



Cotton Insect Newsletter

Letter #9

Edisto Research & Education Center in Blackville, SC

29 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

green4@clemson.edu

803-284-3343

Crop Situation

On 25 June 2006, the NASS reported our progress as 44% squaring, ahead of the 5-yr average of 35%. About 1% of the crop is setting bolls, behind the 5-yr average of 4%. Only 2% of the state's cotton crop was reported to be in excellent condition. The remainder was reported as 51% good, 39% fair, 8% poor, and 0% very poor. These are observed/perceived state-wide averages.

News from Above the Lakes

Vic Bethea from Dillon County reported last week that they have Roundup tolerant/resistant pigweed. They are also having problems with Brazilian pusley. He also reported that they sprayed many fields for thrips 3 times this season, and that cotton is still not growing like it should!

News from Below the Lakes

Dr. Mike Sullivan reported that he “saw some heavy spots of aphids in late-April planted no-till cotton in Orangeburg County last Friday; just spots in several fields but enough aphids to cause wilting/cupping of upper leaves and slick spots of honeydew on lower leaves...in the past I have just let them go and the disease will take them out!”

Aphids & Spider Mites

These two pest groups can cause problems sporadically or, at least, cause us to scratch our heads. I looked at a field yesterday near Creston that had a problem with spider mites. Two-spotted spider mites, *Tetranychus urticae*, were infesting the entire field, not just the borders. Despite tremendous rainfall recently in this field, the population was continuing to expand. Spider mites have piercing-sucking mouthparts and are found feeding on the underside of leaves. Injury can lead to defoliation if severe. Early symptoms of spider mites can be observed on the leaves as lightened areas on the tops of leaves. Symptoms progress to lightened areas around the main veins in the leaves and then to drying, reddish leaves. Spider mites do have natural enemies. Rain is

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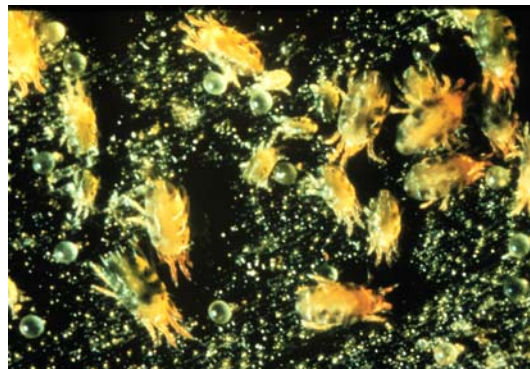
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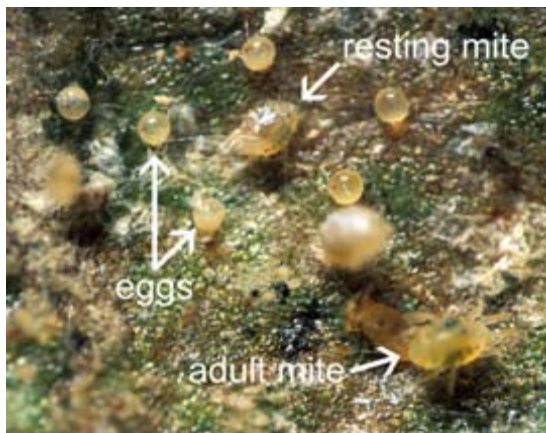
supposed to be the biggest, but there are arthropod predators, such as thrips, bigeyed bugs, minute pirate bugs, etc., that help as well. A fungus, related to the species that decimates dense populations of aphids, also helps us against spider mites. When control with chemicals is needed, use appropriate miticides. There are various options for this: bifenthrin (Capture, Discipline, etc.), dicofol (Kelthane), abamectin (Zephyr, etc.), just to name a few. Consult the label for recommendations on multiple applications which are usually required for good control. Be aware that mites have been very successful in developing resistance to pesticides. Their rapid life cycle has allowed for repeated selection for resistance. We have observed reduced control with some products in recent years.



Spider mite injury to cotton leaf.



Spider mite stages. Notice the eggs.



See the following publication for more detailed information on spider mites:

<http://www.cottoninc.com/Entomology/SpiderMitesCottonMidsouth/SpiderMitesCottonMidsouth.pdf?CFID=682621&CFTOKEN=58417088>



Aphids are also a concern this time of year. They feed and “act” much like spider mites. You find them under leaves mostly, but they can be found on stems, in terminals, etc. They have piercing-sucking mouthparts and take fluid from the plant, reducing pressure in the plant that results in cupped leaves. In my opinion, aphids seldom require treatment with insecticides. I believe that most of our aphid problems come from insecticide use sometime earlier. Beneficials love to eat, slow-moving, easy, tasty food items like aphids. When we kill the beneficials, the aphids increase on us – remember the pesticide treadmill. It is as simple as that. Insecticide application is justified in some fields. However, consider everything. We get much relief from the natural fungus, *Neozygites fresenii*, on populations of aphids. Dense populations can disappear in a week or less after the epizootic starts. Remember that there is a free aphid fungus detection service available. See this link for details: www.uark.edu/misc/aphid



Aphid injury.



Aphids under leaf.

Two Cents Worth - Early Bugs

Cotton is growing fast, too fast in many situations, so some plant growth regulator is in order, no question. However, it has become very clear this week that many fields are already being visited by populations of stink bugs. In the last few days, I have received several calls about brown stink bugs in pre-bloom or squaring cotton. Folks have mentioned drops in square retention and even plant bugs to go along with the stink bugs. What do we need to do about it? Before we decide on the most appropriate action, we must first consider the options and consequences of each action. First option – we can do nothing. With that inaction, we save money upfront but risk having numbers of bugs increase and potentially damage our first crop of bolls or maybe our pre-floral buds. Data on injury from stink bugs to pre-bloom cotton are virtually non-existent. There is some information available that speaks to their ability to feed on squares, blooms, stems, etc., but we all know what they are really “after” – the bolls (which we really do not have yet). So, inaction saves us some money on insecticide now but potentially puts us at risk in the next couple of weeks. It also might mean another trip across the field – a separate trip just for the insecticide. The last time I checked, fuel prices were still high, so we realize that application costs need to be considered as well. The second option would be to put something in with the growth regulator and tank-mix to control bugs and decelerate vegetative growth all in one trip. This option is going to do the obvious – control the bugs present at that time. However, it has the potential to do

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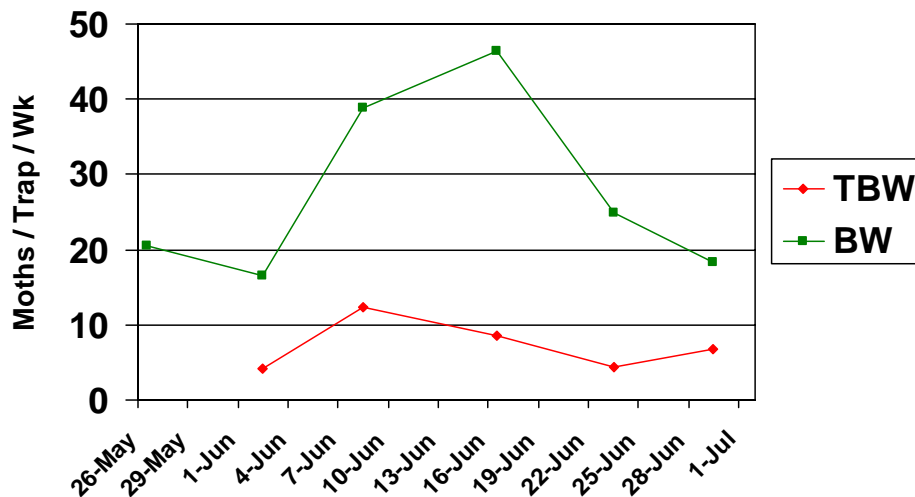


more than that. It will kill many beneficial arthropods that provide tremendous help when it comes to something like a big flight of bollworm. Are we due for one of those? The timing might be exactly at the wrong time in that scenario. It has been clearly demonstrated here in SC and elsewhere that first-generation Bt cotton inundated with bollworm without the support of natural enemies will suffer under the significant pressure. So, the tank-mix has potential to help with the initial bugs, but it also has the potential to open the wallet again for bollworm in places where it might not have been needed otherwise. Watching aphids build comes to mind again as well. Remember the pesticide treadmill? The first applications of insecticide are the most important, in my opinion. Give it some thought. Think of controlling bugs as a war, not just a battle. Do you want to hit the first, small wave of attackers with your best stuff? Is it best to save that for the masses that follow the initial wave? This is a tough one. Our thresholds for bugs at this stage are based on insect density and retention of buds. Until we can supplement our looking for bugs with sampling bolls for injury symptoms, look for the bugs. Use a drop cloth, shake the plants, and examine the plant for problems. Make the best decision for each field after considering EVERYTHING first.

Tobacco Budworm & Bollworm

Trap captures are again down for bollworm and slightly up for tobacco budworm at the Edisto Research & Education Center near Blackville, SC. Also, in upper Bamberg County, Dr. Mike Sullivan checked two set of traps and found about 40 bollworm moths and 18 tobacco budworm moths per trap. Keep a sharp eye out late next week. I think we are due for a big visit from our friend, the corn earworm/bollworm.

Pheromone Trap Capture (EREC - 2006)



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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



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