



Cotton Insect Newsletter

Letter #7

Edisto Research & Education Center in Blackville, SC

15 June 2006

Newsletter Archives

Previous newsletters for 2006 are archived at <http://www.clemson.edu/edisto/cotton/cotton.htm>. Please distribute hard copies or electronic newsletter files to all interested, and please provide weekly input for the newsletter. Your observations and local knowledge are important – email or phone in your comments to me!

Jeremy Greene

greene4@clemson.edu

803-284-3343

Crop Situation

The NASS had us at about 99% planted on 11 June 2006, just ahead of the 5-yr average of 97%. Also reported was progress of 10% squaring, just behind the 5-yr average of 11%. Only 1% of the state's cotton crop was reported to be in excellent condition. The remainder was reported as 35% good, 49% fair, 12% poor, and 3% very poor. These are observed/perceived state-wide averages.

RAIN, RAIN, RAIN! The rain from named storm “Alberto” was very much welcomed across the state. We would have liked to have received some of that rain back a couple of weeks ago in some parts of the state, but we will take it. I have always heard that you should only complain about the things you can change. So, I guess we cannot complain about the weather.

Thrips

Much of our cotton is safe from thrips now. The rain was not only beneficial for growth of the crop, but it probably washed away many of our lingering populations of thrips. Thrips certainly had a good run this year; especially where it remained dry for so long. Almost all of our preventative control options for thrips did a tolerable job this season after being put to a good test by “Mother Nature”. Some were better than others, so some were worse than others. Dr. John Mueller and I have several trials where we are looking at materials with both thrips and nematodes in mind. We will sort through all of those data soon.

News from Above the Lakes

No news to report this week. This is your turn for input – send your comments and observations to me.

News from Below the Lakes

I observed a pretty good population of Heliothine eggs in a field near Estill earlier this week. Tommy Walker and I saw one tobacco budworm moth in the field of Bollgard 2 cotton. Most, if not all, of those hatching

Clemson University offers its programs to all eligible persons, regardless of race, color, national origin, religion, gender, age, disability, marital or veteran status, or any other legally protected status, and is an Equal Opportunity Employer.

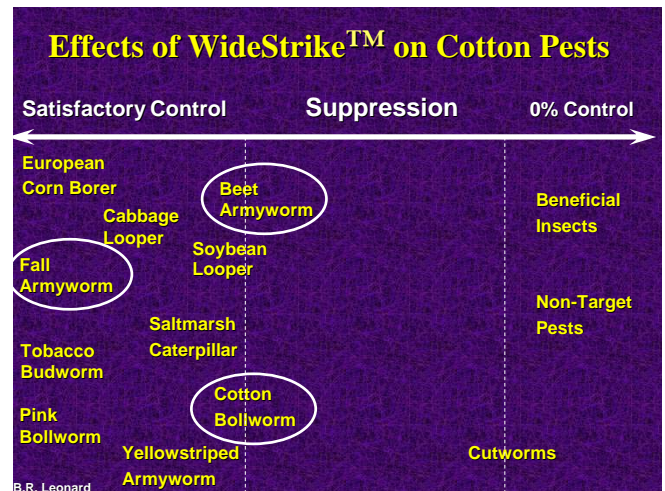
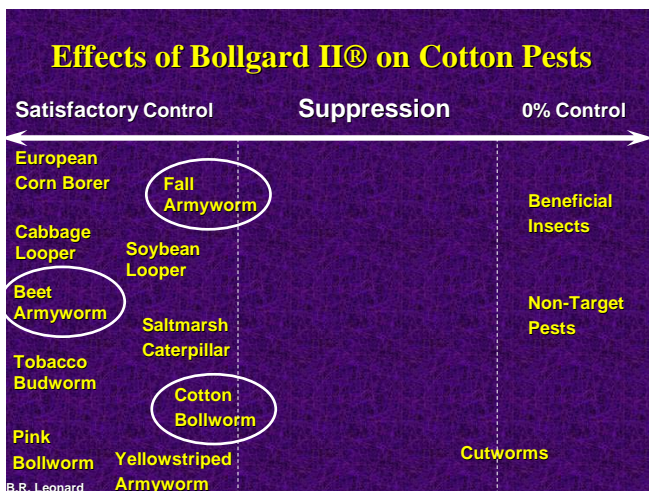
The mention of any commercial product in this publication does not imply its endorsement by Clemson University over other products not named, nor does the omission imply that they are not satisfactory.



worms are doomed. In other quick observations I saw some leaves with building numbers of spider mites and aphids. That is not surprising considering how dry it has been and that foliar insecticides have already been applied to vast acreage for supplemental control of thrips, sometimes causing problems later in the season (see “Two Cents Worth” below).

Tobacco Budworm & Bollworm

As mentioned above, tobacco budworms and bollworms are on the way. With most of our acreage planted to 1st- or 2nd-generation Bt cotton, tobacco budworms will only be important on a small portion of the state’s cotton crop and on structured cotton refuge. Bollworms will continue to be important on all cotton – Bt or non-Bt. We have had almost 10 years of experience with 1st-generation Bt cotton, so we know how to manage bollworm within that technology. There will be some subtle differences in the 2nd-generation Bt cottons (i.e. Bollgard 2 and WideStrike), but for the most part, they are extremely good on caterpillar pests. Here are a couple of charts created by Dr. Roger Leonard at LSU with input from cotton entomologists from across the cotton belt. Note where bollworm, armyworms, and other insects show up on the charts. Most of the caterpillar insects are controlled satisfactorily with both. Non-target pests will include the sucking bugs (i.e. plant bugs, stink bugs, etc.). If you have these 2nd-generation Bt cottons, concentrate on managing the bugs.



Stink Bugs & Plant Bugs

As you know, sucking bugs are not affected by 1st- or 2nd-generation Bt technology. These insects flourish in those environments, especially in the two-gene Bt cottons with enhanced control of caterpillars, resulting in further reduction in insecticide applications for caterpillars. I will have more on bugs next week.

Two Cents Worth

Here is a new entry for the newsletter. If you would like to give your “two cents worth”, please send me your comments. This is a “read-if-you-have-the-time” section of the newsletter. I wrote the comments below for a

Clemson University offers its programs to all eligible persons, regardless of race, color, national origin, religion, gender, age, disability, marital or veteran status, or any other legally protected status, and is an Equal Opportunity Employer.

The mention of any commercial product in this publication does not imply its endorsement by Clemson University over other products not named, nor does the omission imply that they are not satisfactory.



newsletter last year in Arkansas. Although the production environment and overall philosophy on pesticide inputs is different here in the Southeast than in the Mid-South, I think it is worth repeating.

Pesticide Treadmill Far too many "pesticide treadmills" are started up too early, often resulting in other, then required, applications for other pests. Hence the term "pesticide treadmill"...and it is hard to stop once it has been turned on...difficult to get off. This concept is not new, and keeping a strong IPM stance is not either, but it is worth repeating over and over and over... Is everyone listening? If you ask yourself, "what is the most important foliar insecticide application in a cotton field?" What response would you get? What would be your answer? Would most get the correct answer? I contend that the answer is "the first one" or at least the first couple of applications. Here is a common example. If you had trouble with thrips, and I mean real trouble, not just that the cotton was getting a little injury and looked bad, you probably used a foliar material to "help" the seed treatment or in-furrow insecticide that just wasn't going to "get-r-done". I am sure that some of those applications were needed, but "let's just say" that at least one field was sprayed for thrips when it did not need to be treated. Let's say that the cotton had 4 leaves, was going to be sprayed with glyphosate one last time anyway, so an organophosphate insecticide (or a pyrethroid) was thrown in the tank to "clean up" the thrips. That might make economic sense at first, but consider what happened next. The application controlled the thrips present, but it flared a population of aphids across the field and some spider mites started building on the field borders. The beneficial arthropods (bigeyed bugs, minute pirate bugs, spiders, lady beetles, lacewings, ground beetles, parasites, etc.) that were present and building were decimated by the application for thrips, so the aphids that were being controlled naturally were freed from predation pressure. Their population exploded and started to really hurt the young, stressed plants. After spot spraying twice to control the border infestation of mites (the first miticide was not effective, so another class of chemistry was used the second time), the field received treatment for the aphids. After a broadcast application for aphids, things quiet down a bit, but what happened? After one unnecessary foliar application for thrips, we had two partial applications for spider mites and one field-wide application for aphids. Those trips were needed only because of the one we did not need. Alright, we get a rare second chance in this example. Our beneficial arthropods built back again as the cotton "jumped" and started to square freely. We started seeing some sucking bugs but not at recommended threshold levels. Our numbers were probably not even close to threshold, but we did not know exactly because we did not sample in a way to estimate bug density (i.e. drop cloth, etc.). We used our whole-plant search method for caterpillars and noted bug populations secondarily. We decided to put out an organophosphate insecticide for bugs. We got good control of bugs. However, we again decimated beneficial arthropods that were in place...all of a sudden it was the 4th of July. We had a very large population of corn earworm/bollworm from corn about a month earlier, and we see another huge flight of bollworm. Without the beneficial arthropods helping, our cotton field, although it is Bt cotton, is covered with eggs and hatching larvae very quickly. Many larvae make it through because of sheer numbers, and we have to treat with a pyrethroid. That application let the bugs rebound again, and I think the picture is very clear now. The treadmill cannot be turned off...it stays on for the remainder of the season. In addition to the direct costs of these insecticide applications, we have costs that can be difficult to measure in use of insecticides - RESISTANCE. New insecticides are fewer and far between these days as more and more technology are put into the plant. We must do better at conserving what we have right now. Make those first applications of insecticide only when you are sure you need them, or it is

Clemson University offers its programs to all eligible persons, regardless of race, color, national origin, religion, gender, age, disability, marital or veteran status, or any other legally protected status, and is an Equal Opportunity Employer.

The mention of any commercial product in this publication does not imply its endorsement by Clemson University over other products not named, nor does the omission imply that they are not satisfactory.



unnecessary money out of pocket now and later. "Pulling the trigger" or "turning the treadmill switch on"...call it what you want, but let's make sure that we have a clear target in our sites that absolutely needs to be taken down or get ready to "run on the treadmill".

Need More Information?

Log on to the following webpage to view important cotton management recommendations, data, and historical cotton insect newsletters: <http://www.clemson.edu/scg/ipm/cotton.html>

To see cotton insect newsletters for this year, go to the following webpage to view the cotton page at the Edisto Research & Education Center. <http://www.clemson.edu/edisto/cotton/cotton.htm>

We will continue to update this webpage in the coming months.

Sincerely,

Jeremy K. Greene, Ph.D.
Cotton Entomologist



Visit our website at:
<http://www.clemson.edu>

Clemson University offers its programs to all eligible persons, regardless of race, color, national origin, religion, gender, age, disability, marital or veteran status, or any other legally protected status, and is an Equal Opportunity Employer.

The mention of any commercial product in this publication does not imply its endorsement by Clemson University over other products not named, nor does the omission imply that they are not satisfactory.