



## *Cotton/Soybean Insect Newsletter*

Volume 11, Issue #14

Edisto Research & Education Center in Blackville, SC

5 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**, an experience crop consultant in the Pee Dee Region, is seeing some soybean loopers in soybeans and contemplating sprays in some locations. **Charles Davis**, county agent covering Calhoun and Richland Counties, reported that “dryland cotton has continued to struggle this week. A few showers have helped some in parts of the county, but some parts have been three weeks with little to no rain. Some fields are cut out and many are close to it. Time is running out to make a final push for bolls so rainfall the next few weeks will be critical. Irrigated cotton looks fair to good but still see a lot of square shed from the heat. Premature boll cracking (*photo*) caused by plant stress is easy to find in dryland cotton. Occasionally, I can still find a boll that a worm took a bite out of but nothing major on the worm front. Stink bugs haven’t been anything terrible. They just keep hanging around enough to be a nuisance. Really a rather boring cotton season insect wise, which is a good thing.” Another local consultant reported that he is spraying for stink bugs in cotton for the second round, treating some fields for spider mites (bifenthrin), and noticing some bollworm escapes in PHY (WideStrike) cotton that should be handled with the pyrethroid for stink bugs.



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**Mitch Binnarr**, a representative with Phytogen, reported that he is seeing break-through populations of bollworm (*H. zea*) on Bt cotton in the Pee Dee Region and that clean-up applications with pyrethroids are not controlling the caterpillars that “sized-up” on the cotton and escaped the Bt technology. We do have difficulty controlling large bollworms with any material, so seemingly inadequate control of large caterpillars with pyrethroids is not extremely alarming (something to watch). Maybe we should be looking at Lannate in some of these cases and not asking too much out of a pyrethroid. What is alarming are the reports of breakthroughs on Bt cotton. We will get the details and report back. We do need to be looking for *H. zea* (podworm) in soybeans. Our soybean crop is very susceptible to podworm right now.

### **Training Opportunities**

We will be having our **Row-Crop Field Day on 11 August 2016**. We will start registration at 8:30AM and load buses for transport to concurrent tours at 9:00AM. Join us!

Here is the agenda:

#### **Row Crop Field Day**

Edisto Research and Education Center

**11 August 2016** (3.0 Pesticide Credits will be available & 2.5 CCA Credits will be available. Registration for this field day is free and lunch will be provided. Please RSVP to Jina Scott-Phillips at [jscottp@clemsun.edu](mailto:jscottp@clemsun.edu) or at 803-284-3343 ASAP.)

<b>8:30 - 9:00</b>	Registration
<b>9:00</b>	Load Buses in front of field labs and Transport to Tour
<b>12:30</b>	Lunch will be served in the Auditorium
<b>1:00 - 1:15</b>	“AgLogic 15 G”, Antoine A. Puech, AgLogic
<b>1:15 - 1:30</b>	Brief updates from other sponsors
<b>1:30</b>	Adjourn

Three tours will be available concurrently. You can go on 2 of the 3 tours.

#### **Tour 1 - Row Crop Tour:**

“Corn Fungicides”, Mr. David Gunter, Feed Grains Specialist

“Effect of Nematodes on Management Practices in a Soybean/Sorghum Rotation”, John Mueller, Plant Pathologist, Kendall Kirk, Precision Ag Engineer & David Gunter, Feed Grains Specialist

“Cotton and Soybean Insect Management”, Jeremy Greene, Entomologist

“Effect of Weed Size on Herbicide Performance”, Mike Marshall, Weed Scientist

“Peanut Disease Management”, Dan Anco, Peanut Specialist

#### **Tour 2 - Precision Ag Tour:**

“Directed Prescriptions”, Hollens Free, Extension Precision Ag Specialist, and Kendall Kirk, Precision Ag Engineer

“Site-Specific Nutrient Management in Corn and Cotton”, Phillip Williams, Ph.D. Student, Nick Rogers, MS Student and Ahmad Khalilian, Ag Engineer

“Sensor-based Irrigation Management”, Jose Payero, Irrigation Specialist

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“Opportunities of Precision Ag in Hay Production”, Perry Loftis, MS Student

### Tour 3 - Livestock and Forages Tour

“Computer Assisted Semen Analysis and BSE’s”, Scott Pratt, Professor, Animal and Veterinary Science

“Automated Collection of hip height data in cattle”, Reid Miller, MS Student

“Replacement Heifer Management”, Scott Sell/Gil Tuttle, Edisto REC – Cattle Operations

## Cotton Situation

As of 31 July 2016, the USDA NASS South Carolina Statistical Office estimated that about 90% of the crop was reported as squaring, compared with 98% at this time last year and 94% for the 5-year average. About 56% of the crop was reported as setting bolls, compared with 74% at this time last year and 61% for the 5-year average. The crop was described as 6% excellent, 39% good, 54% fair, 1% poor, and 0% very poor. These are observed/perceived state-wide averages.

## Cotton Insects

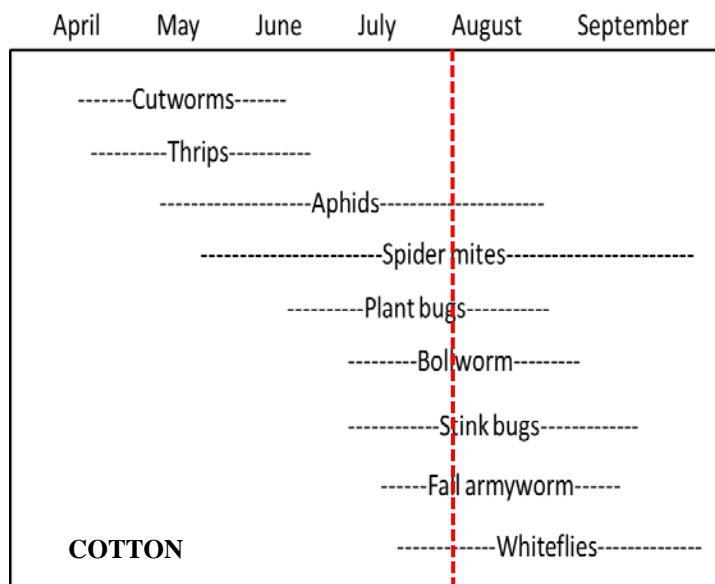
It is stink-bug month. You need to know in what week of bloom your field is, what level of boll injury you are experiencing, and what species are present in the field to make a good decision on whether or not to spray for stink bugs. In SC,

### Treatment Thresholds for Stink Bugs in SC Cotton

- Examine 1 quarter-sized boll/acre, no less than 25/field
- Sort by those with and without obvious external lesions
- Open and inspect bolls for internal damage (warts or stained seed or lint associated with feeding puncture), beginning with the bolls displaying external injury
- Treat field if threshold is met for that week of bloom



Week of bloom	1	2	3	4	5	6	7	8
Threshold (% internal damage)	50	30	10	10	10	20	30	50



if you are managing stink bugs correctly, you should (most of the time) be controlling any bollworms that escape the Bt technology being used. However, we are seeing some survival of bollworm in Bt cotton in the Pee Dee Region right now, so you need to looking for caterpillars also. So, check for injury from both stink bugs and bollworm right now. Look for feeding symptoms and follow the dynamic threshold. Spider mites are a concern in some locations. Check for all arthropods!

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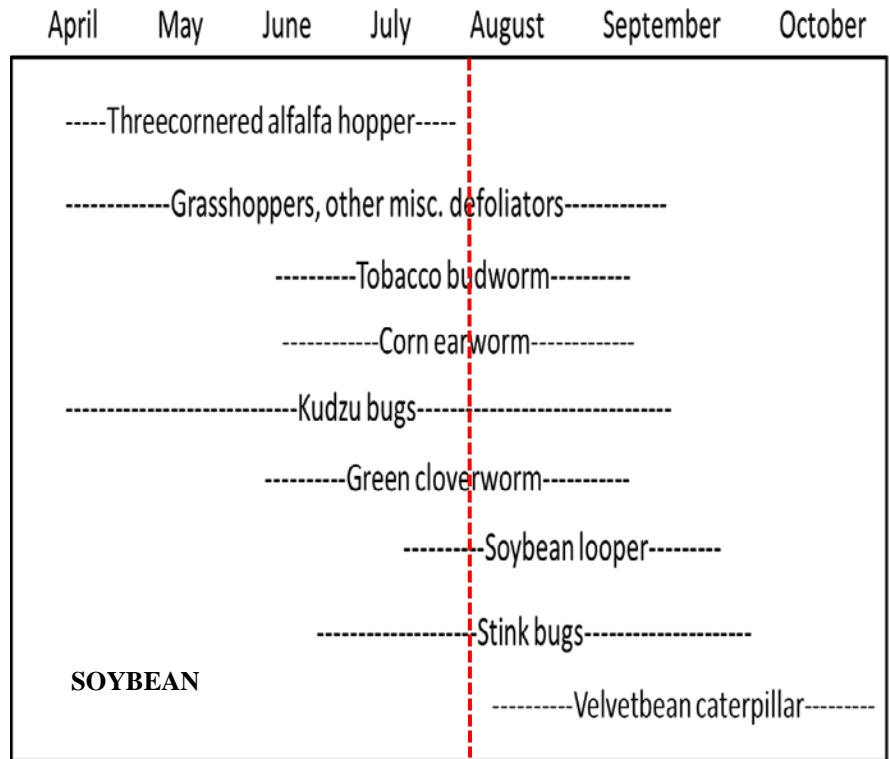


**Soybean Situation**

As of 31 July 2016, the USDA NASS South Carolina Statistical Office estimated that about 47% of our soybean crop is blooming, compared with 34% at this time last year and 47% for the 5-year average. About 1% of the crop is setting pods, compared with 6% at this time last year and 9% for the 5-year average. The crop was described as 18% excellent, 56% good, 20% fair, 4% poor, and 2% very poor. These are observed/perceived state-wide averages.

**Soybean Insects**

Soybean looper and podworm (same as corn earworm, bollworm, etc.) are both in the mix in soybeans. Watch defoliation for loopers, and check numbers of podworm and loopers with a sweep net or drop cloth. Because pyrethroids alone with not control soybean looper, other insecticides must be considered. Below is our table in the 2016 Pest Management Handbook for pre-mixed products. There are several products listed here that will control multiple pests that meet or exceed thresholds for each pest. Products such as Intrepid Edge and Besiege are great broad-spectrum mixes for control of multiple species of caterpillars. If you have mixed species of caterpillars (each exceeding threshold) and no issues with stink bugs, kudzu bugs, grasshoppers, etc, Intrepid Edge is a good choice. If you have caterpillars and bug pests, something mixed with a pyrethroid, such as the mix in Besiege, is the way to go. Consult the entire section on soybean insect pests in the Handbook for all recommendations.



**Table on next page:**

For control of multiple pests exceeding thresholds, including but not limited to various combinations of the following: cutworm, cabbage looper, green cloverworm, corn earworm, saltmarsh caterpillar, aphids, threecornered alfalfa hopper, velvetbean caterpillar, bean leaf beetles, grasshoppers, plant bugs, and stink bugs. Use higher rates for stink bugs, corn earworm, and grasshoppers. Use highest labeled rates for kudzu bug\*.

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## MULTIPLE PESTS – PRE-MIXED PRODUCTS

Product	Product/acre	Lb ai/acre	Acre/gal	REI	PHI	Comments
thiamethoxam/ <i>lambda</i> -cyhalothrin (R) Endigo 2.06 ZC*	2.5-4.5 oz	0.04-0.072	28.4-51.2	24 hr	30 d	Season limit of 9 oz/acre Pre-mixed
imidacloprid/ <i>beta</i> -cyfluthrin (R) Leverage 360	2.8 oz	0.0656	45.7	12 hr	14 d	Pre-mixed
imidacloprid/bifenthrin (R) Brigadier 2 SC*	5.1-6.1 oz	0.08-0.095	21-25	12 hr	18 or 45 d	Pre-mixed
chlorpyrifos/ <i>lambda</i> -cyhalothrin (R) Cobalt Advanced 2.63*	11.0-38.0 oz	0.226-0.78	3.4-11.6	24 hr	30 d	Pre-mixed
chlorantraniliprole/ <i>lambda</i> -cyhalothrin (R) Besiege 1.25 ZC*	5.0-10.0 oz	0.049-0.098	12.8-25.6	24 hr	30 d	Season limit of 20 oz/acre Pre-mixed
diflubenzuron/ <i>lambda</i> -cyhalothrin (R) DoubleTake 3*	3.0-4.0 oz	0.07-0.0938	32-42.7	24 hr	30 d	Pre-mixed
methoxyfenozide/spinetoram Intrepid Edge 3	4.0-6.4 oz	0.094-0.15	20-32	4 hr	28 d	Pre-mixed

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

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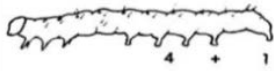





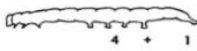

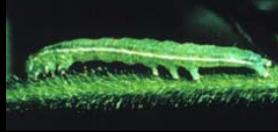


## SWEEP NET THRESHOLDS

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.		

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



	 <p><b>CORN EARWORM</b> 4 + 1 pair prolegs Curls up in hand Black "warts" on body</p>	
	 <p><b>SOYBEAN LOOPER</b> 2 + 1 pair prolegs Fatter at tail end Looping movement</p>	
	 <p><b>VELVETBEAN CATERPILLAR</b> 4 + 1 pair prolegs Very active when handled</p>	
	 <p><b>GREEN CLOVERWORM</b> 3 + 1 pair prolegs Not fatter at tail end Looping movement</p>	

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## Bollworm & Tobacco Budworm

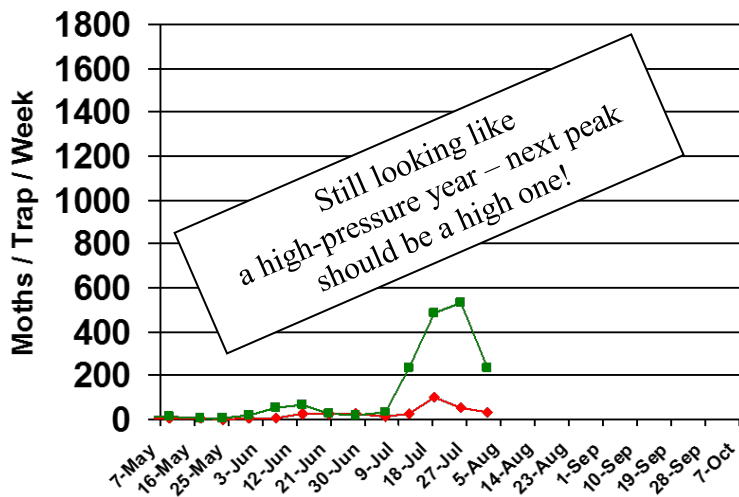


Captures of bollworm (BW) and tobacco budworm (TBW) moths in pheromone traps at EREC this season are shown below, as are the captures from 2015 for reference. Tobacco budworm continues to be important for our soybean acres and for any acres of non-Bt cotton. I provide these

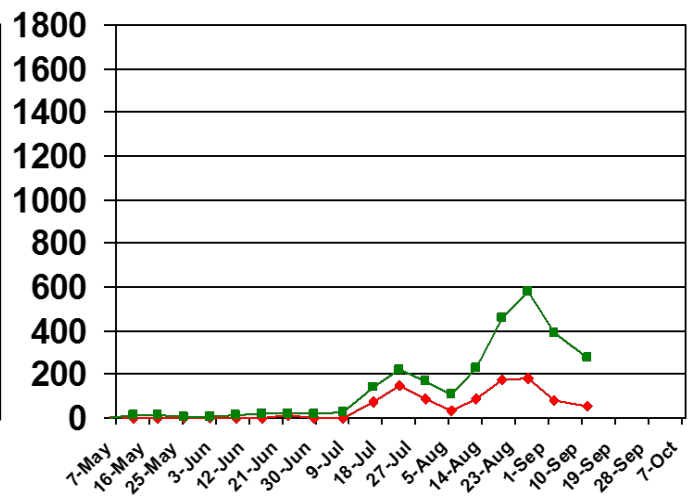
data as a measure of moth presence and activity in our local area near my research plots. The numbers are not necessarily representative of the species throughout the state.



### Pheromone Trap Capture SC - 2016

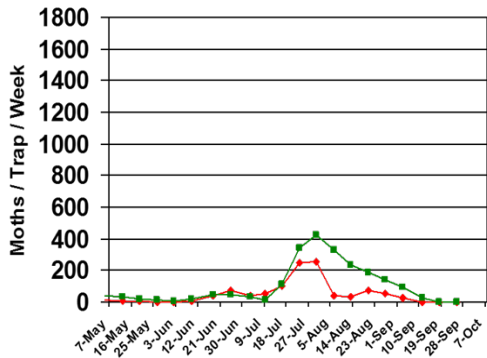


### Pheromone Trap Capture SC - 2015

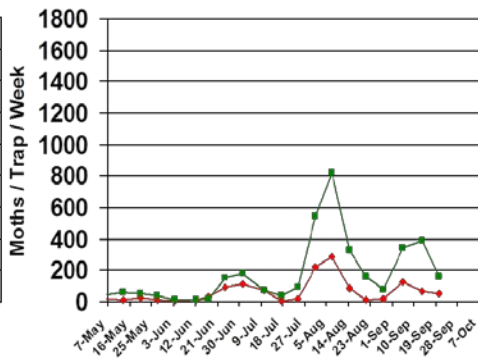


Trap data from 2012-2014 are shown below for reference to other recent years of trapping data from EREC:

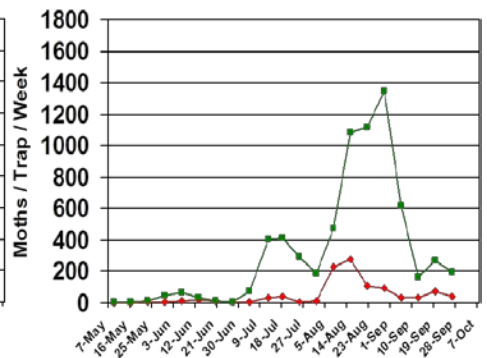
### Pheromone Trap Capture SC - 2014



### 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](http://www.clemson.edu/extension/rowcrops/cotton/pest_management/newsletters/index.html)

Sincerely,

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



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

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