



Cotton/Soybean Insect Newsletter

Volume 16, Issue #15 Edisto Research & Education Center in Blackville, SC

6 August 2021

Pest Patrol Alerts

The information contained herein each issue is available via text alerts that direct users to online recordings. I will update the short message often for at least as long as the newsletter runs. After a new message is posted, a text message is sent to alert 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. Pest Patrol Alerts are 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](https://twitter.com/bugdocisin) on Twitter.



News from Around the State

Charles Davis, county agent in Calhoun County, mentioned “stink bugs seem to be ramping up a bit this week. The couple of fields I looked at after the rains were below threshold but just barely. Next to corn was worse.” **David DeWitt**, county agent in Lee County, said he “spoke with several scouts and farmers yesterday [Tuesday] during the rain...most seems quiet. Gearing up for corn harvest.” **Hannah Mikell**, county agent in Clarendon County, stated that she hasn’t “really noticed any problem fields. Seems like farmers have been doing pretty good on prevention and/or routine sprays. We talked last week about there being an influx of stink bugs in cotton I will feel like we’re probably on the cusp seeing some of those numbers go up.” **Hannah** also shared links to the in-field scouting workshops held last week, if you want to watch those. Those are here: <https://fb.watch/71j3sgaqJf/> and https://fb.watch/71j6Uk_8nF/

Upcoming Field Day

We will offer an in-person field day here at the Edisto REC on 2 September 2021. Registration will be from 8:00 to 9:00 AM. The morning program will cover peanuts and horticulture crops, with cotton, soybeans, and corn covered after lunch. The field day will conclude by 4:00 PM. A link for more details: <http://blogs.clemson.edu/scrops/files/2021/08/2021-Peanut-and-Row-Crop-Field-Day-Announcement-Final.pdf>

Cotton Situation

As of 1 August 2021, the USDA NASS South Carolina Statistical Office estimated that about 94% of the crop is squaring, compared with 86% last week, 79% at this time last year, and 88% for the 5-year average. About 66% of the crop is setting bolls, compared with 57% last week, 45% at this time last year, and 56%

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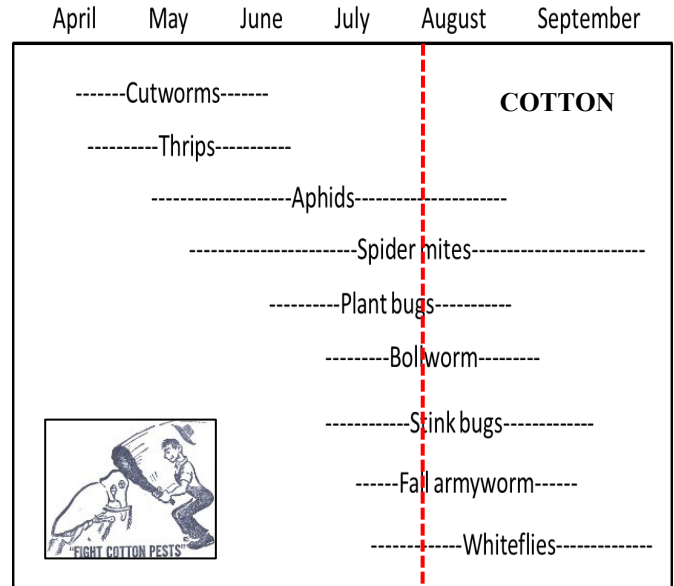


for the 5-year average. The conditions of the crop were 6% excellent, 74% good, 20% fair, 0% poor, and 0% very poor. These are observed/perceived state-wide averages.

Cotton Insects

In South Carolina, it is going to be stink bugs, bollworm, and spider mites – in that order of importance – from here until the end of the “insect season” in cotton. Captures of bollworm moths in my pheromone traps here at the Edisto REC decreased slightly this past week but will be about the same or a little more next week, based on what we have caught so far this week. Be sure to check plants for eggs and larvae, paying attention to any moths that fly around while walking through fields. And, note injury to terminals, squares, blooms, and bolls. Here is what I recommend in looking for bollworms and the injury they cause on each plant (each scouting step takes about 10-20 seconds, at most):

1. Check the terminal growth for bollworm eggs (mostly the top 12” of a plant, but look quickly at squares and blooms down the plant), and examine the terminal for any signs of feeding by bollworm.
2. Check a couple of squares (1 small, 1 large), looking for bollworms or injury, pulling back bracts to look at each entire pre-floral bud.
3. Look in a couple of white blooms, noting any bollworms or feeding injury.
4. Push plants in the canopy to each side down the row, and look for any signs of bollworms and feeding. Randomly check a couple of bolls (1 small, 1 large), pulling off a dried bloom tag on the smaller boll and examining the boll tip for injury and pulling back the bracts on the larger boll to examine it for bollworm feeding.
5. Repeat steps 1-4 on at least 25 plants in representative locations of each field scouted.
6. Multiply each 25-plant sample by 4 to get bollworm numbers and injury estimates per 100 plants checked. Use our treatment thresholds of 3 or more large (>0.25 inch) larvae per 100 plants or 5% damage to squares or bolls. On 2-gene Bt cotton, you can also trigger when egg density pushes past 20 towards 50 eggs per 100 plants. Use 50+ eggs per 100 plants for 3-gene Bt cotton. More detailed recommendations for bollworm can be found in our 2021 Pest Management Handbook.
7. Pair your status on bollworm threshold with what you find regarding stink bug injury and presence for each field to help you decide on what product(s) to spray for both.
8. Also consider levels of other arthropods, such as spider mites, when choosing insecticides, as a tank-mix is often required when multiple pests are at or over treatment thresholds.



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Because it is now “stink bug month” (August), we need to make sure we minimize losses to stink bugs. You will not prevent all injury due to stink bugs, but you can prevent most of it by using the dynamic boll-injury threshold. Open bolls in front of the TV watching the final weekend of the Olympics or a football game, and get through more fields during the day. All you need are labeled bags to put bolls in to take home. What week of bloom are your fields in this week? Stink bugs should be the primary focus of scouting efforts for the rest of August.

Below are the complete instructions for following the boll-injury threshold recommendations for stink bugs in cotton. We distributed the cards/lanyards and this sheet over a decade ago that summarized the recommendations from the large collaborative project we conducted in the Southeast regarding management of stink bugs in cotton in the region. All of this is still completely relevant and used today.

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

SCOUTING FOR STINK BUG DAMAGE IN SOUTHEAST COTTON:

Description and Use of a Pocket Scouting Decision Aid

Cotton growers in the Southeast can use a pocket-size scouting decision aid to assess and manage stink bug damage based on thresholds for different cotton growth stages.

Photo by D. Mott, NC State

STINK BUG SCOUTING DECISION AID
A pocket-size scouting decision aid was developed for use in the Southeast to encourage (1) enhanced adoption of stink bug scouting in cotton, (2) better field identification of stink bug-induced boll damage symptoms, and (3) use of recommended scouting procedures. This publication describes the decision aid and how to use it. The aid relies on the latest dynamic threshold for stink bugs in cotton based on week of bloom. It provides the following scouting aids:

- A “dynamic threshold by week of bloom” table,
- Recommended scouting procedures,
- Measuring holes to help select the correct boll size range for damage assessments, and
- Images of internal and external stink bug-induced boll damage.

The aid should greatly improve stink bug management because the dynamic threshold is based on the cotton growth stages when the crop is most susceptible to stink bug damage. It relies on lower thresholds during weeks of maximum susceptibility (weeks 3 through 5 of the bloom period) and higher thresholds during stages of lower vulnerability (weeks 1 to 2 and weeks 6 to 9 of the bloom period).

DESCRIPTION AND USE
The front (Figure 1) side of the 3x6-inch decision aid provides recommended scouting procedures:

- Select a random sample of the correct size bolls.
- Assess an adequate number of bolls.
- Sort the bolls into two piles, those with and those without obvious external damage lesions.
- Crack bolls between the thumb and forefinger or cut them open with a knife and inspect all internal boll wall surfaces for internal warts (not just areas visible from the initial crushing or from the initial knife cut), and examine all locks for stained lint. (**Helpful hint:** crack and inspect bolls with obvious external lesions first to determine if the internal damage threshold is met, as bolls with external lesions are more likely to be damaged internally; assessing these bolls first can save time.)
- If the threshold is not met, check the remaining bolls for internal damage.
- Treat only if the threshold has been met for that week.

Decision aid for stink bug thresholds in Southeast cotton

1. Pull random sample of quarter size diameter bolls, avoid field edges (boll sizes between 0.9" and 1.1")

2. Sort bolls into two piles, those with and those without obvious external lesions.

3. Crack and inspect bolls with external lesions for internal damage (boll wall warts, stained seed or lint).

4. If threshold is not met for that week, (see chart) check the remaining bolls for internal damage.

5. Treat field only if the threshold is met for that week.

Decision aid for stink bug thresholds in Southeast cotton

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

*Optional asterisks for weeks 4 and 5.

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Decision aid for stink bug thresholds in Southeast cotton

Figure 2. Reverse side of aid showing external and internal stink bug damage symptoms.

The measuring holes provide an efficient way to select correctly sized bolls. Cotton scouts should target bolls with an outside diameter between 0.9 to 1.1 inches. **Bolls of this size correlate best with recent stink bug damage.**

The front side also lists the recommended dynamic threshold by week of bloom. The asterisks for weeks 4 and 5 of the bloom period permit nuances in scouting frequency recommendations by the various southeastern states.

The reverse side of the aid provides images to help properly identify stink bug damage: internal warts, and stained lint; and external damage lesions (Figure 2). As explained in recommendation 3, above, external damage symptoms may be used to sort the pulled bolls into two groups.

Each decision aid is fitted with a lanyard that can be worn around the scout's neck. The lanyard has a quick disconnect adjacent to the aid (Figure 3) for removing the aid to size bolls.

RESOURCES
For stink bug scouting details and additional cotton insect management information, see these Web sites:

- North Carolina State University: <http://ipm.ncsu.edu/cotton/insectcorner/>
- Virginia Tech: <http://web.entom.vt.edu/ento/project.jsp?projectID=22>
- Clemson University: <http://www.clemson.edu/extension/rowcrops/cotton/>
- University of Georgia: <http://ugacotton.com>

ACKNOWLEDGEMENT
Research support provided through grants from Cotton Incorporated (2005-2010) and through a Southern Regional IPM Center Capstone Grant (2010).

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Figure 3. Lanyard with a quick disconnect for removing the aid to measure boll diameter.

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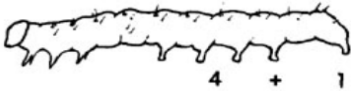


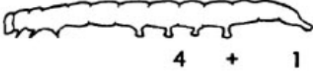








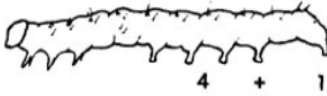



As moth activity increases, deposited eggs will yield caterpillar pests on soybeans. It is good skill to be able to identify adult moths flying around in fields. Use this chart to study moth and caterpillar identification.

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(2017) Prepared by Jeremy Greene, Professor of Entomology

FIELD KEY TO COMMON SOYBEAN CATERpillARS

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

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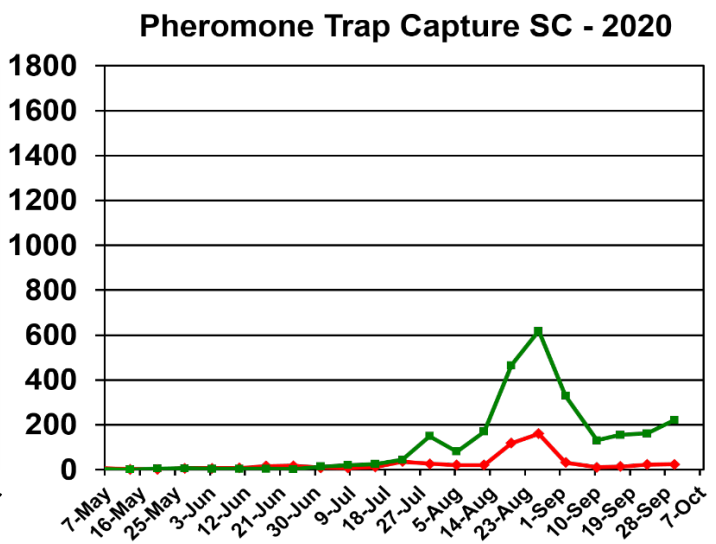
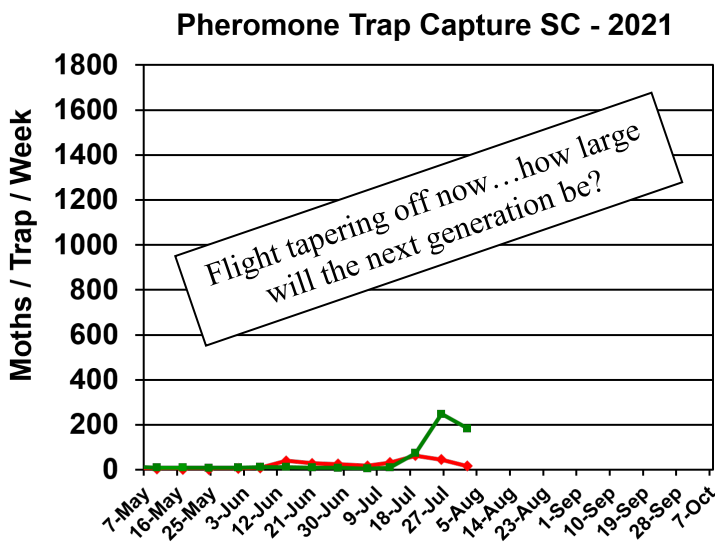
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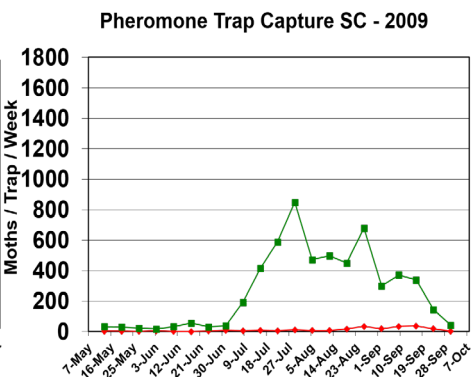
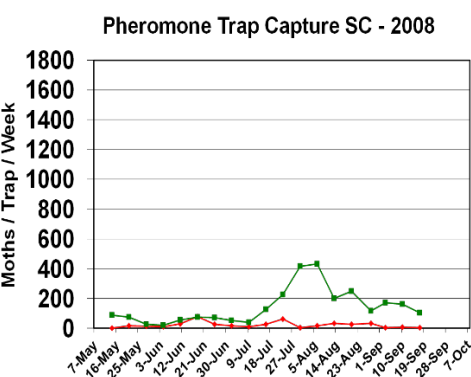
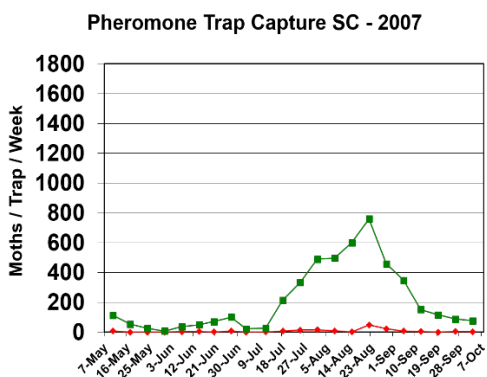
Bollworm & Tobacco Budworm



Captures of bollworm (BW) and tobacco budworm (TBW) moths in pheromone traps at EREC this season are shown below, as are the captures from 2007-2020 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 but are useful for general trends.



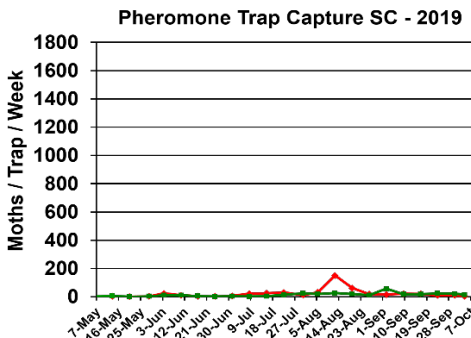
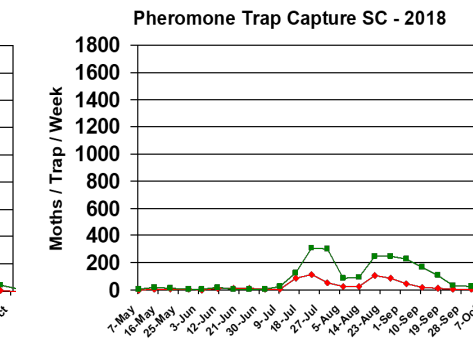
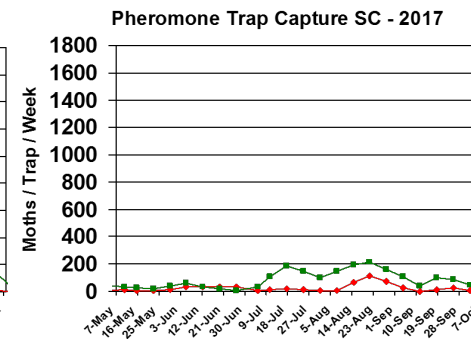
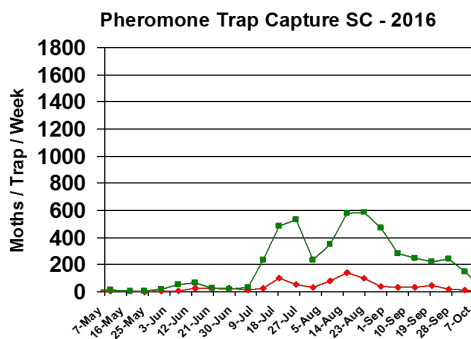
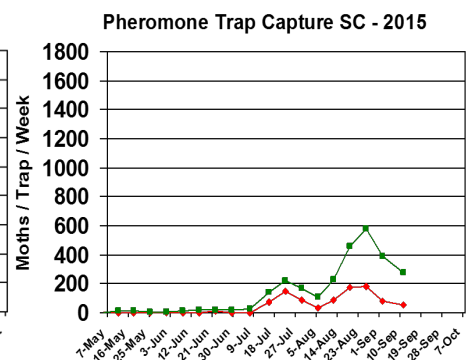
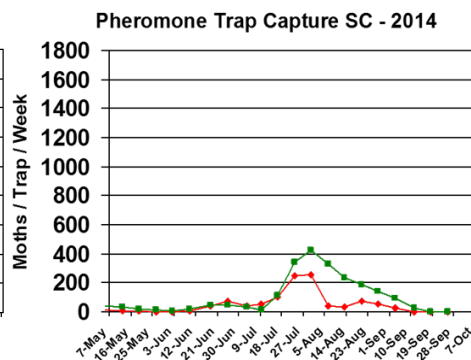
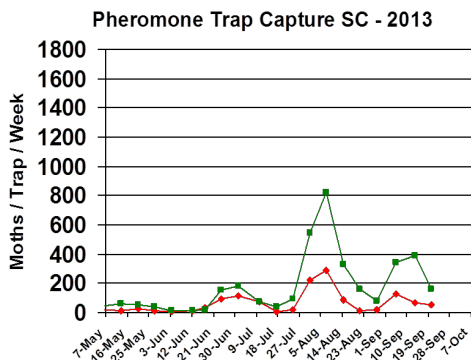
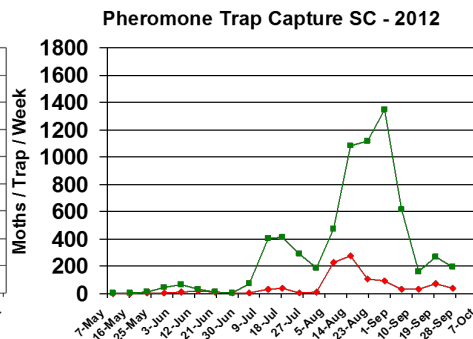
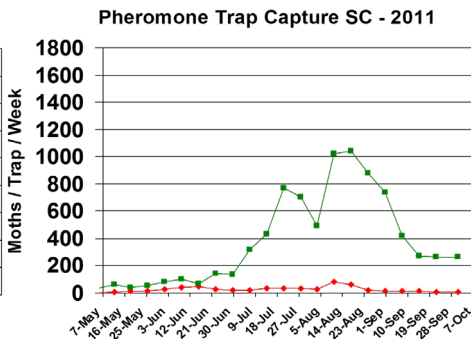
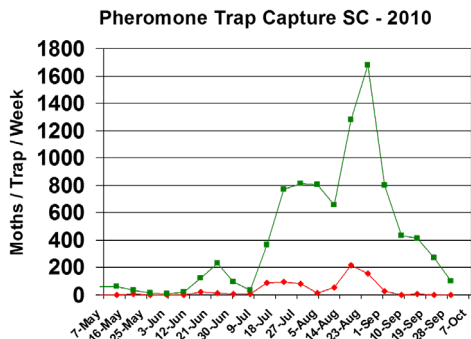
Trap data from 2007-2019 are shown below for reference to other years of trapping data from EREC:



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Pest Management Handbook – 2021

Insect control recommendations are available online in the 2021 South Carolina Pest Management Handbook at:

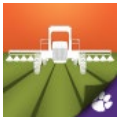
<https://www.clemson.edu/extension/agronomy/pest%20management%20handbook.html>

South Carolina Crops Blog

The SC Crops Blog contains content about production of major row crops at the following link, if you want more information: <https://blogs.clemson.edu/sccrops/>

Archived issues of the Cotton/Soybean Insect Newsletter can be viewed at a convenient link on the SCCrops page. Contact **Dr. Michael Plumblee**, if you have any questions about the blog.

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:

<https://www.clemson.edu/extension/agronomy/cotton1/newsletters.html>

Sincerely,

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