UNIVERSITY OF GEORGIA EXTENSION

UGA Cotton Team Newsletter
July 2025

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Georgia Cotton Commission Mid-Year Meeting – July 23, 2025 (*Camp Hand*): This entry in the newsletter is a reminder that of the Georgia Cotton Commission Mid-Year Meeting, scheduled for July 23, 2025 at the Nessmith-Lane Conference Center on the campus of Georgia Southern University in Statesboro, GA. The Georgia Cotton Commission has put together a great program featuring updates from the Georgia Cotton Commission, UGA Extension, The Cotton Board, and The National Cotton Council. We will also present the Georgia Quality Cotton Awards during lunch. A full agenda can be found here. We hope that you all will attend, and if you plan to, you can register at this link.

This is always a great meeting with plentiful opportunities to interact with folks in the industry and we all look forward to seeing everyone there.

As always, if you have questions on this event or anything else, please don't hesitate to reach out to your local UGA County Extension Agent or the Georgia Cotton Commission.

A Deeper Dive into Summer Cover Crop Species Selection (*Taylor Singleton*): As a follow up to last month's newsletter article on fallow fields and summer covers (**link**), I thought we'd dive a little deeper into some cover crop options that you may be considering planting in a fallow field or other areas where you want to keep the ground covered.

Again, the two biggest factors that should drive your decision on what cover crop species to plant are: 1) Economics (What is your budget?) and 2) Goals (What do you want to accomplish?). Without clearly defining these two parameters, you may be setting yourself up for disappointment if the resulting cover isn't what you imagined. Only you can decide what will work for your operation economically during this point of the year, just keep in mind, everything has a value, including the goals/outcomes outlined below. You just must decide what it's worth to ***your operation***.

When planting summer cover crops, our goals and objectives are very similar to those we hope to achieve when planting covers in the fall. These objectives were covered in more detail last month; in general (but not exclusively), we can expect different cover crop species to provide at least one of the following outcomes: 1) Generating N or scavenging N, 2) Improving soil characteristics (tilth, OM, infiltration, etc.), 3) Suppressing weeds, 4) Minimizing erosion, and/or 5) Grazing/Forage source.

With this in mind, below is an in-depth look at what different types of summer cover crop can bring to the table, to help guide your decision making:

Grains/Grasses

- ***Millets*** (including browntop, Japanese, Pearl, others) – Fast growing and can produce medium to high levels of biomass (good for weed suppression). Tolerates tough summer conditions (heat, moisture/drought) well, although can be species/cultivar dependent. Attractive to wildlife as a food and habitat source. Its fibrious root system is excellent for scavenging residual soil N and helping mitigate soil erosion. Can be used for grazing and forage, however, ***must be very careful of potential for accumulation of toxic levels of nitrates during adverse conditions than can be lethal to livestock*** (check out this UGA **article** and this **one** for more info). Some species can mature very quickly (~45 days) and produce A LOT of variable seed….must manage appropriate to avoid weedy problems later!!!
- ***Sorghum-sudangrass*** – Fast growing and can produce tall, heavy biomass in hot summer conditions. Great for weed suppression, adding organic matter back to the soil, and holding the ground in place. Depending on the conditions, supplemental fertility may be needed to maximize biomass. Can help disrupt the life cycle of some nematode species. There are cultivars with sterile seedheads available. **If grazing, must be mindful of potential for prussic acid poisoning** (UGA **article** for more info)!!

Legumes

- ***Sunn hemp*** – A tropical legume that grows quickly, produces heavy biomass, and fixes high levels of N. Can suppress multiple types of nematodes and be used as a grazing crop at early growth stages. If allowed to grow to maturity, the plant becomes very woody and produces viable seed – a termination plan is needed before set set.
- ***Cowpeas*** – Extremely productive in GA summer conditions (hot, dry), growing fast and producing moderate levels of biomass. Excellent at producing N and reducing erosion due to a deep tap root. Some varieties are nematode resistant. Their busy and viney nature can make ***mechanical control/termination very difficult***; additionally, they can mature and produce viable seed in as little as 45 days. ***Without timely management (termination @ bloom), can become a VERY weedy problem*****!**

Broadleaves

- ***Buckwheat*** – This one is one of my favorites. A super-fast-growing broadleaf that great for pollinators and beneficial insects! It does not tolerate the extreme middle-of-summer heat and drought well, so ideally a late spring planting is best (although not very realistic in most cases). Often you will see/use this in a mix with other cover crop species. Can produce a viable seed in as little as 30 days….**MUST terminate (mowing/herbicides) within one week of first flower**. Moderate levels of biomass generated; can suppress weeds and minimize soil erosion due to fast ground coverage.
- ***Sunflower*** – Hugely popular with wildlife (and pollinators), is it very versatile and adapted to a wide variety of growing conditions that we encounter in GA. A large taproot can help with compaction and residual N uptake. Moderate to large levels of biomass can be generated, helping suppress weeds and hold the soil in place; residue can become very "woody" once mature and drop seed that are viable. If weediness is a concern, make sure to terminate timely.

Whatever your objective is, there is a warm season cover crop species that can help you achieve that goal. With all the rain we've been receiving, combined with a larger-than-normal number of fallow fields, it's more important than ever that we help hold our valuable soil in place!

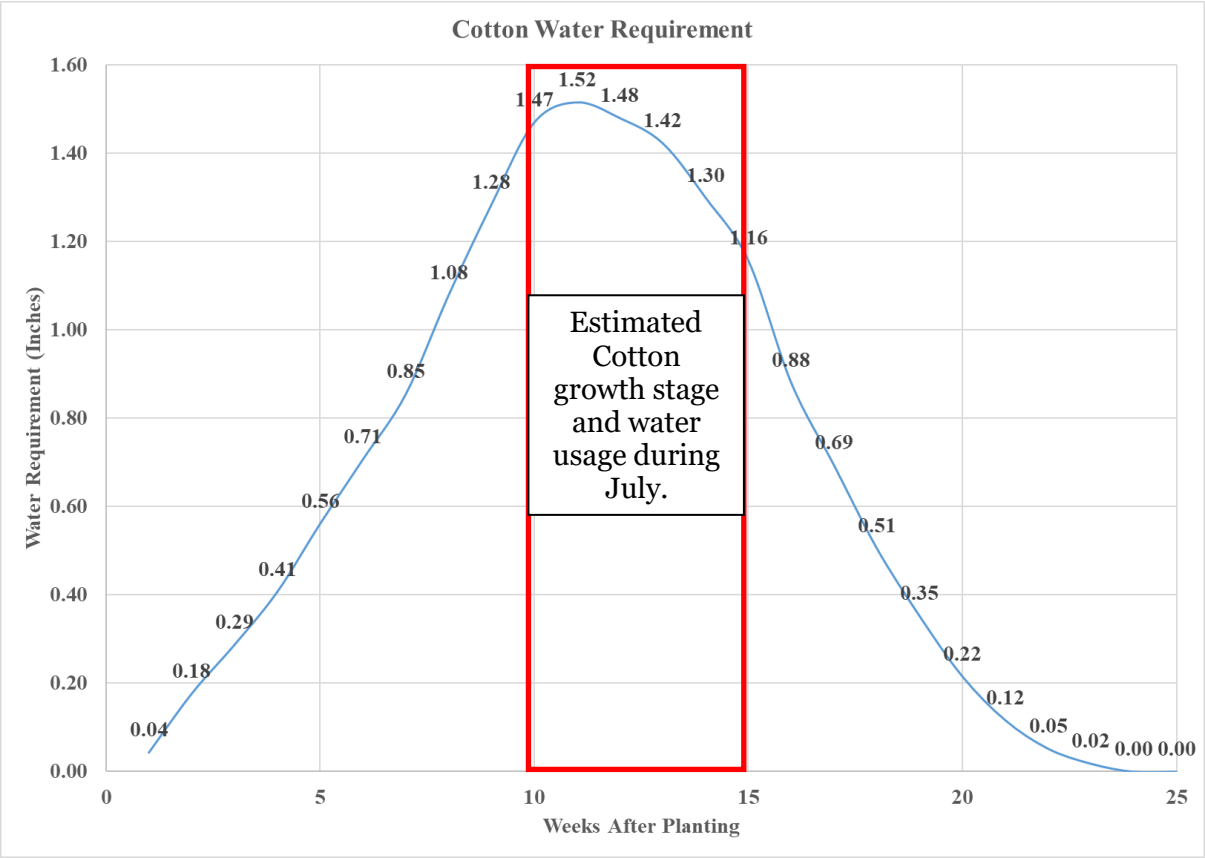
July Mid-Season Cotton Irrigation Considerations (*Jason Mallard, David Hall, Phillip Edwards, and Wes Porter*): Planting season did not have as many challenges during 2025 as in previous seasons. It did get hot and dry during the middle part of June. Recently, we have been having sporadic rain showers across the state. We have rainfall predicted almost every day of the long-term forecast. However, that does not mean that everywhere will receive it. As we move into July, most of the cotton across the state will be moving into peak water usage; thus, we need to ensure we are staying on top of our irrigation requirements. One tool to use to estimate approximate water usage is the UGA Weather stations to see data like daily evapotranspiration. The evapotranspiration rates during the end of June were high. Just pick a site and enter a timeline on the water balance tab. It should be noted that the weather station reported Evapotranspiration is not direct crop water usage. To obtain current crop water usage ET must be multiplied by the current crop coefficient. This is how the UGA Extension Checkbook method was developed and how the SmartIrrigation CropFit App works in real time. The Checkbook was created based off historical ET rates and crop coefficients, therefore there is a good chance the water being recommended by the Checkbook could be insufficient for conditions that are hotter and drier than average. Please keep this in mind when irrigating crops, especially during hot, high west winds and low humidity environments. While the Checkbook is a good tool, soil moisture sensors or apps are far superior in irrigation scheduling.

Cotton that was planted during May in Georgia should be squaring by now and approaching bloom, if it hasn't already begun blooming. Bloom occurs roughly 9 weeks after planting and water requirements ramp up significantly and approach peak demand during this time. If you move into peak water usage and fall behind on irrigation, consider that it may take more than one application of irrigation, or rainfall (hopefully), to increase moisture back to a sufficient level. If levels are not maintained at sufficient level

and we are nearing wilting point on a regular basis are most likely impacting yield. Irrigation requirements and demand are very critical during the "First flower to first open boll" period of development. This growth stage takes place during weeks 9-17 after planting. Based on when your cotton was planted, you will enter peak demand during the month of July. During this stage, cotton may require up to 1.5 inches **per week** or 0.2 inches **per day**. Back to our ET rates, they reached up to and above 0.25 inches per day during June. Keep in mind that the Soil Water Holding Capacity (SWHC) of most of our soils is around 1.0 inches/foot of soil. The crop can only access water where it has roots and of this SWHC only about 50% of it is plant available. Thus, a cotton plant with an 18-inch rooting depth will have access to 0.75 inches of water at field capacity. With an average ET rate of 0.25 inches and the crop coefficient being over 1, the cotton will require irrigation every 3 to 4 days minimum based on rainfall and irrigation efficiency during this stage. Another consideration as we receive rainfall is water infiltration rates for our soils. Commonly during this time of the year when we receive rainfall events, they can be heavy intense events. Just because we receive a 1.5 inch rainfall event please don't think all of that will enter your soil profile. This is where soil moisture sensors can serve as an excellent option. It is important not to let your cotton crop experience water stress during the flowering stage, as stress during this stage can reduce plant growth which in return can reduce the number of fruiting sites that are initiated.

The main thing to keep in mind is that these water requirements are based on a historical average and that the crop may not necessarily need or use the amount of water as shown in the graph below. If you have cooler and cloudier or more humid days, your crop may not use nearly as much as it would if it would on a hot, sunny, and dry day. The graph below should give you a good idea of your weekly water requirements through the month of July **IF** you planted between mid-April and mid-May. If you planted later keep in mind that the Checkbook was developed from an estimated May 1 planting date, thus, you will need to adjust for higher temperatures and ET rates and will require on average more irrigation than represented in the Checkbook, especially if it remains hot and dry.

If you are using sensors for irrigation, you will notice as the crop moves into peak water usage during July, water usage will start occurring from the deeper sensor depths. This usually happens rapidly and unexpectantly. The ramp up in water use will occur sometime during peak bloom, usually around weeks 3-6 of bloom. It is important to monitor the crop and soil moisture moving into this stage and make sure that you do not fall behind on irrigation, putting the crop into potential stress during bloom. It is very hard to replenish deep soil moisture with irrigation alone. Thus, falling behind moving into peak water usage will make it very difficult to "catch-up" as we were discussing earlier. Additionally, over-irrigating cotton will cause yield reductions. Thus, it is important to follow a good irrigation scheduling strategy that recommends irrigation when it is needed. For more information on irrigation scheduling for cotton contact your local UGA County Extension Agent, general water use curves can be found at: Irrigation Reference Guide for Corn, Cotton, Peanuts, and Soybeans | UGA Cooperative Extension.



Thoughts Entering July (*Camp Hand*): As we enter July, although parts of the state certainly planted later than normal, overall the crop is tracking on schedule with previous years. I would say most of the cotton I have seen looks good, although some growers would tell me that at $0.68 it will never look good. We have talked about effectively managing this later planted cotton a good bit, but below are a couple of things I have been thinking about as I finish laying by cotton on the station and continue getting calls from our county extension agents.

Unproven or unnecessary products – I got a call from an agent in East Georgia last week that got me a little fired up. A grower wanted to spray some products to try and push some cotton out of moisture stress due to the incredible amount of rainfall they have received since Mother's Day. So the grower's dealer recommended he spray Pix, Boron, Manganese, and a starter fertilizer heavy in phosphorus (meant for a 2x2 application at planting). A few things about this. First was that the reason for the call was that this mix wasn't staying in solution and clogged up nozzles in the sprayer. So first thing is that this mix already cost the grower time and money by clogging up nozzles and them having to clean the sprayer out. But a couple of other things made me ill. The main thing here is that the only way the crop is going to grow out of moisture stress is heat and sunlight – so spraying all of this to fix that problem is unnecessary.

Additionally, PGRs slow growth, so it's a little counterintuitive to spray that to "push" the cotton out of slow growth. Another point is that if your pH is in a good spot and manganese levels in the soil are adequate (~5 lbs/acre), there is no need to apply manganese foliarly. And lastly, if all the phosphorus was applied at planting, there is no need to apply a foliar fertilizer heavy in phosphorus. Phosphorus is probably the most immobile nutrient we deal with in cotton, so there is likely still plenty there for the plant to take up.

So why was I upset that this grower did this? The main reason was that they just took their dealer's recommendation at face value and must've thought, "Well if they say it works then it must work!" As opposed to asking more questions before purchasing all of this and putting it all in the tank to spray his cotton.

All winter long I listened to growers ask, "How are we going to make this work?" The situation described above is not how we are going to help cotton pencil out in 2025. Right now a December 2025 contract is just below $0.68, and utilizing products that are not contributing to yield is only putting us further in the red. Be confident in your inputs and make sure you are doing things that will get a return on that investment.

Timeliness is key – It doesn't matter what you are doing when you are in the field, timeliness is of the essence. Applying herbicides when weeds are small, applying insecticides when thresholds are met, fungicides before diseases run rampant, PGRs before cotton gets too tall, irrigation prior to cotton wilting, etc. We cannot afford in 2025 to not be timely, because if we aren't we will fall behind and it will cost us dearly. Whether it is more trips through the field (which is diesel and time), or utilizing higher rates/more expensive products the second time around, we need to do things right the first time so we minimize errors. Timeliness with all inputs is a good investment.

As always, if you need anything, don't hesitate to reach out to your local UGA County Extension Agent.

Bug Management in Blooming Cotton (*Phillip Roberts*): For the week ending July 6, 2025 69 percent of the cotton is squaring and 20 percent is blooming which are similar to the 5-year averages of 68 and 19 percent respectively. As we enter bloom the boll feeding bug complex are the primary insect pests we must manage. When we consider boll feeding bugs, stink bugs (both southern green and brown) are the most common species infesting fields. However, there are other bug species which will also feed on bolls and include tarnished plant bug, clouded plant bug, and leaffooted bugs. Thresholds for stink bugs rely on monitoring internal boll damage which is defined as warts/callous growths on the inner surface of the boll wall and/or lint staining. Estimating internal boll damage (IBD) has proven to be a reliable technique for timing insecticide applications when needed to preserve both yield and quality. We cannot distinguish what bug species caused IBD.

The number of bolls per plant which are susceptible to stink bugs is not constant and varies during the year. The greatest number of susceptible bolls per plant generally occurs during weeks 3-5 of bloom. During early bloom there are relatively few bolls present. During late bloom, many bolls are present but

only a limited number may be susceptible to stink bug damage (individual bolls are susceptible to stink bugs in terms of yield loss until approximately 25 days of age). A dynamic threshold which varies by the number of stink bug susceptible bolls present is recommended for determining when insecticide applications should be applied for boll feeding bugs. The boll injury threshold for stink bugs should be adjusted up or down based on the number of susceptible bolls present. Use a 10-15% boll injury threshold during weeks 3-5 of bloom (numerous susceptible bolls present), 20% during weeks 2 and 6, and 30%(+) during weeks 7(+) of bloom (fewer susceptible bolls present). Environmental factors such as drought and/or other plant stresses may cause susceptible boll distribution to vary when normal crop growth and development is impacted; thresholds should be adjusted accordingly.

Figure 1 "Dirty" Blooms resulting from plant bug feeding on a large square.

In recent years we have observed more plant bugs (both tarnished and clouded) infesting cotton during bloom. This was especially true in parts of Georgia during 2024 where we observed embedded reproducing populations in some fields throughout the blooming period. We have been dealing with plant bugs on squaring cotton in some areas this year. We are beginning to observe immature stages of plant bugs in blooming cotton in these same areas. Remember that a drop cloth is the best sampling tool for immature plant bugs. The threshold for plant bugs when sampling with a drop cloth is 3 bugs per 6 row feet. Also remember that clouded plant bugs should be counted 1.5 times and added to the tarnished plant bug count. Immature plant bugs can feed on large squares which the plant will not shed. These damaged squares result in “dirty” blooms (discoloration of anthers or misshapen petals). The presence of dirty blooms suggest you have or had immature plant bugs and you need to make drops in the field to quantify

immature plant bugs. During 2024 we observed poor control of plant bugs with bifenthrin which is commonly used for control of stink bugs. The lack of control with bifenthrin contributed to the late season plant bug problems we experienced. This spring we conducted bioassays to monitor the susceptibility of tarnished plant bugs across south Georgia. Plant bugs were collected from wild radish in March and April from Dooly, Turner, Jefferson, Grady, Terrell, Candler, Bulloch, Jenkins, and Tift counties and bioassayed for susceptibility to bifenthrin. Based on the results we have little confidence in bifenthrin providing acceptable control of plant bugs in Georgia. So, what does this mean for management of boll feeding bugs in 2025?

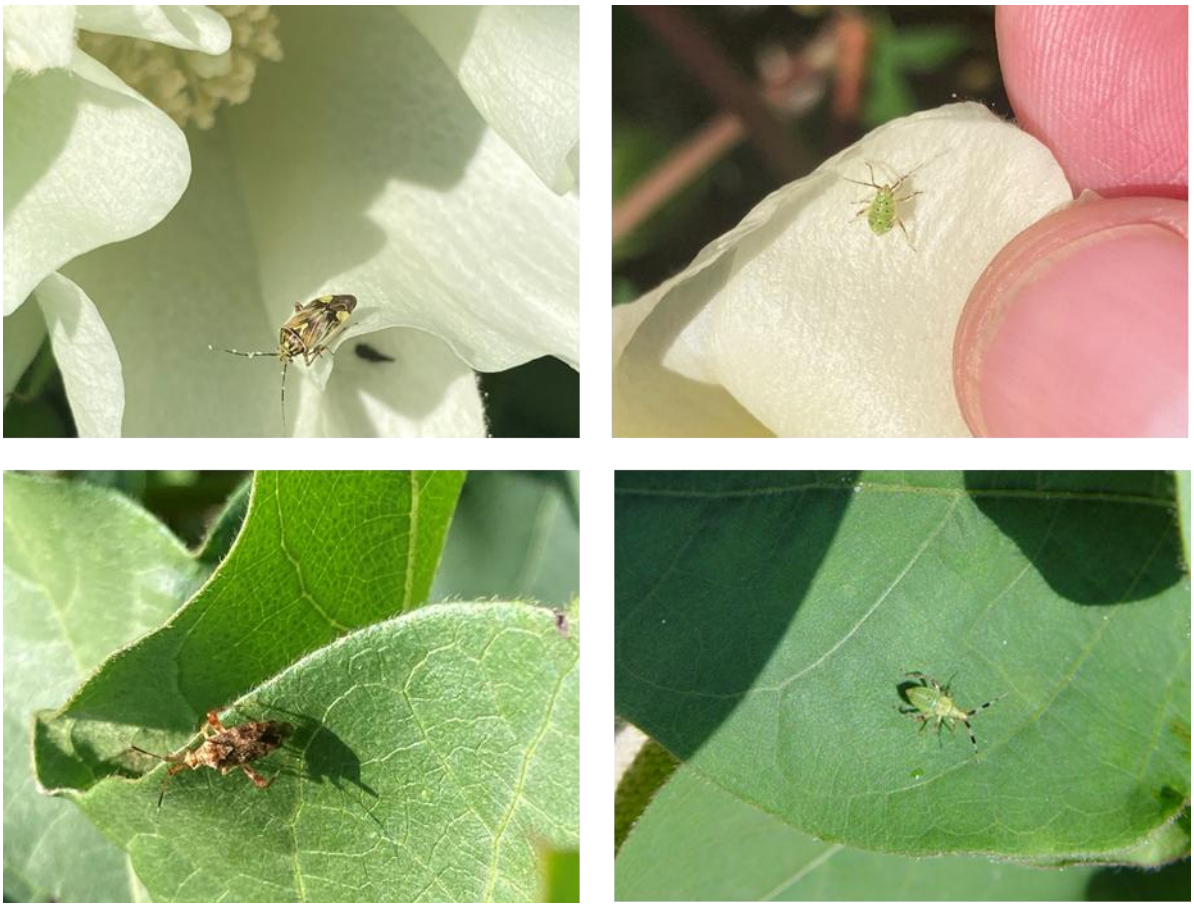


Figure 2. Tarnished plant bug adult (top left) and nymph (top right). Clouded plant bug adult (bottom left) and nymph (bottom right).

It will be extremely important that we know what bug species are present when making insecticide applications based on IBD. If no plant bugs are present, bifenthrin remains a good option for control of stink bugs. If brown stink bugs are present we would need to use an organophosphate insecticide either at a full rate or a low rate tank mixed with bifenthrin. If plant bugs are present, the same strategy which targets brown stink bugs would be an option. If high infestations of plant bugs are present, especially immatures, Diamond is a good tool which provides good residual for suppressing immature plant bugs.

We have to be on top of plant bugs and cannot afford to get behind. Transform is also a very effective plant bug insecticide but has minimal activity on stink bugs so a tank mix with bifenthrin would be a good option if stink bugs are also present. When dealing with plant bugs in blooming cotton it will be important that we get good coverage and penetration of the canopy with insecticide applications. Large droplets and low psi will not achieve good coverage and penetration of the canopy.

In ThryvOn cotton we would expect to see fewer plant bugs compared with non-ThryvOn cotton. However, plant bugs must be scouted as economic infestations may occur. Use thresholds and be timely with applications when needed regardless of technology.

Important Dates:

Georgia Cotton Commission Mid-Year Meeting - Statesboro, GA – July 23, 2025
Stripling Irrigation Research Park Field Day – Camilla, GA – July 24, 2025
Southeast Research and Education Center Field Day – Midville, GA – August 6, 2025
Southwest Research and Education Center Field Day – Plains, GA – August 13, 2025
Cotton and Peanut Research Field Day – Tifton, GA – September 3, 2025
Georgia Cotton Commission Annual Meeting and UGA Cotton Production Workshop - Tifton, GA – January 28, 2026