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.

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
Charles Davis, county agent in Calhoun County, reported, “Things are pretty quiet...with the big feeders as hoppers and deer, and, fortunately, they are feeding on volunteer peanuts for the most part. That will change once these peanuts get killed off. Thrips damage is variable from field to field.” Jonathan Croft and Joe Varn, county agents in Orangeburg and Barnwell Counties, respectively, also reported not seeing any insect issues in cotton but needing rain to plant the remainder of cotton and keep going on soybeans. David DeWitt, county agent in Lee and Kershaw Counties, reported, “Have not seen or heard many issues this way. Grasshoppers are plentiful in the grain fields being harvested, and most land planted except following grain could use some rain.” David also informed me that some growers were spraying seedling cotton with pyrethroids for thrips because they were advised to do so. This is not a good practice because pyrethroids actually can make thrips numbers increase on seedling cotton. Many of the pyrethroids we use end in ‘-thrin’, such as bifenthrin (Brigade) shown charted here. While pyrethroids are great on later cotton, acephate (Orthene) should be used on seedling cotton, if targeting thrips and grasshoppers. Use pyrethroids on soybeans for grasshoppers.

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Public Service Activities
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I picked a few ears of sweet corn this morning, and, oh, my! There were more adults of the southern green stink bug (SGSB) than there were ears of corn. No kidding. We will be collecting SGSB from this patch of corn for some laboratory bioassay work, but the fortuitous discovery does forewarn us about what is coming for subsequent crops – like cotton and soybeans. William Hardee, county agent covering Horry, Marion, and Dillon Counties, also reported stink bug injury in tobacco. We have a bumper crop of stink bugs in the works!

Cotton Situation
As of 29 May 2022, the USDA NASS South Carolina Statistical Office estimated that about 81% of the crop has been planted by this week, compared with 65% planted the previous week, 83% at this time last year, and 79% for the 5-year average. The conditions of the crop were 6% excellent, 31% good, 63% fair, 0% poor, and 0% very poor. These are reported statewide averages.

Cotton Insects
We are about done covering thrips for this season, but some of the late-planted crop could still be at risk for injury from thrips. Our final counts this week from trials planted in late April were pretty high. Most of the cotton planted late in May with at-plant insecticide for thrips will most likely fair very well for the next week or two and be just fine.

We now need to focus on plant bugs and aphids, the two main groups of insect pests between now and the first couple of weeks of bloom. Some of my plots planted the last week of April now have multiple squares per plant, and we noticed some abortion of positions. Look for these scars where squares were aborted when estimating square retention. We will start sweeping this cotton on Monday and counting plant bugs, specifically the tarnished plant bug.
(TPB), *Lygus lineolaris*, our predominant and important species of Miridae (plant bugs). Remember that our thresholds for plant bugs are based on square retention AND plant bugs both being present at threshold levels. We can have significant physiological shed of squares due primarily to the environment. In those cases, we do not want to waste resources (insecticide, fuel, labor, etc.) on spraying for something that is not there. If you have square retention at or below 75% and have plant bugs at 8 per 100 sweeps, you are at threshold and should consider spraying. See our 2022 Pest Management Handbook or below for recommended insecticides.

### PLANT BUGS (COTTON FLEAHOPPER AND TARNISHED PLANT BUG)

<table>
<thead>
<tr>
<th>Product</th>
<th>Product/acre</th>
<th>Lb ai/acre</th>
<th>Acre/gal</th>
<th>REI</th>
<th>PHI</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>sulfoxaflor Transform 50 WG</td>
<td>1.5-2.25 oz</td>
<td>0.047-0.071</td>
<td>-</td>
<td>24 hr</td>
<td>14 d</td>
<td></td>
</tr>
<tr>
<td>acephate Orthene/Acephate 97</td>
<td>4.1-12.3 oz</td>
<td>0.25-0.75</td>
<td>-</td>
<td>24 hr</td>
<td>21 d</td>
<td></td>
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<tr>
<td>acephate Orthene/Acephate 90</td>
<td>4.4-13.3 oz</td>
<td>-</td>
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<td></td>
<td></td>
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<tr>
<td>imidacloprid Alias 4 F</td>
<td>1.5-2.0 oz</td>
<td>0.031-0.0625</td>
<td>64-83</td>
<td>12 hr</td>
<td>14 d</td>
<td></td>
</tr>
<tr>
<td>imidacloprid Alias 2 F</td>
<td>3.0-4.0 oz</td>
<td>0.0625</td>
<td>32-42.6</td>
<td>-</td>
<td></td>
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<tr>
<td>imidacloprid Admire Pro 4.6</td>
<td>0.9-1.7 oz</td>
<td>75-142</td>
<td>-</td>
<td>-</td>
<td></td>
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<tr>
<td>thiamethoxam Centric 40 WG</td>
<td>2.0-2.5 oz</td>
<td>0.05-0.0625</td>
<td>-</td>
<td>12 hr</td>
<td>21 d</td>
<td>5 oz limit for season</td>
</tr>
<tr>
<td>dicrotophos (R) Bidrin 8 E</td>
<td>4.0-8.0 oz</td>
<td>0.25-0.5</td>
<td>16-32</td>
<td>6 d</td>
<td>30 d</td>
<td>16 oz limit post bloom</td>
</tr>
<tr>
<td>oxamyl (R) Vydane 3.77 CLV</td>
<td>8.5-17.0 oz</td>
<td>0.25-0.5</td>
<td>7.5-15</td>
<td>48 hr</td>
<td>14 d</td>
<td></td>
</tr>
<tr>
<td>clothianidin Belay 2.13</td>
<td>3.0-5.0 oz</td>
<td>0.05-0.083</td>
<td>25.6-42.6</td>
<td>12 hr</td>
<td></td>
<td>Pinhead square 1 application for season</td>
</tr>
<tr>
<td>novaluron Diamond 0.83 EC</td>
<td>9.0-12.0 oz</td>
<td>0.058-0.078</td>
<td>14.2-21.3</td>
<td>12 hr</td>
<td>30 d</td>
<td>Effective on nymphs only</td>
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</table>

Plant-bug injury to squares rarely causes economic problems in South Carolina. An economic problem could develop if an early-maturing variety was planted late, an average of 3 plant bugs per 6 row ft is detected using a beat cloth or beat pan, an average of 1 plant bug per 10 sweeps, or 25% or more of pinhead squares have been lost. Cotton in South Carolina is most susceptible to plant bugs around the time of first bloom. Pyrethroid insecticides generally provide suppression of plant bugs when applied at stink bug/bollworm control rates. Avoid treating Bt cotton for plant bugs unless absolutely necessary in June and July as subsequent reductions in beneficial populations often trigger problems with bollworm or fall armyworm. Plant bugs can also injure small bolls like stink bugs. For combinations of plant and stink bugs feeding on small bolls, use boll-injury treatment thresholds for stink bugs.

Proper identification of insects in the field is important. There are several insects that resemble each other, and there are at least a couple of insects that can be easily mistaken for adult TPB. Those are big-eyed bugs and false chinch bugs. I put photos of each on the next page to help with that, and while they might look...
very different when presented side by side, they can be tricky in the field when alone and nothing else is there for comparison. So, know these. The tarnished plant bug (can be an economic pest for us) is on the left, false chinch bugs (rarely economic pests) are in the middle, and the bigeyed bug (a beneficial insect) is on the right. I took the photo of the bigeyed bug in squaring cotton this morning where we were missing a few squares here and there. As for aphids (photo below), just monitor populations and not get too worked up about them at this point. The most important potential issue now in squaring cotton will be plant bugs. A fast and easy way to check square retention is to look for the presence or absence of the first position square on the top 3 or 4 nodes on multiple plants in each field. Do the math, and figure up what you have retained and aborted.

<table>
<thead>
<tr>
<th>April</th>
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COTTON

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**Soybean Situation**
As of 29 May 2022, the USDA NASS South Carolina Statistical Office estimated that about 49% of the crop has been planted this week, compared with 39% planted the previous week, 71% at this time last year, and 51% for the 5-year average. About 23% of the crop has emerged, compared with 11% the previous week, 52% at this time last year, and 31% for the 5-year average. The conditions of the crop (have yet to be reported) were --% excellent, --% good, --% fair, --% poor, and --% very poor. These are reported statewide averages.

**From the SC Soybean Specialist (Dr. Michael Plumblee)**
“Farmers across the state have now made it halfway through planting soybean in SC. Dry conditions continue in many places while some places have received rain to preserve soil moisture. Wheat harvest has begun in which approximately 1/3 of our soybean acres will follow. Stand establishment can be challenging following wheat stubble, residue, and straw; so, make sure that planters are set up properly to move or slice through residue and are placing seeds to appropriate depths to allow for germination and emergence (again we need at least 80k plants per acre emerged, so adjust seed rates accordingly). Water use in soybean is around 0.16 inches per week after planting (relatively low and hopefully rainfall will support) and around 0.9 inches per week once soybean has been planted for approximately 5 weeks. The bulk of our acres fall within this window, so this hopefully gives you an idea of the water demand right now, especially if irrigation is an option. Clemson University is in the process of installing a network of weather stations around the state for public use, we will share the link to the dashboard once it is available. In the meantime, here is the link for the station located at Edisto REC: https://tempestwx.com/station/74476/”

**Soybean Insects**
Again this week, we do not have any widespread issues with insects in soybeans, other than more reports of sporadic grasshoppers. As stated last week, grasshoppers and deer are about it so far regarding herbivores in soybeans. I recommend a heavy rate of a pyrethroid mixed with Dimilin (2 fl oz/acre) as the best treatment for them at this time of year. The soap-based repellents and aldicarb used at planting can help repel deer.

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*Public Service Activities*

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The figure below is for much later in the season, but it stays here as a reminder to learn how to identify larvae and adults (moths).

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.
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 2007-2020 are shown below for reference to other years of trapping data from EREC:
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Pest Management Handbook – 2022
Insect control recommendations are available online in the 2022 South Carolina Pest Management Handbook at:
https://www.clemson.edu/extension/agronomy/pestmanagement2022/2022pmhmaster.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