



Cotton/Soybean Insect Newsletter

Volume 18, Issue #13 Edisto Research & Education Center in Blackville, SC

3 August 2023

Pest Patrol Alerts

Some of 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. Alternatively, you can sign up online at <https://www.syngenta-us.com/pest-patrol/south-carolina>

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, reported trouble with soybeans behind potatoes, with weakened and damaged stems right at the soil line but sporadic across fields. I initially thought of herbicide carryover injury, but the sporadic nature of the injury seems to indicate that might not be likely. We are thinking that a variable population of insects leftover from the potato crop are causing injury to the young soybean stems. **Rogan Gibson**, county agent covering Allendale and Hampton Counties, sent this photo of some grasshopper nymphs freshly hatched out. **Jonathan Croft**, county agent covering Orangeburg, Dorchester, and Berkeley Counties, reported that he and a local scout have not observed any insects at reportable numbers yet. **Jay Crouch**, county agent covering Newberry, Saluda, Edgefield, York, and Chester Counties, also reported that he is seeing “nothing at treatment levels yet” in his area of the state.



Fall Field Days at Edisto

We will have our annual fall field days in September of 2023.

- 7 September – Peanut Field Day
- 21 September – Row-Crop Field Day (cotton, soybeans, etc.) **and** Vegetable/Fruit Field Day (sweet potatoes, pumpkins, tomatoes, watermelons)

Stay tuned for more details on the topics that will be covered. There will be pesticide and CCA credits offered, and there will be lunch also!



Cotton Situation

As of 30 July 2023, the USDA NASS South Carolina Statistical Office estimated that about 93% of the crop is squaring, compared with 79% the previous week, 93% at this time last year, and 87% for the 5-year average. About 55% of the crop is setting bolls, compared with 41% the previous week, 69% at this time last year, and 56% for the 5-year average. The conditions of the crop were reported as 7% excellent, 51% good, 38% fair, 3% poor, and 1% very poor. These are reported statewide averages.

Cotton Insects

Bollworm – Captures of bollworm moths in our pheromone traps continued to rise this past week, and, if the ground stays moist from rain or irrigation, that will continue to promote moth emergence from corn fields. Adults and freshly deposited eggs were easier to find this week. I expect that numbers of moths will continue to climb next week. Again, most 3-gene Bt cotton will be unaffected by bollworm, but some of the remaining 2-gene cotton (e.g. DP1646 and other 2-gene Bt varieties) might still need supplemental sprays for bollworm. Again this week, our bioassay data continue to indicate decreased efficacy with pyrethroids on the species, so, if you need to treat cotton for bollworm, consult the non-pyrethroid section or the multiple pests section of the 2023 Pest Management Handbook for up-to-date recommendations.



Spider Mites – I saw some spider mite injury today in plots that were oversprayed with acephate a couple of weeks ago (a sure way to create spider mites) in an attempt to kill plant bugs and beneficial arthropods (to flare problems with bollworm). Check for spider mites on your scouting trips to cotton fields. Look for the stippling on leaves, and try to catch it early. I have also heard that more spider mites are showing up in ThryvOn cotton, presumably because the technology kills western flower thrips, a plant-feeding species that also is predaceous on spider mites. We will investigate this more.



Plant Bugs – We sampled for plant bugs, specifically the tarnished plant bug (TPB), *Lygus lineolaris*, for probably the last time in some plant bug trials this week in the 3rd week of bloom, and we found populations exceeding threshold in the previously untreated and treated non-ThryvOn cotton. ThryvOn cotton did not need to be retreated. Various plots of non-ThryvOn needing protection were resprayed for the 2nd or 3rd time. We found 17 immature plant bugs on 20 rowft in the untreated control. The threshold is 3 plant bugs per 5 rowft (12 per 20 rowft), so there is plenty of plant bug activity in that test area. Again, in South Carolina, plant bugs are likely most important in cotton a week or two on either side of first bloom. Most cotton





should be blooming now, so the drop cloth should be the tool of choice for seeing TPB nymphs. They are green and run fast on the drop cloth. They feed on squares, blooms, and small bolls. Once we get to the 3rd week of bloom, we can almost forget about plant bugs because we need to focus on stink bugs, and any treatment (e.g. pyrethroid, Bidrin, etc.) applied for stink bugs will take care of plant bugs.

Stink Bugs – As the number one insect pest of cotton in South Carolina, the stink bug complex is getting going in the crop. Adults are out there feeding, mating, and laying eggs, so make sure you are using the dynamic boll-injury threshold by week of bloom.



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 1 boll / acre, no less than 25 / field.
- 3 Sort bolls into two piles: those with and those without, obvious external lesions.
- 4 Crack and inspect bolls with external lesions for internal damage (boll wall warts, stained seed or lint).
- 5 If threshold is not met for that week, (see chart) check the remaining bolls for internal damage.
- 6 Treat field only if the threshold is met for that week.

Bolls should fit through the large hole but not the small one.

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

*Consult state guidelines for scouting intervals.

Decision aid for stink bug thresholds in Southeast cotton

Stained seed and lint

Boll wall warts

External lesions

Quarter size boll

Boll diameter should be between 0.9" and 1.1"

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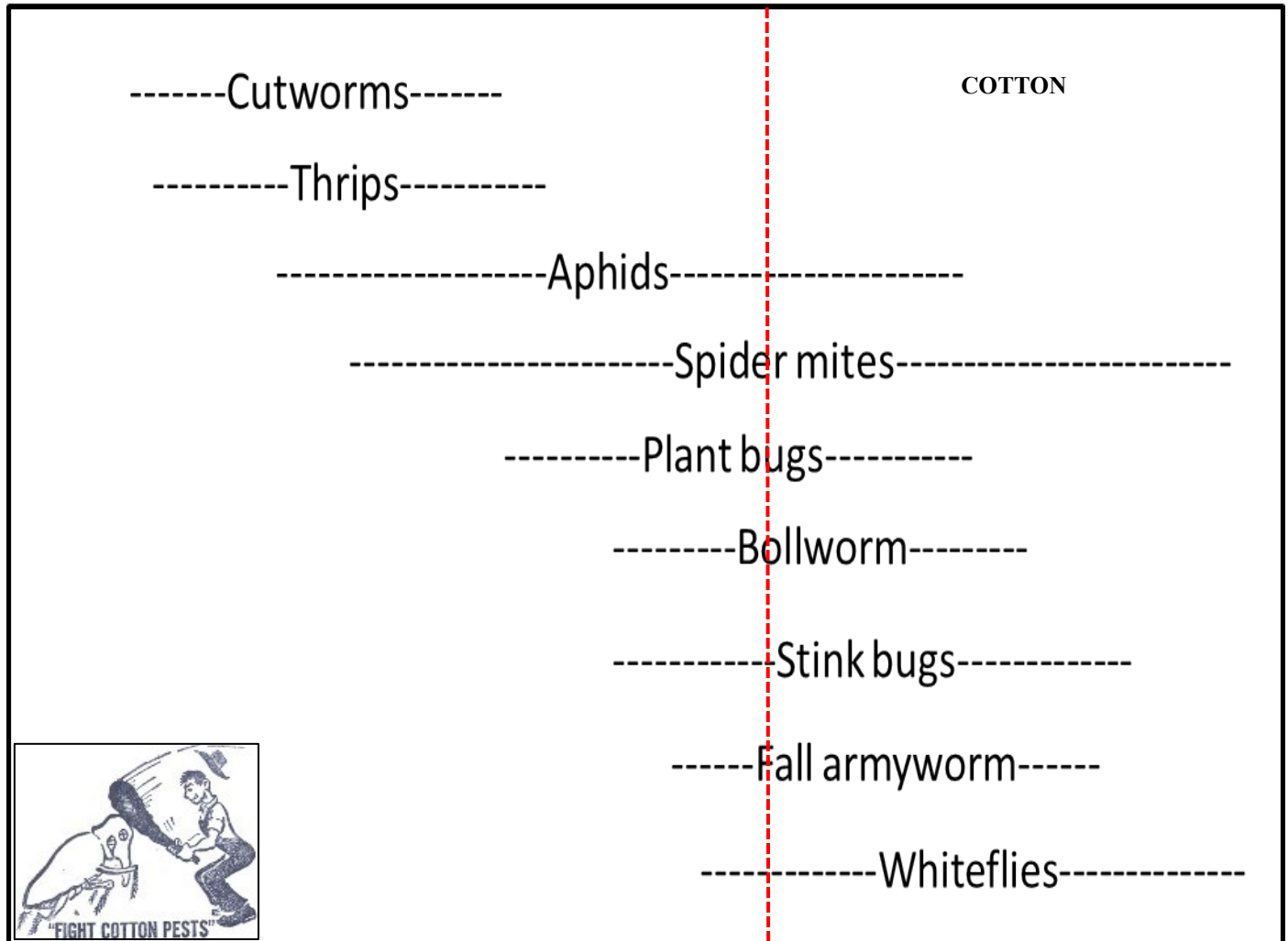


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April May June July August September



Soybean Situation

As of 30 July 2023, the USDA NASS South Carolina Statistical Office estimated that about 52% of the crop is blooming, compared with 42% the previous week, 52% at this time last year, and 40% for the 5-year average. About 24% of the crop is setting pods, compared with 14% the previous week, 22% at this time last year, and 11% for the 5-year average. The conditions of the crop were reported as 8% excellent, 55% good, 28% fair, 5% poor, and 4% very poor. These are reported statewide averages.

Soybean Insects

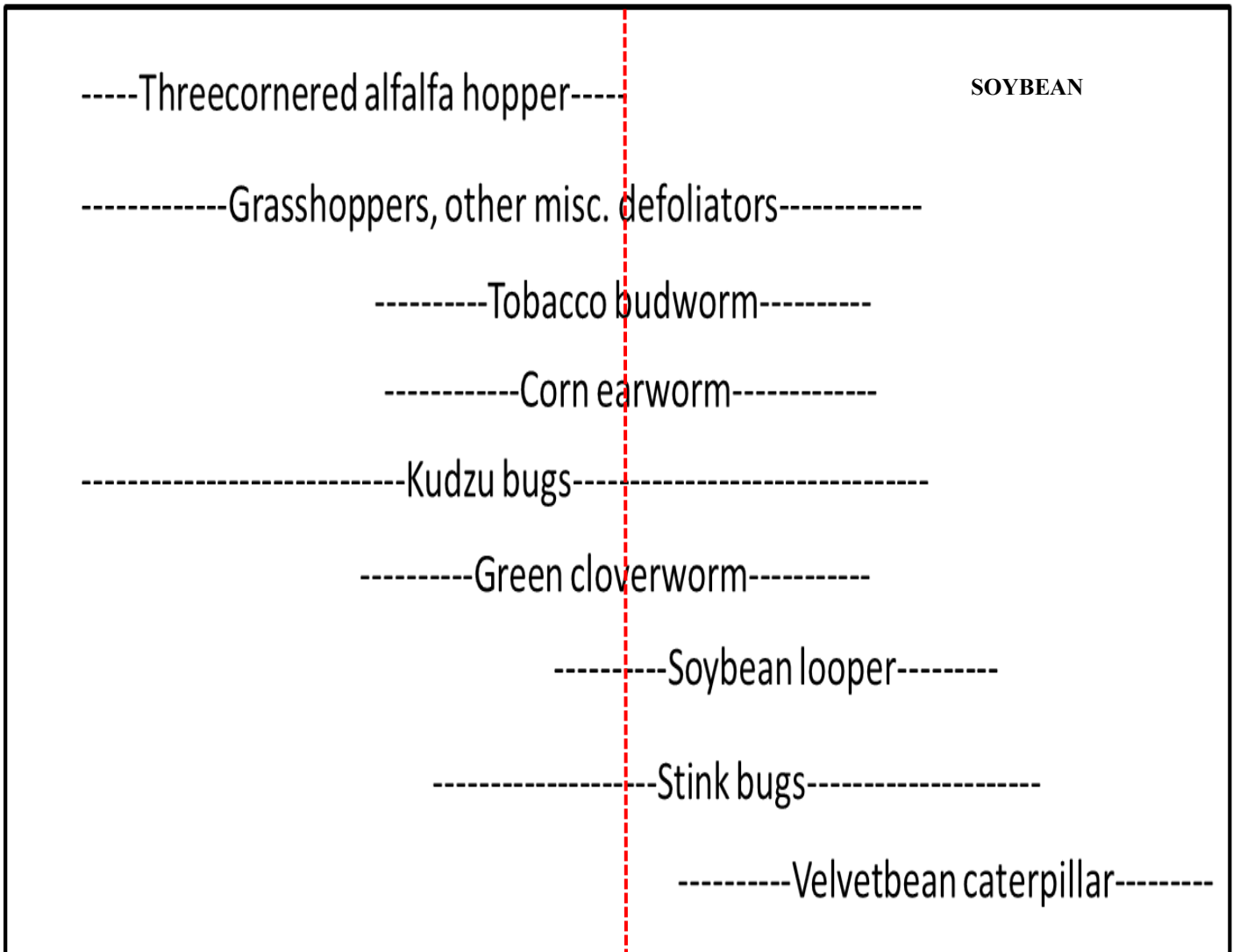
Again this week, problems with insects in soybeans have not been widely reported, but that will change very soon. Several species of the stink bug complex are starting to move into blooming fields now. We are seeing more activity with numerous species, including podworms. We are definitely seeing more podworm



(same as corn earworm and bollworm) moths in soybean fields, and we have picked up a few larvae here and there in soybeans. I have observed some small soybean loopers and green cloverworms, so those migratory species will be here soon. Keep an eye out for defoliation starting with those leaf feeders because it can happen quickly. For now, looking out for podworm moths and protecting blooms and small pods should be the main concern to avoid pod injury.



April May June July August September October





Check out some photos of our simulated insect defoliation research. I am excited about this work being conducted by PhD student Adam Whitfield. The top photo here shows a couple of rows on the left with punched holes by Adam and our “bug crew” (a great group), and the bottom photo shows some 100% manual/hand removals. We hope to confirm or refine our treatment thresholds based on this work.



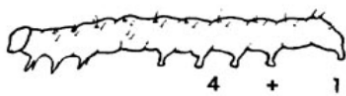


As moth activity increases, deposited eggs will yield caterpillar pests on soybeans. It is good skill to be able to identify adult moths flying around in fields. Use this chart to study moth and caterpillar identification.

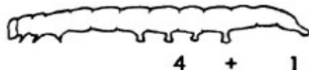
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(2017) Prepared by Jeremy Greene, Professor of Entomology

FIELD KEY TO COMMON SOYBEAN CATERpillARS



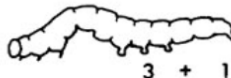
CORN EARWORM
4 + 1 pair prolegs
Curls up in hand
Black "warts" on body



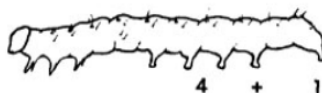
VELVETBEAN CATERPILLAR
4 + 1 pair prolegs
Very active when handled



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



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



TOBACCO BUDWORM
4 + 1 pair prolegs
Curls up in hand
Black "warts" on body



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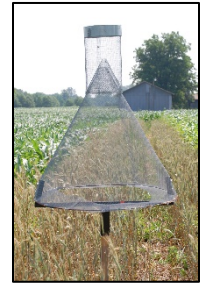


Bollworm & Tobacco Budworm

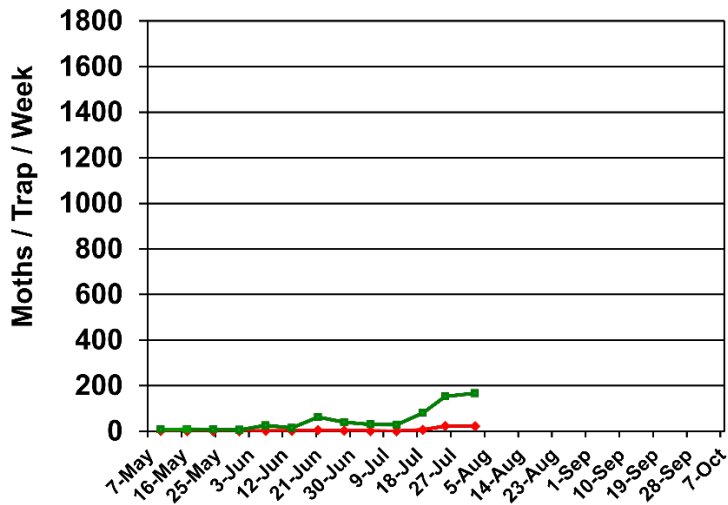


Captures of bollworm (BW) and tobacco budworm (TBW) moths in pheromone traps at EREC this season are shown below, as are the captures from 2007-2022 for reference. Tobacco budworm continues to be important for our soybean acres and for any acres of non-Bt cotton. I provide these

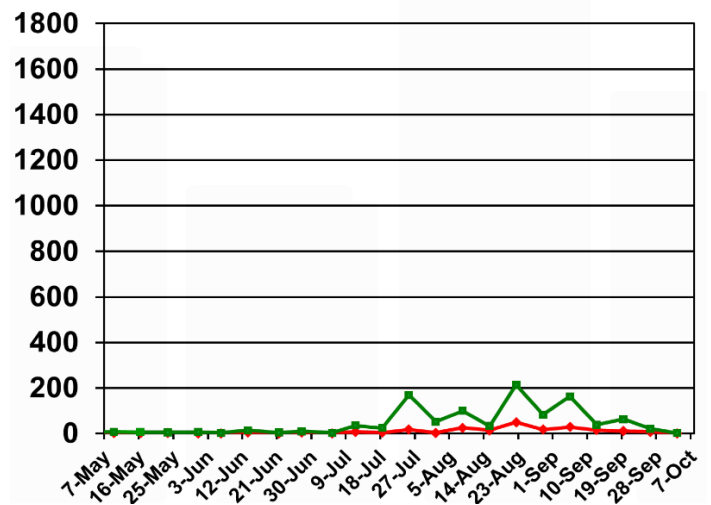
data as a measure of moth presence and activity in our local area near my research plots. The numbers are not necessarily representative of the species throughout the state but are useful for general trends.



Pheromone Trap Capture SC - 2023

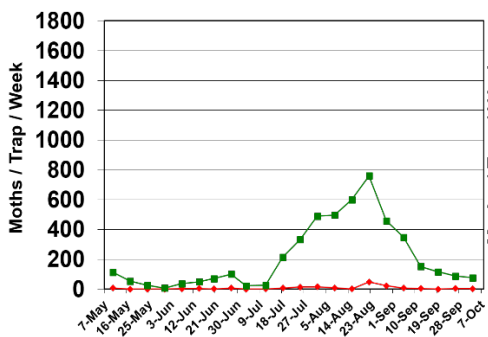


Pheromone Trap Capture SC - 2022

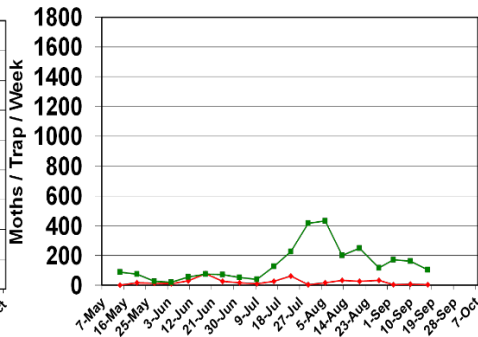


Trap data from 2007-2021 are shown below for reference to other years of trapping data from EREC:

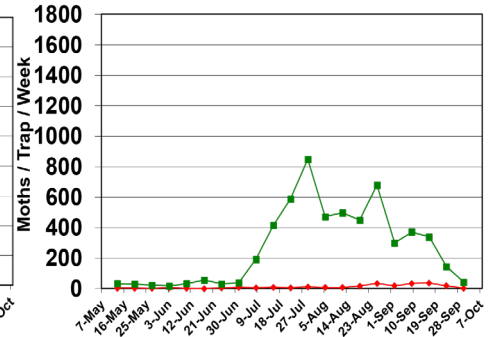
Pheromone Trap Capture SC - 2007



Pheromone Trap Capture SC - 2008



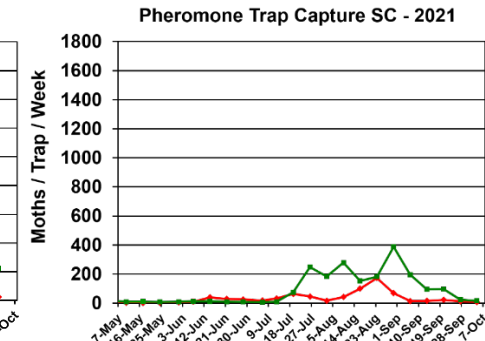
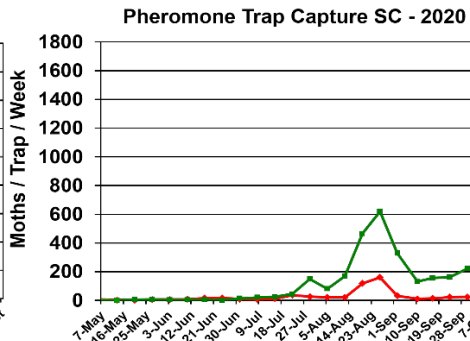
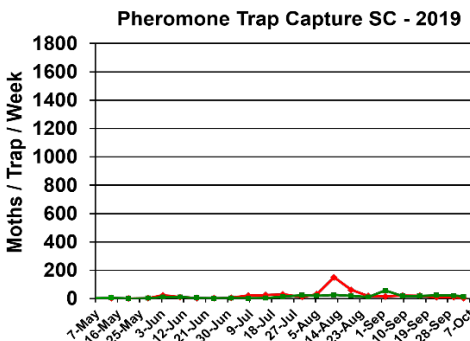
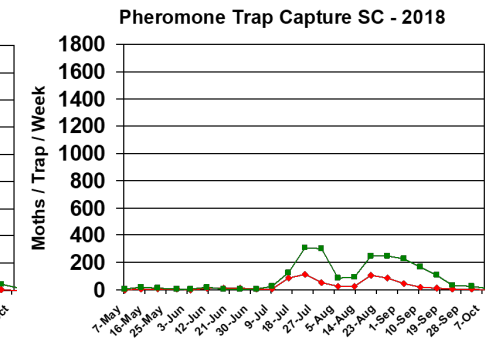
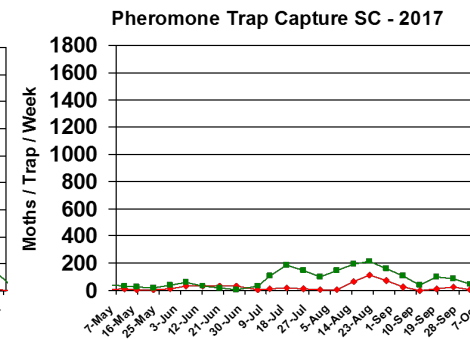
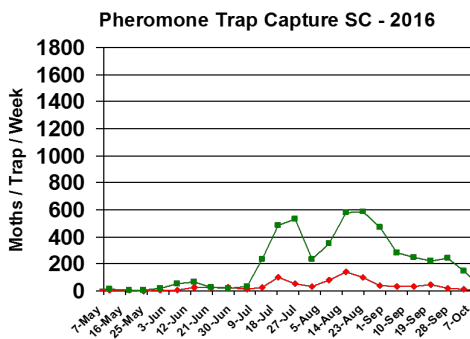
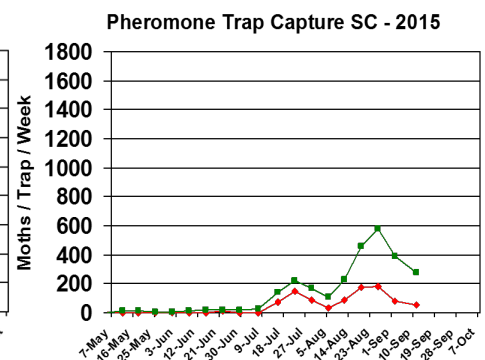
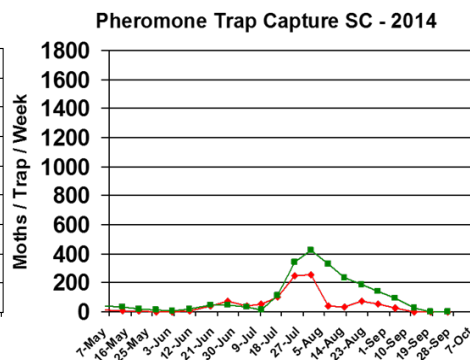
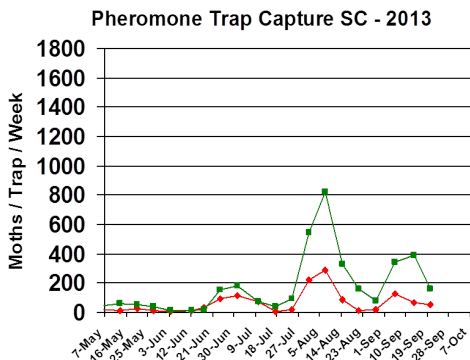
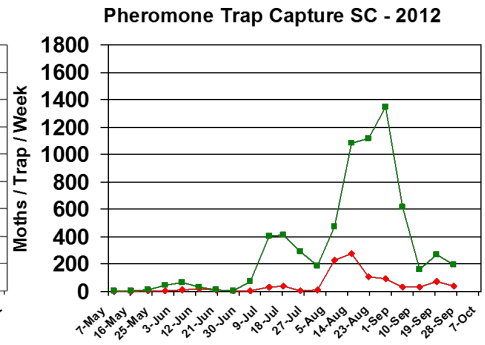
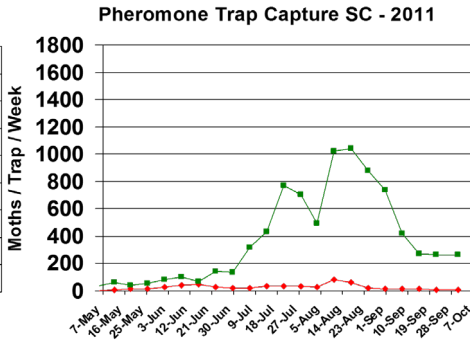
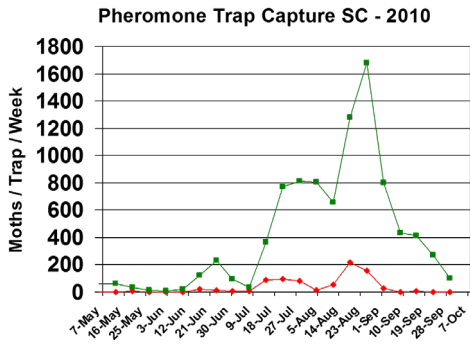
Pheromone Trap Capture SC - 2009





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Pest Management Handbook – 2023

Insect control recommendations are available online in the 2023 South Carolina Pest Management Handbook at:

<https://www.clemson.edu/extension/agronomy/files/pest-management-handbook-clemson-extension.pdf>

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):

<https://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



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