



Cotton/Soybean Insect Newsletter

Volume 18, Issue #2 Edisto Research & Education Center in Blackville, SC

11 May 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 [@BugDoctIn](https://twitter.com/BugDoctIn) on Twitter.



News from Around the State

Charles Davis, county agent in Calhoun County, **Jonathan Croft**, county agent in Orangeburg County, and **Jay Crouch**, county agent in Newberry County, all reported a little cotton or soybeans planted in their counties but that very little is up yet. So, this is good news because cotton plantings before now would have been at higher risk for thrips injury. We will cover this more in the Cotton Insects section below.

Cotton Situation

As of 7 May 2023, the USDA NASS South Carolina Statistical Office estimated that about 10% of the crop has been planted, compared with 3% the previous week, 20% at this time last year, and 23% for the 5-year average. The conditions of the crop were not yet reported (-% excellent, -% good, -% fair, -% poor, and -% very poor). These are reported statewide averages.

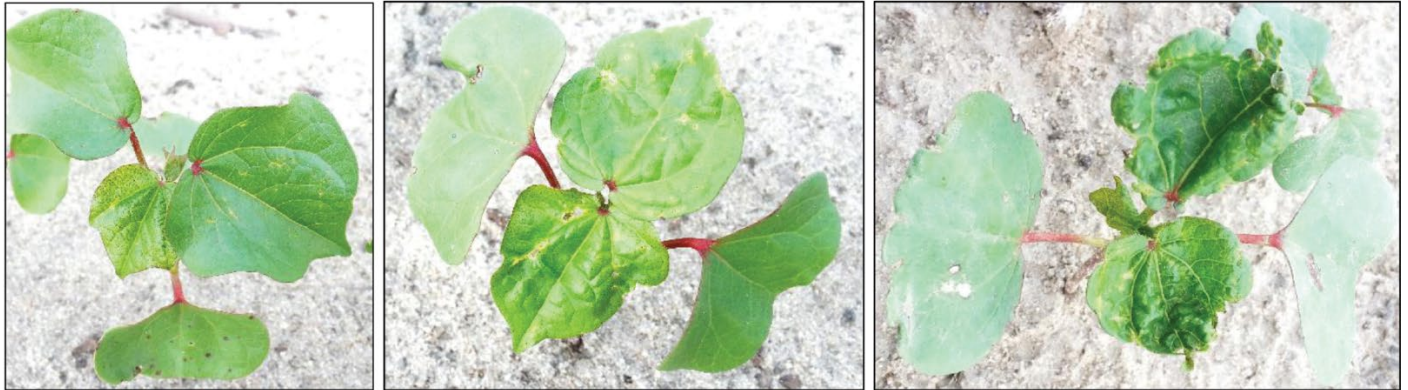
Cotton Insects

Many insect species will be important in cotton throughout the season, but, during the early season, we should only deal with a few of them. Thrips and a few additional insect groups (cutworms, grasshoppers, etc.) can be important during the seedling stage of cotton growth. Let's talk about thrips more here.

Thrips – We covered thrips in the last issue, but, because we will deal with thrips for the next month, we will continue to discuss the current situation and management options. The species of thrips that reproduces readily and is most abundant on seedling cotton is tobacco thrips, *Frankliniella fusca*, but there are a handful of additional species, including western flower thrips, flower thrips, soybean thrips, onion thrips, etc., that can be found on young cotton plants. Feeding by thrips can cause a range of symptoms, from minor crinkling of leaves to destruction of leaves and plant death, and that range of injury can result in no losses or significant loss of yield. We rate injury to seedlings using the scale shown here, where ‘0’ =



no damage, and '5' = plant death or severe injury to new, true leaves. In this figure, at the '5' rating, you can see tremendous injury to terminal growth due to feeding by thrips. We use the '3' rating as enough damage to start thinking about spraying a foliar insecticide to control thrips. So, somewhere between a '3' and '4' would be a threshold based on visible injury. The key to deciding when to spray for thrips is examining the newest leaf on the plant. If it unfurls normally and shows minimal crinkling (like the '1' and '2' ratings), that is a sign that thrips feeding is not causing enough damage to hurt the plant; however, if the newest leaves show signs of continued feeding injury (like ratings '3' through '5'), you likely need to intervene with an insecticide spray to prevent a delay in maturity or loss of yield.



0

1

2



3

4

5

I encourage all producers and farm managers to consult the Thrips Infestation Predictor for Cotton at <https://products.climate.ncsu.edu/ag/cottontip/> to see when their fields are at the highest level of risk for injury from thrips. You simply select your field location on the map and choose a desired planting date. The online tool will show periods of low and high risk for thrips injury based on forecasted weather and many other data. I have shown the steps below for an example field I selected at the Edisto REC near Blackville, SC, with a planting date of 13 May 2023. In this example, when I click the 'SUBMIT' button, it takes me to a series of charts. The first chart shows the risk for thrips injury based on the selected planting date and a range on either side of that date. I selected a range of 10 days before and after that date.



The figure just below this shows what the tool looks like after you select a planting date, a range of values before and after that date, and a field location on the map. You would hit the 'SUBMIT' button now.

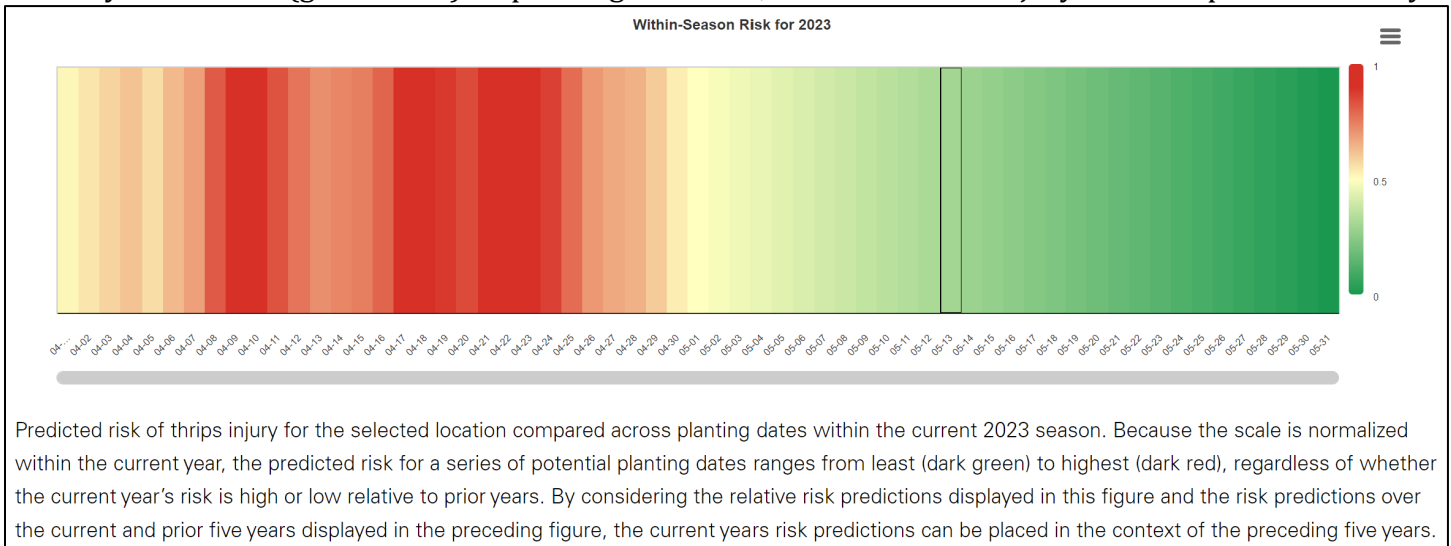
Plant Date: 🇺🇸

Run models for dates days before and after planting date.

SUBMIT

[About This Tool](#)

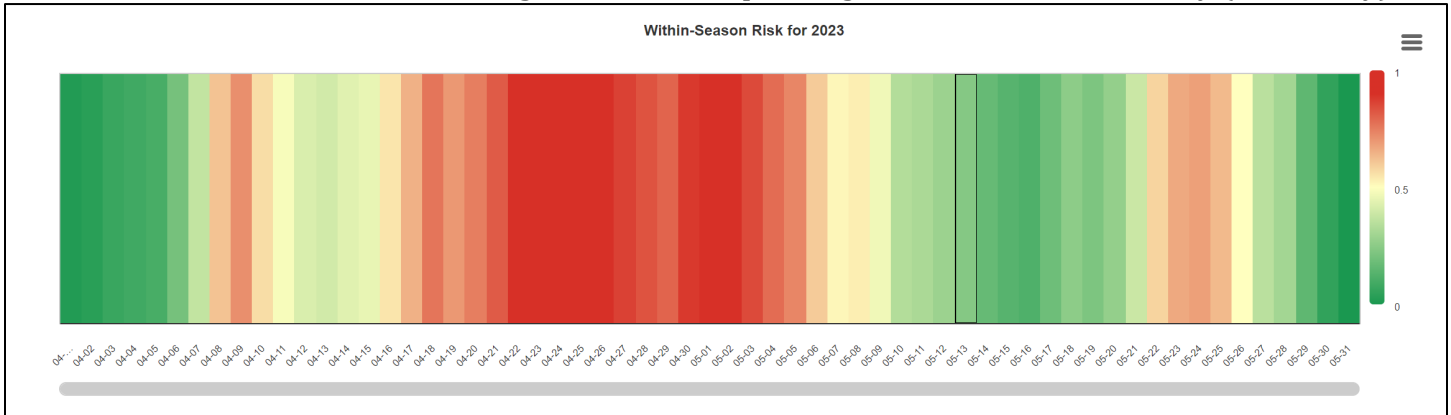
The figure below shows the risk of thrips injury for the field near Blackville planted on 13 May. We are basically in the clear (green zone) on planting date here, with low risk of injury from thrips for all of May.



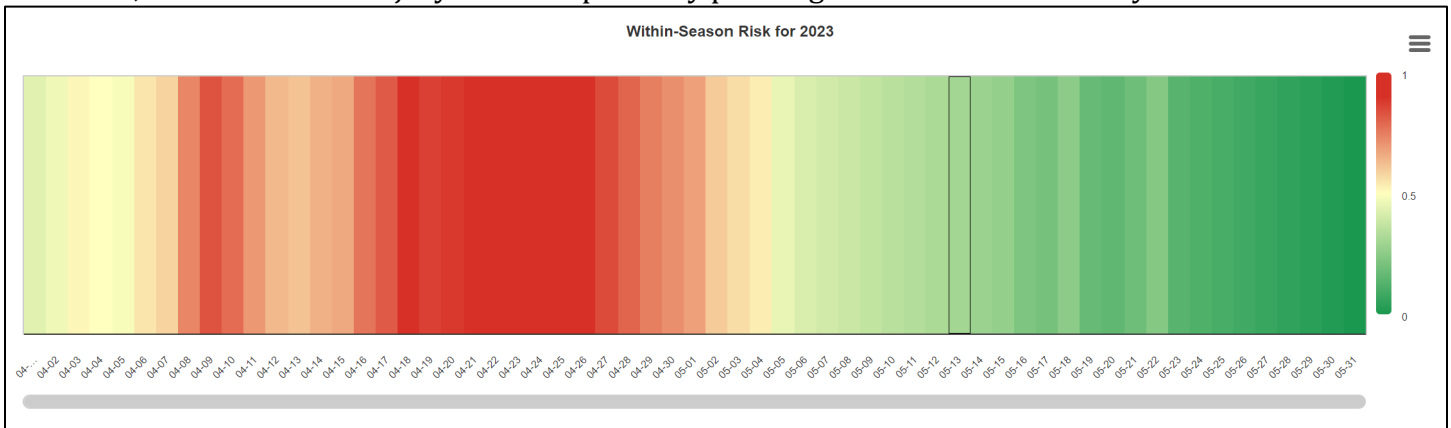
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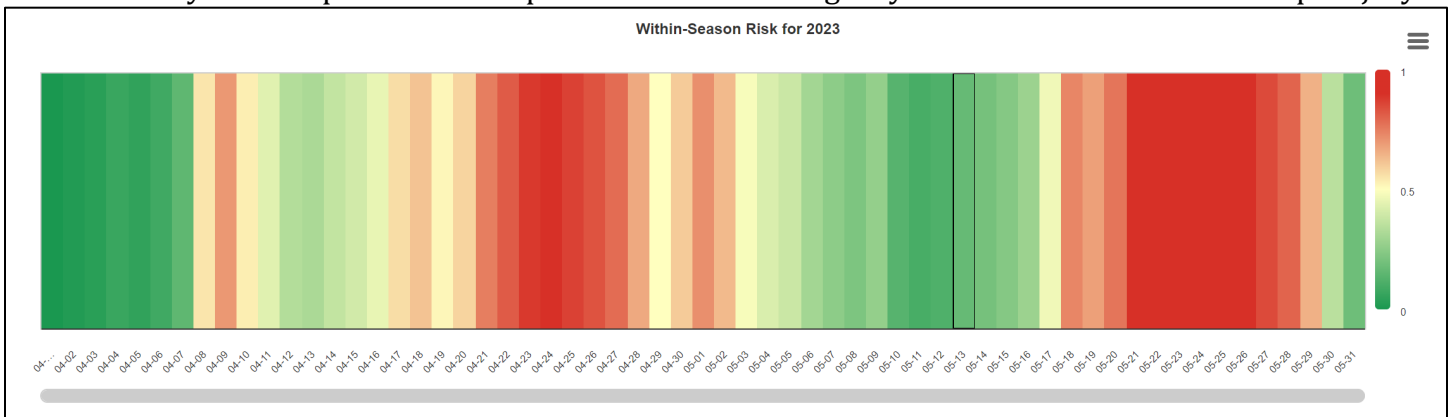
The results below, for the upper Pee Dee Region (e.g. Bennettsville, SC), indicate a similar trend, except there is an abbreviated window of heightened risk for planting dates near the end of May (22-26 May).



The results below from the middle of the Coastal Plain in SC (near Sumter, SC) look much like those from Blackville, with low risk of injury from thrips at any planting date for the rest of May.



The results from the Piedmont Region (i.e. near Newberry, SC) indicate a different story, with high risk from thrips injury for cotton planted back at the end of April and again for any cotton to be planted near the end of May. Cotton planted in this part of the state during May so far is at a low risk for thrips injury.

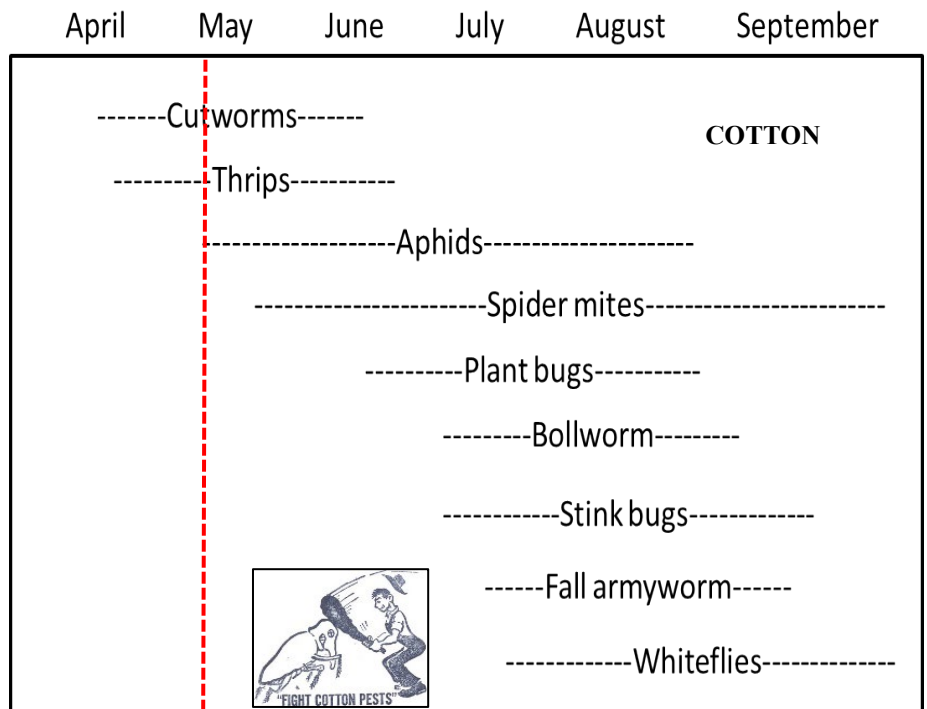




Again, I encourage all farm managers to play around with this online tool and map out your cotton plantings to reduce risk from thrips injury. With just a little upfront planning on when to plant and where to put a range of control options (seed treatments, AgLogic, ThryvOn, etc.) you can get the best “bang for your buck.” At-plant options include insecticide seed treatments (with imidacloprid or acephate), in-furrow liquid (imidacloprid or acephate) or granular (AgLogic or Thimet) products, the new Bt trait (ThryvOn), or a combination of these delivery methods. Here is how I would approach planting. I would plant my fields in difficult places to get to with the sprayer or fields with nematode concerns during a high-risk window for thrips and use aldicarb (AgLogic), knowing that premium treatment will do a good job on thrips and nematodes during that heightened risk time, and I probably will not need to spray for thrips later. I would use the ThryvOn trait in high-risk windows where I didn’t have issues with nematodes and in fields hard to get to with a sprayer later or next to a crop like wheat or corn (a host for plant bugs). In low-to-moderate windows for thrips injury risk, I would use the seed treatments or an in-furrow spray (e.g. Admire Pro) or granular Thimet. For rates and detailed recommendations for controlling thrips, consult the 2023 South Carolina Pest Management Handbook at <https://www.clemson.edu/extension/agronomy/files/pest-management-handbook-clemson-extension.pdf> for all insecticide options, other than the new Bt trait called ThryvOn. Registration of this technology in cotton came after sections for the 2023 handbook were submitted. For more information about ThryvOn, see the publication referenced below.

Graham, S. H., D. Reisig, A. Huseh, J. Greene, and P. Roberts. 2023. Maximizing insect control in ThryvOn cotton in the Southeast. Alabama Extension – Peer-Reviewed, Crop Production, ANR-2984. <https://www.aces.edu/blog/topics/crop-production/maximizing-insect-control-in-thryv-on-cotton-in-the-southeast/>

Cutworms and Grasshoppers – I have yet to hear much about issues with cutworms this season, but there are already reports about problems with grasshoppers. Two things you can do to combat grasshoppers are 1) make sure you have at least a couple of weeks between planting and application of burndown herbicides and 2) have some of the insecticide Dimilin (2 fl oz/acre), an insect growth regulator (IGR), on hand to spray with an adult insecticide (pyrethroid, Orthene, etc.) to prevent nymphs from becoming adults. Breaking the life cycle is very effective in reducing numbers of grasshoppers. If you



have to disk or cultivate any fields, you will probably notice that grasshoppers are not as bad in those fields because you will have mechanically destroyed egg pods in the soil. Since we began using minimum tillage, we have observed more issues with grasshoppers.



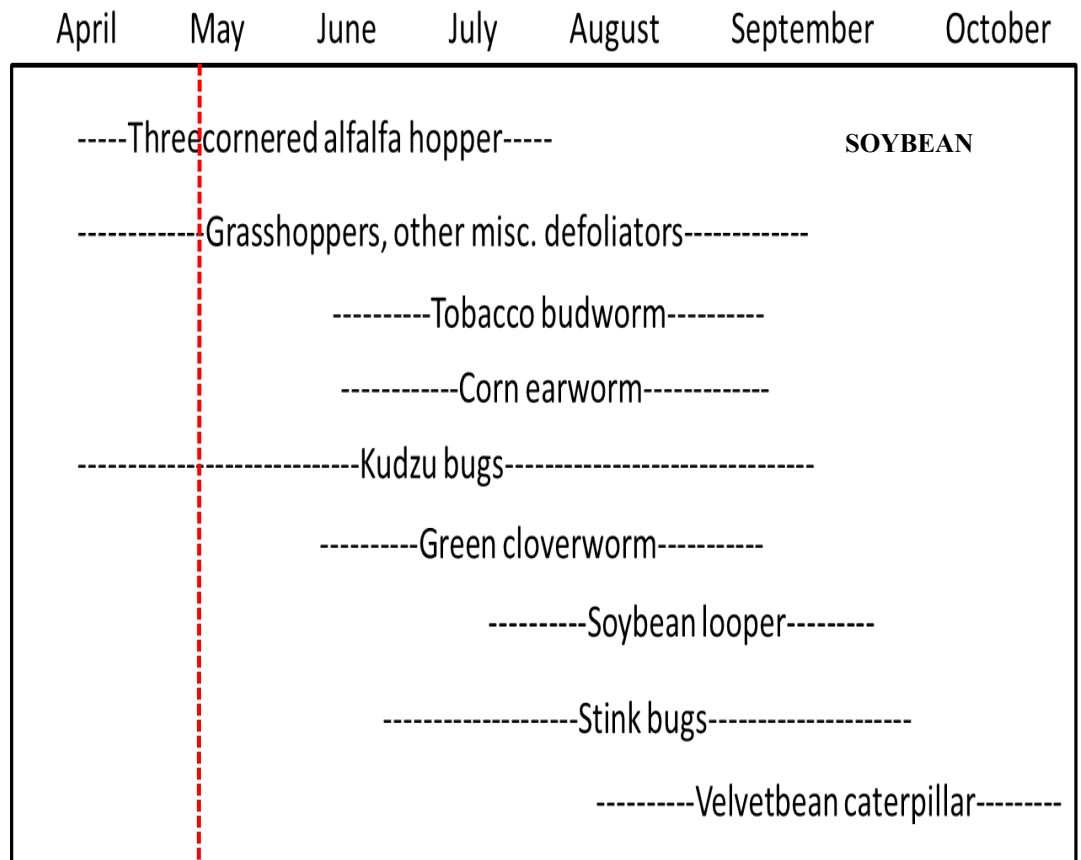
Soybean Situation

As of 7 May 2023, the USDA NASS South Carolina Statistical Office estimated that about 9% of the crop has been planted, compared with 3% the previous week, 9% at this time last year, and 11% for the 5-year average. The conditions of the crop were not yet reported (-% excellent, -% good, -% fair, -% poor, and -% very poor). These are reported statewide averages.

Soybean Insects

We are still early on reporting on issues with insects in soybeans, but, as those plants emerge, we will see problems develop. Just as we see in cotton, grasshoppers can be a significant issue for seedling soybeans by chewing mainstems and thinning the stand. Also, threecornered alfalfa hopper (TCAH) can be an issue on vegetative soybeans that we often ignore because the injury they cause is difficult to see until the end of the season. Eliminate the “green bridge” for these insects by burning down weeds or cover crops well in advance of planting (at least a couple of weeks). This will minimize the numbers of insects remaining in the field that can move from one green plant (weeds or cover crop) to another (your emerging soybeans). Have some pyrethroid insecticide (most end with ‘thrin’ in the chemical name, e.g. bifenthrin) or Orthene for TCAH and adult grasshoppers, and get some Dimilin (2 fl oz/acre) to use for immature grasshoppers.

As I mentioned in the last issue, make some of your insect control plans now for soybeans. You should budget for and buy insecticides for stink bugs and soybean looper at a minimum. I would buy enough pyrethroid insecticide to cover all of my acres at least once for stink bugs, and I would buy enough selective insecticide (Vantacor, Intrepid Edge, Denim, etc.) to cover half of my acres for soybean looper (SBL). Of course, some of the active ingredients in these SBL insecticides are found in pre-mixes that will provide control of bugs and caterpillars. Those include products like Besiege and Elevest, also good options to have on hand for insect pests of soybeans and 2-gene Bt cotton. Supply-chain problems might be easing some, but I would make sure I had some on hand because you will need insecticides for soybeans, for sure.



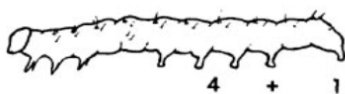


As moth activity increases, deposited eggs will yield caterpillar pests on soybeans. It is good skill to be able to identify adult moths flying around in fields. Use this chart to study moth and caterpillar identification.

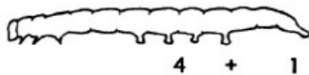
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(2017) Prepared by Jeremy Greene, Professor of Entomology

FIELD KEY TO COMMON SOYBEAN CATERpillARS



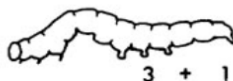
CORN EARWORM
4 + 1 pair prolegs
Curls up in hand
Black "warts" on body



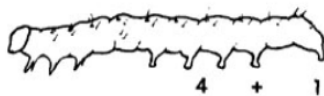
VELVETBEAN CATERPILLAR
4 + 1 pair prolegs
Very active when handled



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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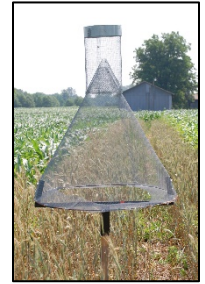


Bollworm & Tobacco Budworm

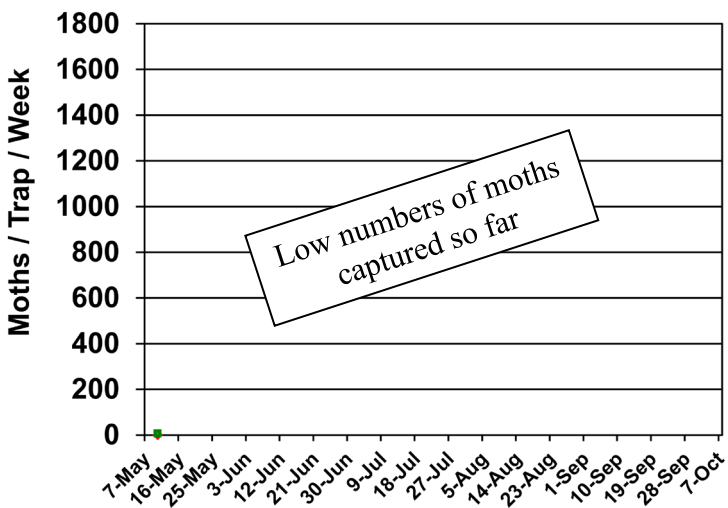


Captures of bollworm (BW) and tobacco budworm (TBW) moths in pheromone traps at EREC this season are shown below, as are the captures from 2007-2022 for reference. Tobacco budworm continues to be important for our soybean acres and for any acres of non-Bt cotton. I provide these

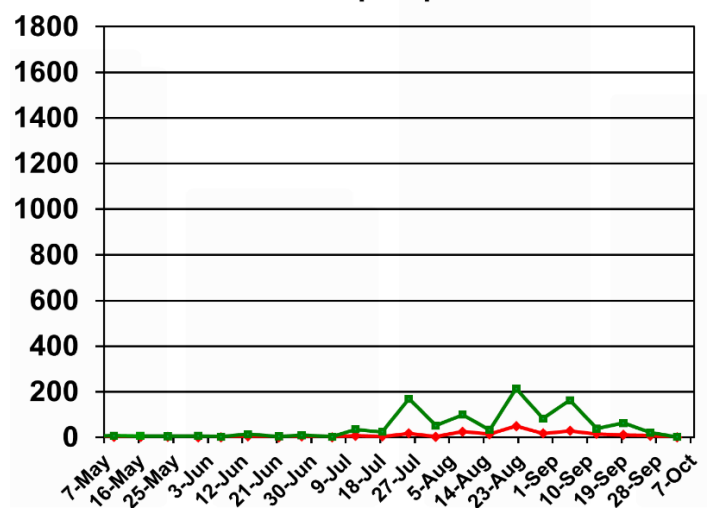
data as a measure of moth presence and activity in our local area near my research plots. The numbers are not necessarily representative of the species throughout the state but are useful for general trends.



Pheromone Trap Capture SC - 2023

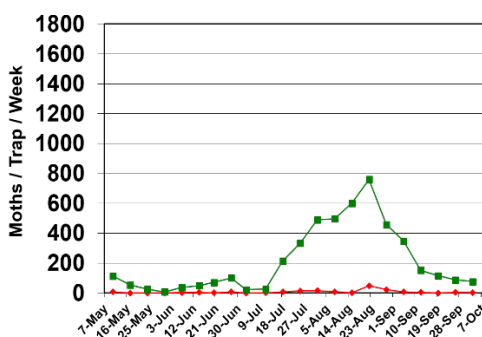


Pheromone Trap Capture SC - 2022

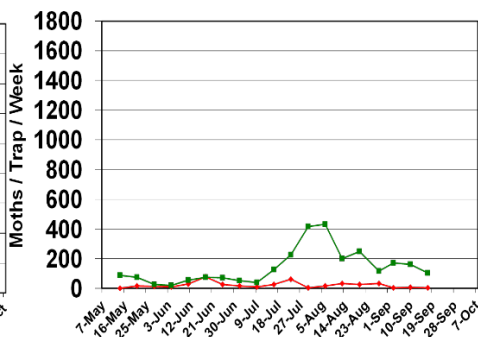


Trap data from 2007-2021 are shown below for reference to other years of trapping data from EREC:

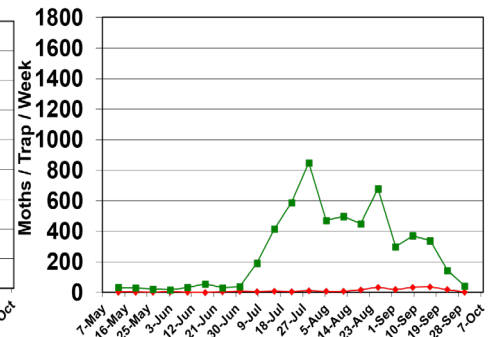
Pheromone Trap Capture SC - 2007



Pheromone Trap Capture SC - 2008



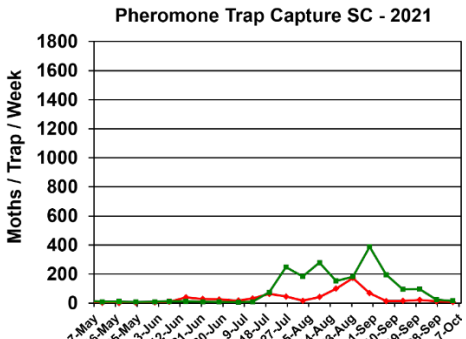
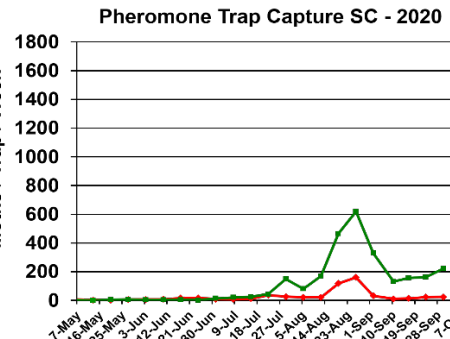
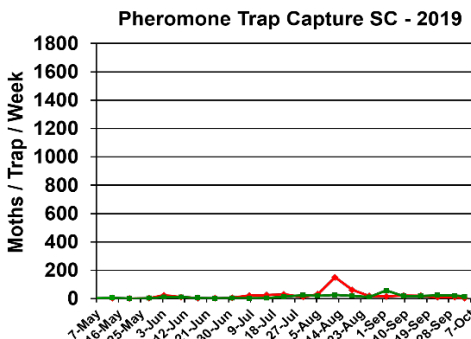
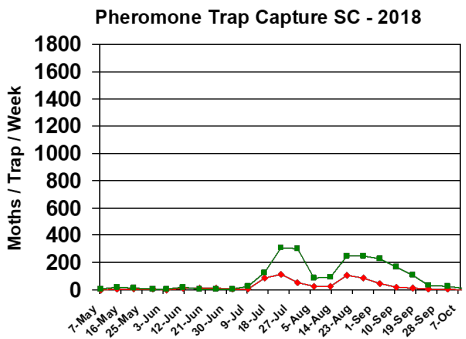
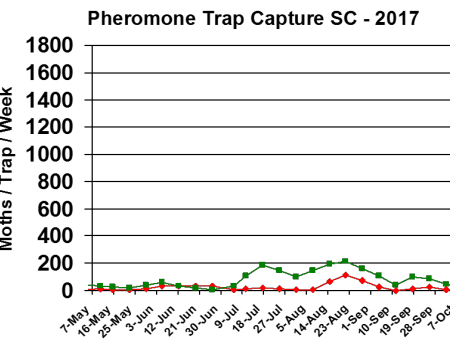
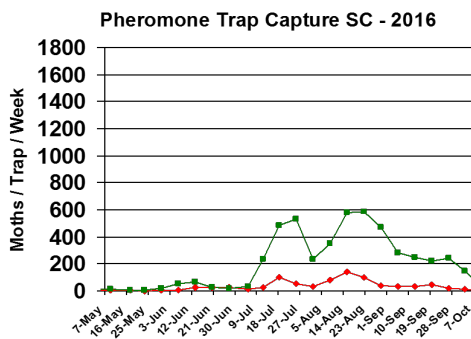
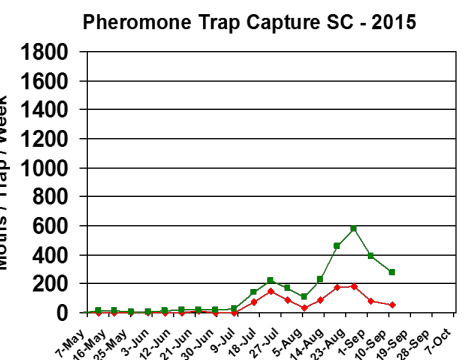
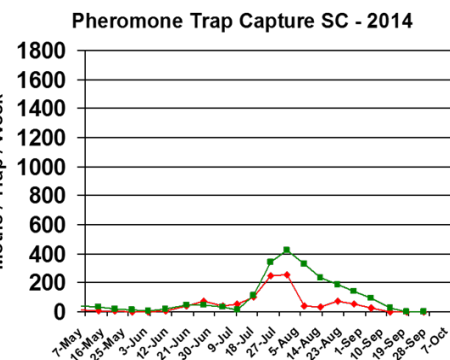
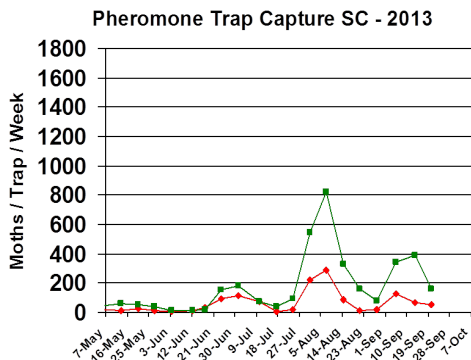
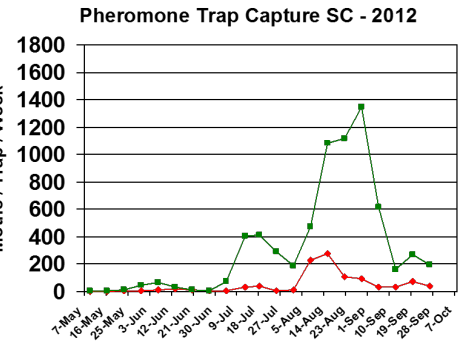
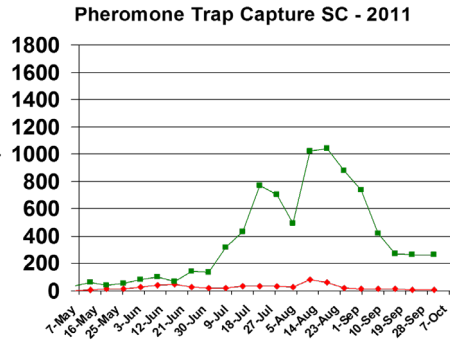
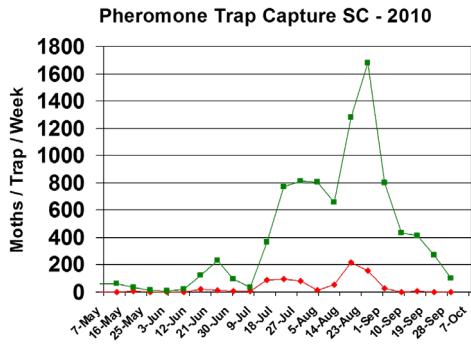
Pheromone Trap Capture SC - 2009





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Pest Management Handbook – 2023

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

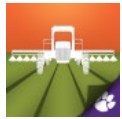
<https://www.clemson.edu/extension/agronomy/files/pest-management-handbook-clemson-extension.pdf>

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):

<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



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