



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

July 1, 2010

COTTON PEST MANAGEMENT NEWSLETTER #2

COTTON SITUATION: The Georgia Weekly Crop Progress and Condition Report for the week ending June 27th listed the crop as 54 percent squaring and 9 percent setting bolls which is ahead of the 5-year averages of 47 and 6 percent. The acreage report released by USDA on June 30, 2010 indicated that Georgia producers planted 1.25 million acres of cotton (find online at: http://www.nass.usda.gov/Publications/Reports_By_Date/2010/June_2010.asp). During recent days scattered thunderstorms have been common and have provided relief from hot and dry conditions in some areas. The crop is rated 30% fair, 52% good, and 13% excellent.

INSECT SITUATION: Tarnished plant bug adult migration to cotton has tapered off in the past week to 10 days. Aphid populations have been slow to build, but expect numbers to increase in the coming weeks. Spider mites have been reported in some fields; the presence of spider mites in a field should influence management decisions for other pests. Threshold levels of stink bug damage have been reported on early planted cotton.

Tarnished Plant Bugs: Adult tarnished plant bugs (TPB) were common in squaring cotton during mid-June. Square retention was below the threshold level of 80% in a higher percentage of fields than normal. If you were not scouting squaring cotton when plant bugs were active, you may have an unpleasant surprise when you do look. Fortunately it appears that the heavy migration of adult TPBs from wild host plants has declined. However, we still encourage producers and scouts to monitor retention and be observant for TPBs. In fields which were infested with adults TPBs, scouts should be observant for immature TPBs (see images below).



Photo by Scott Bauer, ipmimages.org



Photo by Ron Smith, ipmimages.org

Immature TPBs are very mobile and are most frequently detected using a drop cloth. You may also observe immature TPBs feeding in squares and/or in blooms. Medium and large squares damaged by tarnished plant bugs may not be shed by the plant. However, when these damaged fruiting positions bloom the flower petals and/or anthers may be misshapen or have areas of localized discoloration. Such damaged blooms are often referred to as “dirty blooms” (see image below). Although we do not have an established threshold for dirty blooms, we would be concerned if the dirty bloom percentage is in excess of 15 percent and treatment should be considered. In fields where dirty blooms are common, we would recommend the use of a drop cloth to assess plant bug populations. Drop cloth thresholds for TPBs used in the Mid-South (where TPBs are a consistent and major pest) are:

Prior to Bloom: 1 per 6 row feet

After First Bloom: 3 per 6 row feet




Cotton Aphids: Aphid populations have been slow to build to date, but during recent days we have had reports of areas of fields becoming more heavily infested. Most likely aphid numbers will build in the coming days and weeks. It is rare that we treat aphids with insecticide on a widespread basis in Georgia as we typically can wait on the naturally occurring fungus which causes populations to crash.

Boll Weevil Eradication Assessment (65 cents per bale): BWEP assessment fees will now be calculated and collected on a per bale assessment. The assessment for 2010 is 65 cents per bale and will be deducted in the same manner as the Cotton Board and Georgia Cotton Commission fees.


Stink Bugs: A small percentage of cotton is setting bolls, however we have received several reports of threshold levels of internal boll damage. In most years we tend to see higher damage initially in early and late planted fields. Most stink bugs observed in the field are brown stink bugs. Once cotton begins setting bolls, begin monitoring for stink bugs and damage. Bolls about the diameter of a quarter should be examined for internal damage (callous growths or warts on the inner surface of the boll wall and/or stained lint). During the first week to 10 days of bloom when bolls the diameter of a quarter are not present, sample the largest bolls available. Stink bugs prefer to feed on medium sized bolls but will feed on smaller bolls. Feeding damage

on small bolls may cause the bolls to shed. Small bolls which are damaged will often have jelly-like areas in locules. Below find an example of field template developed by southeastern cotton entomologist to assist with stink bug scouting and decision making. Field templates will be sent to county extension offices by mid-July.

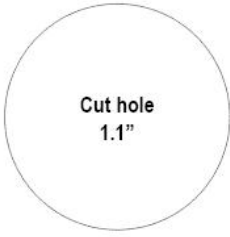
Decision aid for stink bug thresholds in Southeast cotton



Stained seed and lint





Boll wall warts




Cut hole
1.1"


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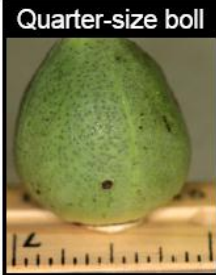


External lesions



Cut hole
0.9"


Quarter-size boll



Boll diameter should be between 1.1" and 0.9"

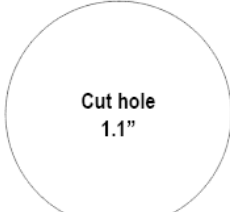
Decision aid for stink bug thresholds in Southeast cotton

- 1 Pull a random sample of quarter size diameter bolls, avoid field edges. (bolls size between 0.9"- 1.1")
- 2 1 boll / acre, no less than 25 / field.
- 3 Sort bolls into two piles: those with and those without, obvious external lesions.
- 4 Crack and inspect bolls with external lesions for internal damage (boll wall warts, stained seed or lint).
- 5 If threshold is not met for that week, (see chart) check the remaining bolls for internal damage.
- 6 Treat field only if the threshold is met for that week.



Cut hole
0.9"

0.9" hole



Cut hole
1.1"

1.1" hole

25+ day old boll (>1.25" diameter) 'safe' from stink bug damage.

Week of bloom	Threshold (% internal boll damage)
2	30%
3	10-15%
4	10-15%*
5	10-15%*
6	20%
7+	30%

*Consult state guidelines for scouting intervals.

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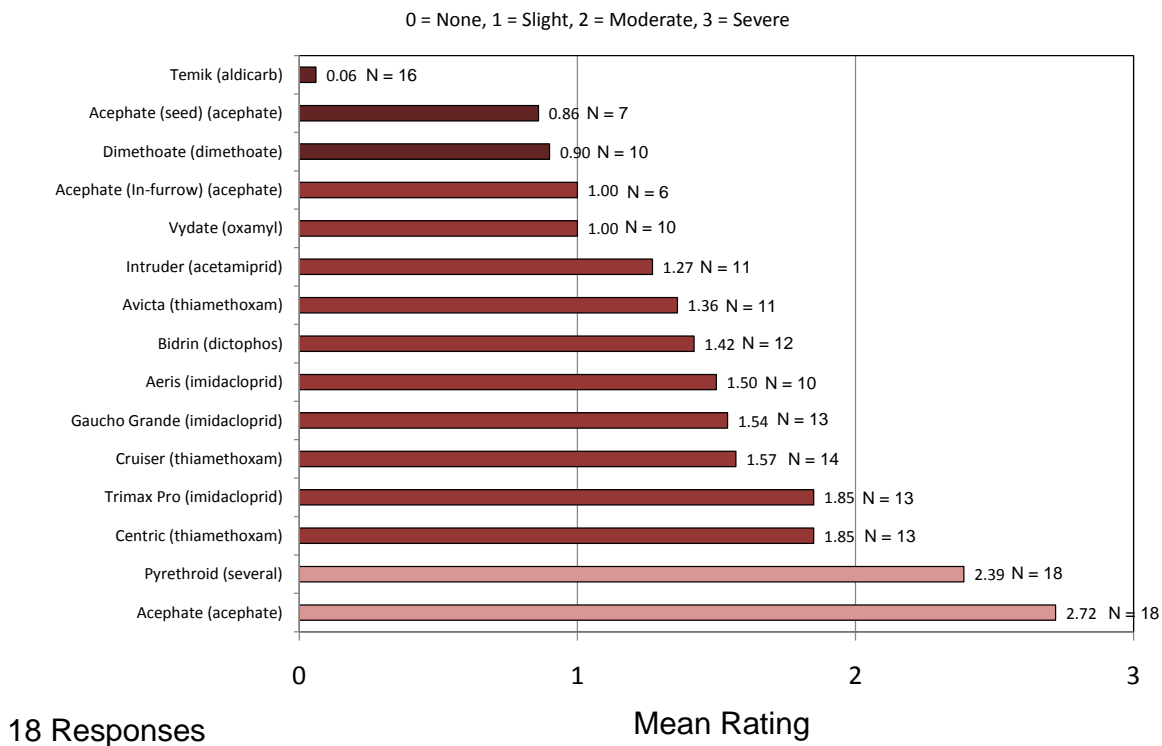
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↑ 'Safe' boll size ↓

Spider Mites: During recent years we have observed an increased incidence in the presence of spider mites in Georgia cotton fields. To date we have received reports of the presence of spider mites in cotton from several areas. The presence of spider mites in a field should influence insect pest management decisions for other pests. Insecticides should only be used on an as needed basis and when possible insecticides which are least likely to flare spider mites should be used. It is important we do everything possible to avoid having problems with spider mites. Miticides used for control of spider mites are expensive. For the past three years we have consistently flared mites on the Experiment Station in Tifton.

Recently 22 cotton entomologists representing 14 states across the cotton belt responded to a survey on insecticide performance in cotton. In addition to rating efficacy on of insecticides on individual pests, entomologists were asked to rate the risk of flaring spider mites.

Spider Mite Flaring



Spider Mites (*Tetranychus urticae*)

Description: Spider mites are very small and wingless; barely visible without magnification. Spider mites are not insects and include the following developmental stages: egg, 6 legged larvae, 8 legged nymphs, and adults. Color of immatures and adults varies from yellowish to greenish to red. Although several spider mite species may infest cotton, the most common is the two spotted spider mite which is so named because of two dark areas on the sides of the

abdomen. Eggs are round and cream colored and are only visible with the aid of a hand lens for magnification.



Early mite damage on folds of leaf (bottom left). Underside of leaf, notice discoloration in folds of leaf that correspond with leaf symptoms on top of leaf (bottom right). Magnified view of spider mites and eggs (top).

Life History: Spider mites are typically considered a dry weather pest; however mites may be problematic in any environment. Initial mite infestations are often spotty and localized arising near field margins, weed clumps, telephone poles, or other sources of populations. Mites disperse locally by crawling; widespread mite infestations can be a result of mechanical dispersal by farm machinery, scouts walking fields, and windy conditions. The complete life cycle requires as few as 2 weeks and females may lay up to 100 eggs. Thus populations can increase rapidly. Mites are very susceptible to predation and disruption of beneficial insects with broad spectrum insecticides increases the likelihood of population explosion.

Damage: Mites feed by sucking plant juices from the underside of leaves. Early symptoms of mite infestation and damage include small chlorotic or yellowish to red spots near folds in the leaf and along the main leaf veins. As infestations and damage become more severe, leaf mottling and reddening become more obvious and in severe cases may cause premature defoliation.

Scouting and Reporting: Be observant for mite damage as you walk and scout the field for other pests. If suspected mite damage is observed, examine the underside of affected leaves with a hand lens to confirm the presence of mites. If mites are observed, indicate “spider mites observed” in the comments section; it is important that mite problems are detected early. Mite infestations are often localized in fields initially and may spread in time. If mites are observed in numerous areas of a field, examine the 5th leaf below the terminal of randomly selected plants (or plants being examined for corn earworm) for the presence of mites and report as the percentage of plants infested.

Mite Damage Symptomology: The series of photos below shows progressively more severe mite injury symptoms on leaves. It is important to recognize mites early!











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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