



The University of Georgia
Cooperative Extension
College of Agricultural and Environmental Sciences

July 26, 2012

COTTON PEST MANAGEMENT NEWSLETTER #5

COTTON SITUATION: The weekly Georgia Crop Progress & Condition Report for the week ending July 22nd listed the crop as 67 percent setting bolls which is ahead of the 5-year average of 50 percent. Crop conditions were rated 36 percent fair, 46 percent good, and 12 percent excellent. Isolated rain events have been beneficial, but isolated also means some areas are dry.

INSECT SITUATION: Stink bugs are the most common insect pest being treated in cotton at this time. A few reports of corn earworm have been received but as a whole numbers have been low to date. Spider mite reports have been more frequent during the past week, some fields have been treated. Silverleaf whitefly populations are increasing in some localized areas.

Stink Bugs: Stink bug damage reports are all over the board, ranging from low to high and there does not appear to be any pattern to the variability. Some fields which have been blooming for several weeks have yet to exceed threshold whereas others may have been treated two times. Scout and treat accordingly based on internal boll damage. Also be observant for stink bug species makeup, the ratio of browns to southern green also varies by location.

Corn Earworm and Fall Armyworm: Corn earworm numbers have generally been low but again populations are variable. We have not received any reports of fall armyworm in cotton to date, but this is the time of year we would expect to see falls. Dr. Stormy Sparks, Extension Vegetable Entomologist reported high numbers of fall armyworms in a late planted sweet corn trial. Both Bollgard II and WideStrike provide good control of corn earworm and fall armyworm, but supplemental foliar sprays may be needed. In general WideStrike is more likely to have corn earworm escapes when compared with Bollgard II. On the flip side, Bollgard II is more likely to have fall armyworm escapes when compared with WideStrike. Scout and react in a timely basis when necessary. Most corn earworm escapes occur near the uppermost bloom in blooms and under bloom tags. Most fall armyworm escapes occur on bolls in the mid to lower canopy and in blooms; be sure to examine plants closely for fall armyworm if you notice a boll which appears to have feeding or etching on the inner surface of boll bracts. Small fall armyworm will often feed on the inner surface of boll bracts before penetrating the boll. The threshold for fall armyworm is about 2X that of corn earworm.

Spider Mites: As more people look for spider mites, the more reports and questions about spider mites we receive. In the majority of mite infested fields populations are present at low but detectable levels (often on edges), but some fields have been treated in the last week. Below are a few general bullet points on spider mites in Georgia cotton:

1. Spider mites are an infrequent pest of cotton.
2. Detectable populations of spider mites have been observed with increasing frequency during recent years.
3. Spider mites can be easily flared in small plot trials by disrupting beneficial insects.
4. The presence of spider mites should influence decisions for other insect pests (avoid insecticides which are prone to flare mites).
5. Early and mid-season infestations are more injurious than late season infestations.

When to Treat? Our published threshold for spider mites reads “*Apply when mites are spreading.*” Ideally we would like to apply a miticide just prior to when mite populations explode. However mite population development is unpredictable in our environment and properly timing a miticide application can be difficult. In some situations growers choose to spot treat infested areas such as field edges where mites are first noticed; this approach can be very effective. When deciding to treat an entire field, most would wait until plants in the majority of the field exhibit some injury. Some states in the Mid-South region recommend treatment treat when 50 percent of the plants in a field are infested. Effective miticides are available but the decision of when to treat is difficult as most of us have little field experience with this pest in Georgia. Let us hope that proper management of insect pests in general will allow us to avoid treatment of mites in most fields.

Silverleaf Whitefly: Silverleaf whitefly (SLWF) populations have increased significantly in some areas during the past week. Reported infestations are from localized areas which have dealt with this pest in past years. Early reports of SLWF adults were first received in mid-July. Over the years we have noticed that when we observe whiteflies in cotton during July, we should anticipate economic populations. Reproduction is now occurring in some fields and we should anticipate populations to continue building. SLWF infestations can be unpredictable, but in general dry and hot environments favor SLWF development. 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 in a SLWF management program.



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 Biology: adults are solid white moth-like insects that are about 1/20 inch in length. 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). SLWF populations tend to be more severe in dry corners of pivots compared with irrigated areas.

When scouting SLWF, examine the 5th 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.



SLWF adults on the underside of the 5th expanded leaf below the terminal (top left). Leaf heavily infested with SLWF eggs and nymphs (top right).

Insect growth regulators (IGRs) such as Knack 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 (5th 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. Assail has been a good contact/systemic 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 early relative to management of SLWF. Once populations are severe and out of control in a field, it will be difficult to achieve control.

PEST PATROL HOTLINE: Check the Pest Patrol Hotline (**1-877-285-8525**) for updates on current insect conditions. Select #1 for updates from the Southern Region, then #3 for the Southeast, and then #4 to hear the Georgia update. More information, including sign up for text message alerts when new updates are posted, can be found at www.SyngentaPestPatrol.com. 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

COLLEGE OF AGRICULTURAL AND ENVIRONMENTAL SCIENCES, COLLEGE OF FAMILY AND CONSUMER SCIENCES, WARNELL SCHOOL OF FOREST RESOURCES, COLLEGE OF VETERINARY SCIENCES

The University of Georgia and Fort Valley State University, the U. S. Department of Agriculture and counties of the state cooperating, The Cooperative Extension Service offers educational programs, assistance and materials to all people without regard to race, color, national origin, age, sex or disability. An equal opportunity/affirmative action organization committed to a diverse work force.

1 7 8 5