leaf can be counted by gently turning the leaf so as not to disturb the adults. The underside of the leaf should then be examined for the presence of immatures. A hand lens with magnification will aid in observing immatures and eggs. Also observe leaves within the canopy for “browning” spots or general deterioration.

We basically have three options when faced with economic infestations of SLWF: 1) Do Nothing, 2) Knack Insect Growth Regulator, and 3) Contact and Systemic Insecticides. If immature SLWF are found in fields needing several more weeks to mature, failure to control SLWF could be yield limiting and thus some type of intervention will be needed to reduce populations. The decision to treat SLWF is much easier on irrigated cotton compared with dryland.

Knack is an insect growth regulator which has been a consistent and efficacious treatment for management of SLWF. Knack must be used correctly to receive full benefit. Knack has a long residual and is slow acting in general. When female SLWFs feed on treated foliage, their eggs will be sterile. Knack will also control immatures when they pupate (red-eye stage), thus nymphs present at application will continue to feed for several days until mortality occurs when pupating. Another consideration with the use of Knack is that any new plant growth occurring after application will be unprotected. Consider using Knack IGR when the majority of leaves sampled (5<sup>th</sup> expanded leaf below the terminal) are infested with immatures. Knack must be used early, Knack will not provide timely control of SLWF in fields when infestations are out of control.

Contact and systemic insecticides can provide temporary relief from SLWF. However multiple applications will be needed if cotton needs to be protected for an extended period of time as reinfestation would be expected in severely infested communities. Use of contact and systemic insecticides would be good options on cotton that does not need to be protected for an extended period of time or if other pests are also in the field which need to be controlled. Assail has been a good treatment for SLWF in recent years. Additional options for control can be found in the Pest Control Handbook.

Bottom line is that a decision must be made now relative to management of SLWF. Once populations are severe and out of control in a field, it will be difficult to achieve control.



Silverleaf whitefly adults and empty pupal cases (left), SLWF adults and eggs on cantaloupe (middle), SLWF immatures on underside of a leaf (right). Photos by Scott Bauer (left) and Stormy Sparks, ipmimages.org.



SLWF adults on the underside of the 5<sup>th</sup> expanded leaf below the terminal (top left). Leaf heavily infested with SLWF eggs and nymphs (top right). Closeup of SLWF eggs on underside of leaf (bottom right, photo by David Riley, ipmimages.org).





SLWF infestation on hairy leaf variety (left) compared with a smooth leaf variety (right). Photo by Brian Tankersley.

**INSECT UPDATES:** Check the **Cotton Insect Hotline (1-800-851-2847)** for updates on current insect conditions. The Cotton Pest Management Newsletter and additional cotton production information is also posted on the UGA Cotton Homepage at: <http://www.ugacotton.com>

Sincerely,

Phillip Roberts  
Extension Entomologist

Putting knowledge to work

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