



Cotton/Soybean Insect Newsletter

Volume 11, Issue #17

Edisto Research & Education Center in Blackville, SC

26 August 2016

Pest Patrol Hotline

The information contained herein each week is available via a toll-free hotline. I will update the short message weekly for at least as long as the newsletter runs. Call the free number **(877) 285-8525** and select the messages you would like to hear. Select #1 for updates from the Southern Region. Select #3 for the Southeast, and then select #1 to hear my message. After a new message is on the hotline, a text message alert can be sent alerting users that I have recorded a new update. Users can subscribe for text message alerts for my updates in two easy steps. Step one: register by texting **pestpat7** to 97063. Step two: reply to the confirmation text you receive by texting the letter “y” to complete your registration. The hotline is sponsored by Syngenta.

Updates on Twitter

When noteworthy events happen in the field, I will be sending them out quickly via Twitter. If you want to follow those quick updates, follow me at @bugdocisin on Twitter.



News from Around the State

Collins Gardner, consultant in the Pee Dee Region, reported that he is turning some early dryland cotton loose this week. Irrigated cotton is going to last a little longer. He saw a lot of tobacco budworms (flushing moths in cotton and soybeans and likely some of the larvae in peanuts) this past week. He also is having trouble with soybean loopers in tall soybeans where he thinks the material is just not getting down in the canopy because of various factors we will discuss more below. **Fleming McMaster**, a local consultant, also reported issues with control in tall crops. **Jonathan Croft**, county agent in Orangeburg County, reported that he “looked at some cotton this week that was close or just over threshold for stink bug damage on top bolls. Soybeans I have looked at this week for the most part were below threshold for insects, but some random fields had worm numbers above threshold. Also happened across some *Dectes* stem borer this week. It was only a few in one particular spot in the field. Noticed them because of some single dead leaves and when I looked to see why I found the larva in the stem. Attached is a **photo** I took after I got back to the truck. **Tom Smith**, another local consultant reported that things are “winding down now, although I’ve got [cotton] fields from 5th to 10th week of bloom. In last 14 days, fields have varied greatly in sucking bug pressure (browns and greens), and, as usual, I’ve observed leaffooted bugs moving into



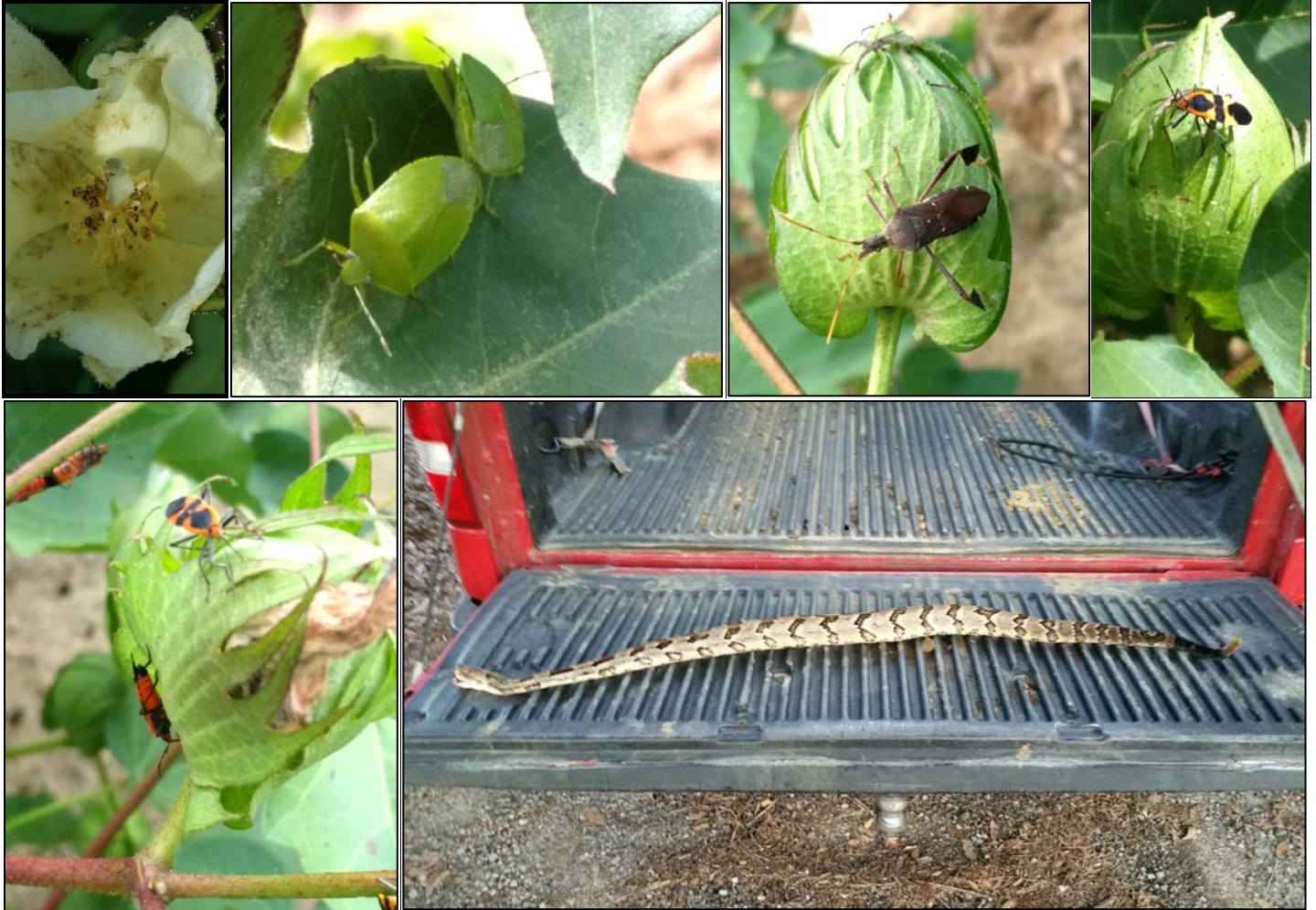
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various fields. Also observing cotton fleahopper moving into some fields. Still see a few escaped bollworm. Remember as the famous Yogi Berra stated..."it ain't over till it's over". Tom sent in some good recent photos from his field visits, including a couple of shots of milkweed bugs on cotton and a big snake you never want to encounter in the field! I prefer dealing with critters that have legs!



Insecticide Application – Doing All We Can For Success?

We have been getting calls about soybean loopers not being controlled with various insecticides, and some details are common across most reports. First of all, I don't care how good an insecticide is, it is not going to work, if it doesn't get to where it is supposed to be – insects down in the canopy. So, the first concern is **coverage** – are you getting the material to where it should be applied – down into and through the canopy? *Good* coverage depends on multiple factors, and those include canopy closure and height, water volume, spray pressure, droplet size, sprayer speed, wind, time of day (for dew, heat, wind, etc.), and you can probably think of a few more. A *good* application requires that a dynamic set of conditions

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be “within limits” (to use an engineering phrase), and a *great* application requires that broad set of circumstances to be perfect. So, if an applicator is using a ground rig to spray an insecticide through chin-high closed-canopied soybeans at 10-15 mph, putting out single digits worth of water volume delivered by coarse droplet tips with the wind blowing any small droplets away, what kind of results do you think he is going to see? Should we suspect that the insects are resistant to the insecticide, or should we suspect that the application was made under less than desirable conditions? Of course, it is the latter. You might ask how aerial applicators get good control with their sprays...they are going much faster than ground rigs, using single digits worth of water volume, and are creating their own high winds. There are numerous studies comparing aerial and ground applications, and I want to avoid making any comparisons there because both types of application have advantages and disadvantages. However, the questions are valid about sprayer speed, wind, etc? I am certainly no expert on aerial applications, but I suspect that the physics of aircraft velocity, vortices, spray deposition, and other physical factors facilitate good coverage and penetration of the crop canopy with aerial applications. I will try to find out more about this, but anyone with knowledge on the subject is welcome to contribute to this discussion! Maybe, effective application is a non-linear function of sprayer speed (good at low and high speeds but not as good at speeds in between)...I don't know. Sounds like a good research project. Nevertheless, there are some best management practices for ground applications of insecticides, and those include slow sprayer speed, high volumes of water carrying the insecticide, small droplet size to penetrate and cover more leaf area, spraying with little or no wind, proper boom height, adequate spray pressure, etc. For example, I spray all of my insecticide trials at about 3.5 MPH using hollow-cone spray tips at 50 PSI when it is not windy. When you match those practices with good production practices, such as proper fertility, growth regulation (e.g. cotton), good weed control (that can prevent coverage on the crop), etc., you can expect good results. If there is a field failure of an insecticide under those good application conditions, we can start talking about the insecticides and potential resistance. So, are we doing all we can for success with our applications? All this being said, we are detecting some potential issues with insecticide resistance that appear to be real, and we will cover that topic more during the winter meetings. For now, follow recommendations and put out the best applications you can by covering the details. Don't let insects stick out their “tongues” out at the sprayer!



Cotton Situation

As of 21 August 2016, the USDA NASS South Carolina Statistical Office estimated that about 92% of the crop has set bolls, compared with 98% at this time last year and 87% for the 5-year average. About 2% of bolls have opened, compared with 9% at this time last year and 6% for the 5-year average. The crop was described as 5% excellent, 39% good, 55% fair, 1% poor, and 0% very poor. These are observed/perceived state-wide averages.

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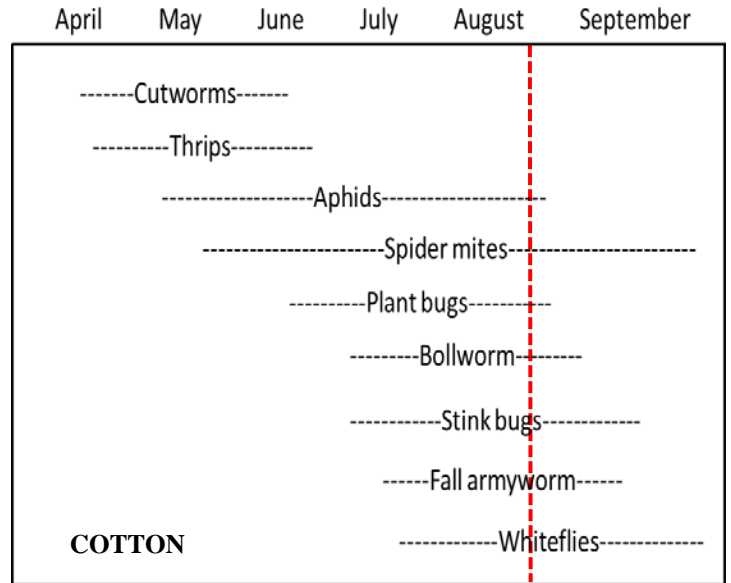
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Cotton Insects

Final time to say this for 2016, but it is still “stink bug month” until the end of August. We are almost there. Most folks are finishing the final checks and sprays for stink bugs, unless fields were planted late. In those cases, it is particularly important to check for injury from stink bugs because the late crop will be a huge draw for insects. Don’t turn the late-planted fields loose too soon. Bollworm moths are still flying, eggs are still being laid, and larvae are still growing and eating somewhere, right? Make sure it is not in your cotton. Although all Bt cotton technology is good, it can sustain damage. We have reports of some Bt cotton performing well this past week, but we also have some reports of damage requiring supplemental insecticides. Finish checking fields for bollworm escapes – they are out there.

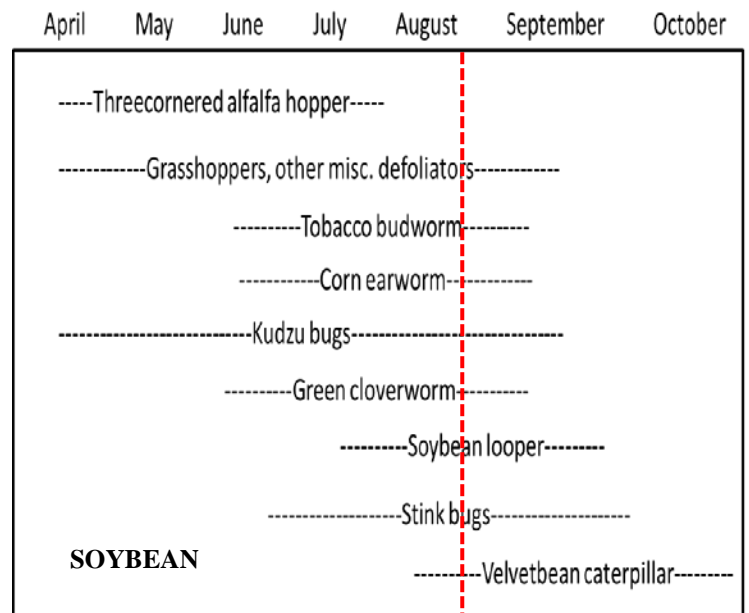


Soybean Situation

As of 21 August 2016, the USDA NASS South Carolina Statistical Office estimated that about 83% of our soybean crop is blooming, compared with 80% at this time last year and 83% for the 5-year average. About 40% of the crop is setting pods, compared with 36% at this time last year and 39% for the 5-year average. The crop was described as 21% excellent, 61% good, 14% fair, 4% poor, and 0% very poor. These are observed/perceived state-wide averages.

Soybean Insects

Soybean looper and podworm (same species as bollworm, corn earworm, etc.) are still the main pests now in soybeans – generally speaking. Our pheromone traps for the heliothines show that we are at another sustained peak for another generation of moths. Podworm moths will be looking for blooming soybeans, so anything that was planted late, must be checked for podworm. Also, soybeans are the last big acreage crop for stink bugs to concentrate in, so check fields with a sweep net or drop cloth for stink bugs.



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Below is information on sampling and thresholds for major pests of soybeans in SC. This information and more can be found in the Pest Management Handbook under Soybean Insect Control. The first table covers threshold numbers for major species if using a drop cloth (shake sheet, beat cloth, etc.). The second table covers threshold numbers for major species if using a sweep net to sample soybeans. If you do not have a sweep net or drop cloth, I would encourage you to get a drop cloth and sweep net to use as routine sampling tools in the crop. I do not sample research plots or enter a grower's field to diagnose a problem without these tools for estimating the insect numbers. They are a must.

BEAT CLOTH THRESHOLDS

Treatment thresholds (per 3 row ft) for soybean insects sampled with beat cloth.					
Pest	Row width (inches)				
	38	30	21	14	7
stink bug	3	2.4	1.6	1.1	0.5
corn earworm*	6	4.7	3.3	2.2	1.1
velvetbean caterpillar	12-18	12	8.3	5.5	2.7
soybean looper	18-24	16	11.6	7.7	3.8

*this is the pod-feeding threshold for corn earworm

SWEEP NET THRESHOLDS

Use percent defoliation estimates as an additional treatment guideline for foliage feeders. Prior to bloom, up to 30% defoliation is acceptable without economic yield loss, but once blooming begins, the guideline drops to 15% defoliation.

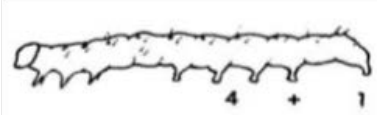
Treatment guidelines for soybean insects sampled with a sweep net.		
Pest	Number per 10 sweeps	Comments
stink bug	1-2	
corn earworm	3	or 15% foliage loss
velvetbean caterpillar	10	or 15% foliage loss
soybean looper	15	or 15% foliage loss
kudzu bug	10 (nymphs)	1 nymph per sweep

For other foliage feeders use a threshold of 30% defoliation before first bloom, 15% after first bloom.

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Tobacco budworm moth at right. Caterpillar looks identical to corn earworm below.



CORN EARWORM
4 + 1 pair prolegs
Curls up in hand
Black "warts" on body



SOYBEAN LOOPER
2 + 1 pair prolegs
Fatter at tail end
Looping movement



VELVETBEAN CATERPILLAR
4 + 1 pair prolegs
Very active when handled



GREEN CLOVERWORM
3 + 1 pair prolegs
Not fatter at tail end
Looping movement



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Bollworm & Tobacco Budworm

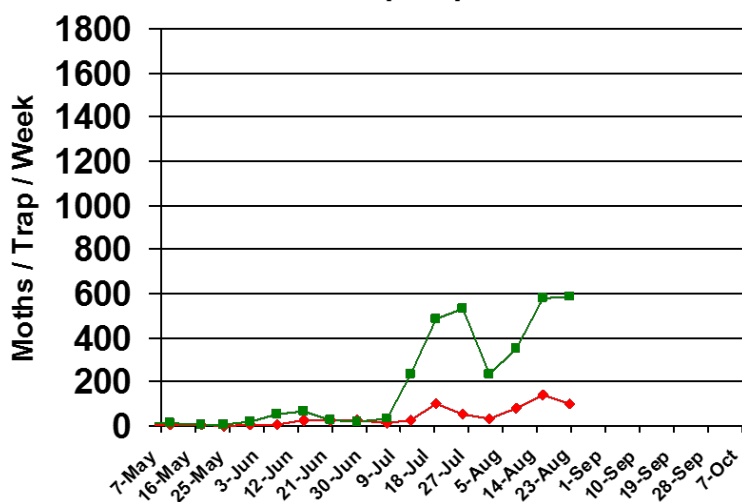


Captures of bollworm (BW) and tobacco budworm (TBW) moths in pheromone traps at EREC this season are shown below, as are the captures from 2015 for reference. Tobacco budworm continues to be important for our soybean acres and for any acres of non-Bt cotton. I provide these

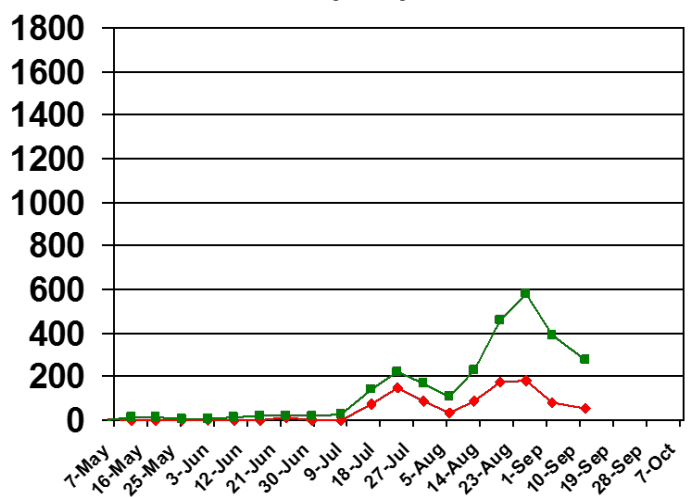
data as a measure of moth presence and activity in our local area near my research plots. The numbers are not necessarily representative of the species throughout the state.



Pheromone Trap Capture SC - 2016

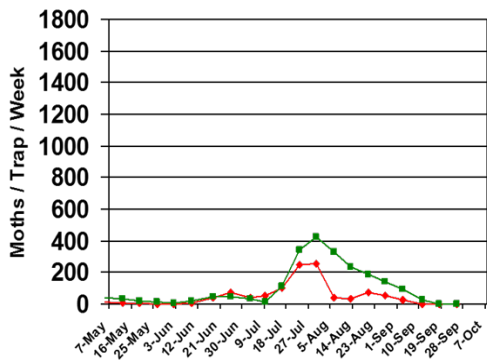


Pheromone Trap Capture SC - 2015

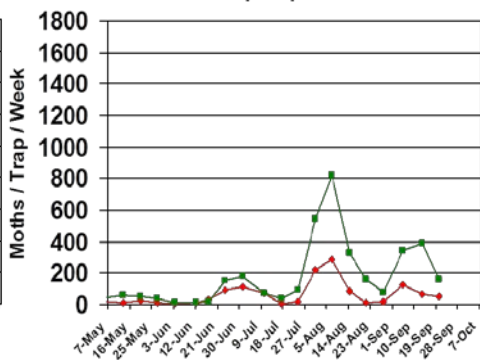


Trap data from 2012-2014 are shown below for reference to other recent years of trapping data from EREC:

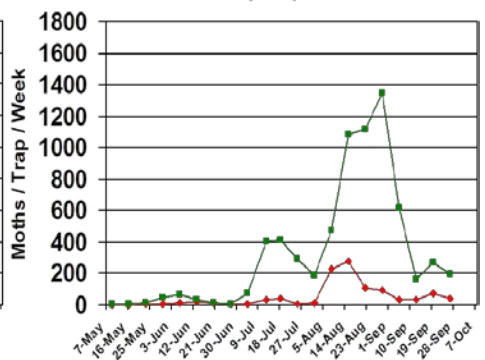
Pheromone Trap Capture SC - 2014



Pheromone Trap Capture SC - 2013



Pheromone Trap Capture SC - 2012



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Pest Management Handbook - 2016

Insect control recommendations are available online in the 2016 South Carolina Pest Management Handbook at: <http://www.clemson.edu/extension/rowcrops/pest/>

Free Mobile Apps: “Calibrate My Sprayer” and “Mix My Sprayer”



Download our free mobile apps called “Calibrate My Sprayer” and “Mix My Sprayer” that help check for proper calibration of spraying equipment and help you with mixing user-defined pesticides, respectively, in custom units (available in both iOS and Android formats):

<http://www.clemson.edu/extension/mobile-apps/>

Need More Information?

For more Clemson University Extension information: <http://www.clemson.edu/extension/>

For historical cotton/soybean insect newsletters:

http://www.clemson.edu/extension/rowcrops/cotton/pest_management/newsletters/index.html

Sincerely,

Jeremy K. Greene, Ph.D.
Professor of Entomology



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