UNIVERSITY OF GEORGIA EXTENSION

UGA Cotton Team Newsletter
September 2025

Articles in this month's issue include:

1. Understanding your cover crop "growing window" (*Taylor Singleton*)
2. Importance of end of season irrigation termination and disease control in cotton (*Wesley Porter, John Snider, Jayson Wisekal, Sarah Beth Thompson*)
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5. Defoliation considerations with respect to the cotton jassid (*Camp Hand*)

Understanding your cover crop "growing window" (*Taylor Singleton*): Now is the time to think through and finalize plans for cool season cover crops…before things get too hectic with harvesting cash crops. Previous newsletter articles have covered the benefits that cover crops bring to your system (**link**), or how to get started if you're new to the practice (**link**), but with so many different types of covers/species/cultivars/mixes floating around now, it's worth digging into how to make sure you are selecting the correct species (or mix) for your "growing window".

Just like yield with a cash crop, we want to manipulate our cover crop to maximize growth potential in the time it's in the ground – more growth *generally* means greater benefit to our system (i.e. biomass, weed suppression, soil erosion prevention, etc.). This means it's important to think about species selection and a realistic timeline for how many days we expect to have that cover in the ground for – before we plant the first seed.

To be successful, we need to understand how much time we reasonably have between harvesting our 2025 cash crop/planting our cover crop, and when we intend to terminate before next year's cash crop planting (2026). With an understanding of when we intend to plant the cover and when we will terminate before the next crop, will that leave enough days for the species we select to accumulate enough biomass for us to get our money worth? Here's a couple of planting/terminating window scenarios:

Cover Crop Planting Date	Termination Date	Growing Window (Days)
October 15	March 15	150
October 15	April 15	180
November 1	March 15	135
November 1	April 15	165
November 15	March 15	120
November 15	April 15	150
December 1	March 15	105
December 1	April 15	135

Understanding how many days we are working with can help us make sure we select a species (and variety) that fits our window and serves our goals. Just keep in mind, your cover crop is not going to be growing the whole time it's in the ground – you will see early season growth before the temps turn off cold, then growth with start again in the spring. Generally, the more time you can give that cover crop to grow in the spring (warming temps, longer days, rapid growth), the more biomass you will generate. Unless you are terminating ahead of corn, I'd encourage you to consider holding off on terminating until closer to planting cotton (even though it's tempting to just terminate everything in March while there's time!).

For cereal rye, the most common variety we see in Georgia is *Wrens Abruzzi*, which matures around ~150 days. An earlier maturing variety such as *FL401* (~125 days) may be a better fit for a tighter planting window, such as a late harvested cotton crop to be followed by corn in the spring. Similarly, there are a couple different crimson clover varieties available in the area, including *Dixie* (most common), which matures around ~155 days. For a tighter window, *AU Sunrise* is an earlier variety maturing around ~140 days.

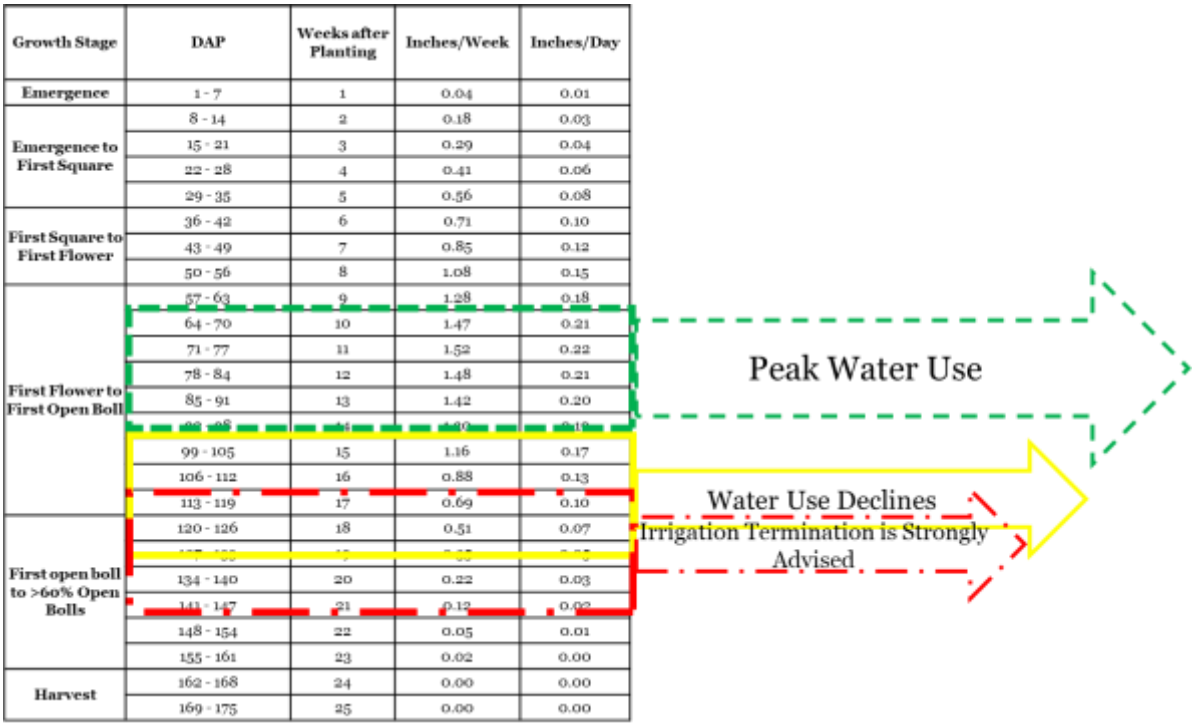
I've heard a lot of buzz about oilseed radish (specifically the "*Tillage*" variety) over the last couple of years. This is one where days to maturity are extremely important to keep in mind. Generally, the radishes you would purchase as a cover crop (either alone or in a mix) will mature by ~120 days. Research (NRCS in Georgia) has also documented that **winter kill of these species has been unreliable** in the Southeast – meaning these plants are likely to mature **AND SET VIABLE SEED** well before we are ready to plant our cash crop. Considering the challenges we have managing weedy wild radish species, proceed with caution if utilizing tillage radish in your fields.

**Of course there are caveats – especially as we get closer to December, the cooler temps can limit early season growth and set us behind on spring "green up". Selecting an earlier maturing cultivar may be more expensive and not pencil out for your individual operation. If you are participating in an NRCS program, your planting dates are more rigid.

Cover crops aren't for everyone, but the 2025 planting season was one for the books in terms of rainfall and soil movement across the landscape. What better way to protect one of our most valuable resources on the farm, than to cover that topsoil and keep it where we need it!! Best wishes for a safe and productive harvest season.

Importance of end of season irrigation termination and disease control in cotton (*Wesley Porter, John Snider, Jayson Wisekal, Sarah Beth Thompson*): As we approach the end of the growing season we should be around 16 to 20 weeks after planting moving through September and into October based on a May 1 planting date. It is important to note the wide range of planting dates that we have. Most of our early and May planted cotton has already reached or will reach irrigation termination before the end of September. However, if you have later planted cotton it is important to utilize UGA's Irrigation Reference Guide (Irrigation Reference Guide for Corn, Cotton, Peanuts, and Soybeans | CAES Field Report) to

determine when you can consider terminating irrigation. During an average year we will be around 14 to 18 weeks after planting throughout the month of September. This will place our water usage past peak and moving through declining and to termination. UGA Extension cotton irrigation scheduling guidelines, like all other guides, must be used in conjunction with current field and atmospheric conditions. That means boots on the ground, scheduling apps, or moisture sensors to assist you in determining available moisture in the soil. September is historically dry with low humidity leading to soils drying out faster. It is hard to tell what the long-term forecast holds, but we will need to make smart irrigation decisions as we finish this season. We do not need to be wasting water and money this season. Hopefully, we get a few rain events to carry us through the end. Growers should keep in mind that cotton moisture requirements are low, but there still is a need for some moisture in the soil to aid in finishing out those last harvestable bolls. Do not let the profile dry out and stay on top of irrigation if you have not had an ample rainfall event over the past three or more weeks. This will be a case by case basis, but at this time if you have properly managed your irrigation and have sufficient soil moisture my recommendation is to terminate irrigation if you have open bolls in your field. When you decide to terminate irrigation ensure that you have adequate moisture at that point.



Growth Stage	DAP	Weeks after Planting	Inches/Week	Inches/Day
Emergence	1 - 7	1	0.04	0.01
Emergence to First Square	8 - 14	2	0.18	0.03
	15 - 21	3	0.29	0.04
	22 - 28	4	0.41	0.06
	29 - 35	5	0.56	0.08
First Square to First Flower	36 - 42	6	0.71	0.10
	43 - 49	7	0.85	0.12
	50 - 56	8	1.08	0.15
First Flower to First Open Boll	57 - 63	9	1.28	0.18
	64 - 70	10	1.47	0.21
	71 - 77	11	1.52	0.22
	78 - 84	12	1.48	0.21
	85 - 91	13	1.42	0.20
	[illegible]	[illegible]	[illegible]	[illegible]
	99 - 105	15	1.16	0.17
	106 - 112	16	0.88	0.13
	113 - 119	17	0.69	0.10
First open boll to >60% Open Bolls	120 - 126	18	0.51	0.07
	[illegible]	[illegible]	[illegible]	[illegible]
	134 - 140	20	0.22	0.03
	141 - 147	21	0.12	0.02
	148 - 154	22	0.05	0.01
	155 - 161	23	0.02	0.00
Harvest	162 - 168	24	0.00	0.00
	169 - 175	25	0.00	0.00

Figure 1. Seasonal cotton water usage with peak, decline and irrigation termination highlighted.

As water use declines, it is necessary to closely monitor your fields for cotton bolls that are beginning to open. UGA's official irrigation termination recommendation for cotton is at an average of 10% open boll across a field. When you consider the math, 10% open is not a high number of bolls on a plant that are open to start considering irrigation termination. A plant with 12 to 15 harvestable bolls means you need to be looking at the available soil moisture if 1.2 to 1.5 bolls are open. September 2019 was an anomaly that

was hot and dry most of us remember it. Bolls were beginning to open but our available moisture in the soil was depleted very rapidly due to the environmental conditions. Due to dry soils, hot temps and long-term dry weather forecasts, one last irrigation event(s) was(were) needed to help finish the crop. The low humidity and sunny conditions helped to prevent open bolls from being damaged due to excessive moisture. Do not self-inflict or worsen boll rot issues if sufficient soil moisture is present. In times when an application of irrigation is needed, soak the soil sufficiently so that you can limit your irrigation events to as few as possible and reduce the leaf wetness period. Frequent small irrigation events will only exacerbate or flare boll rot, areolate mildew and other diseases. Paying attention to the long-term and short-term forecast is critical in your irrigation scheduling decisions as always. The tropics have a way of surprising us with pop up storms or even hurricanes this time of year. Keep in mind, good moisture in the soil and 10% open bolls means the end of another irrigation cotton season!

An updated value by boll positioning chart was produced by Whitaker (2019) showing the importance of those lower and first position bolls.

Fruiting Location	Value
1st Positions	72%
2nd Positions	18%
3rd Positions	5%
Vegetative	5%
Nodes ≤10	60%
Nodes 11-15	31%
Nodes ≥ 16	9%

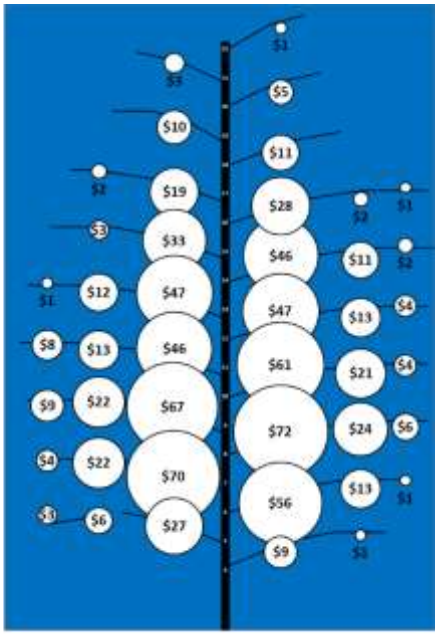


Figure 2. Boll position and value of boll position along the cotton plant, courtesy of Whitaker (2019).

This boll value tree really emphasizes the importance of first setting those high dollar bolls early in the season with proper management. Nearing the end of the growing season, overwatering and irrigating your crop with a higher than 10% open boll in an effort to make young upper position low value bolls open in the top will lead to losing or damaging your most valuable bolls and reducing yield and profitability. Not to mention, those young bolls probably will not mature enough to be harvested anyway. In a published study by Lawson et al. performed at Stripling Irrigation Research Park, there were no differences in yield of cotton that was terminated at cutout and at 10% open boll. This should aid providing some confidence in terminating at 10% open. If you have questions about finalizing irrigation, make sure you reach out to

your local UGA County Extension Agent. For more information and data on irrigation in termination in cotton please see the UGA Extension Precision Ag and Irrigation Blog Post at: Finalizing Cotton Irrigation | Extension Precision Ag and Irrigation.

Making the grade (*Wade Parker*): In the commodity production world, we constantly give attention to helping our growers produce every pound possible and then some. However, obtaining and producing a quality crop also needs to be a priority, which is why I want to discuss some basic principles regarding cotton grades. There are several items cotton is graded on, but at the end of the day buyers pay closest attention to color, leaf, and staple.

Leaf Grade – Leaf grade refers to the quantity of cotton plant leaf particles remaining in the ginned cotton lint. Leaf grade is graded on a scale of 1-7: 1-2 growers receive a premium, 3-4 is considered good with no loan value deduction and 5-7 being discounted. Leaf grades are expressed, for example 31-3, with 31 being the color grade and 3 being the leaf grade. A 31-3 is considered a high-quality color to leaf ratio, which leads to a higher selling price. Variety, proper defoliation, gin adjustments and moisture determine leaf grades. Color is very much influenced by the weather, pro-longed overcast and rainy weather conditions lead to low color grades. Farmers need days of full sunshine after a rain event to receive a better or higher color grade.

Staple – Staple refers to fiber length and is largely influenced by variety. Longer stapled fibers yield softer, stronger and more durable fabrics. This makes the apparel preferable for higher quality products. Water stress or extreme weather events shorten fiber length. Excessive cleaning or drying can also shorten length. Staple length is heavily considered by buyers when determining a price. Any cotton under 34 staple is considered a discount, which can add up fast and anything over 35 is a premium.

Cotton grading also has its own lingo. When you hear someone referencing a cotton grade, they will usually use three numbers, for example a 41-3-34 (considered base grade). 41 is the color, 3 is leaf, and 34 is staple.

I realize there are more items that cotton is graded on including: extraneous matter, micronaire, and uniformity. Having a basic knowledge of grading concepts will enable you to keep grade in mind as farmers question you on defoliation, variety selection, nutrition/fertility, and irrigation. Many of these agronomic concepts and decisions will affect grade and of course yield in some form or shape. This will also help you understand grade sheets when filling out cotton quality award applications.

Terminating insecticide applications (*Phillip Roberts*): The decision to terminate insect controls can be challenging in some fields but a few basic considerations will assist in that decision. When evaluating a field a grower must first identify the last boll population which will significantly contribute to yield (bolls which you plan to harvest). In some situations the last population of bolls which you will harvest is easy to see (i.e. cotton which is loaded and cutout). In others, such as late planted cotton, the last population of

bolls you will harvest will be determined by weather factors (the last bloom you expect to open and harvest based on heat unit accumulation). Once the last boll population is determined the boll development or approximate boll age should be estimated. Depending on the insect pest, bolls are relatively safe from attack at varying stages of boll development.

The table below list approximate boll age in days which bolls should be protected for selected insect pests. Cooler temperatures will slow plant development and subsequent boll age values may increase in such environments. It is assumed that the field is relatively insect pest free when the decision to terminate insecticide applications for a pest is made.

For information on terminating applications on the cotton jassid, please reach out to your local UGA County Extension Agent.

Insect Pest(s)	**Approx. Boll Age (days)**
Corn Earworm Tobacco Budworm	18-20 bolls fully sized
Tarnished Plant Bug	15
Stink Bugs	25
Sucking Insects whiteflies aphids	harvest (honeydew accumulation on lint)

Defoliation considerations with respect to the cotton jassid (*Camp Hand*): As defoliation time approaches, there is one thing on everyone's mind in the Southeast, and that is this new cotton jassid. Although I am not an entomologist, I am working closely with Dr. Roberts on this (he told me the other day that, "we in this one together boss"). I have sprayed a couple of farms here on the experiment station for jassids, and made an interesting observation yesterday (9/9/25) while I was defoliating cotton.

Many in Georgia and other states have seen the typical symptoms associated with this insect pest including the leaves turning yellow, followed by red, then leaf puckering as well. However, what I hope few people have observed is that after the leaves turn red, as symptoms progress those leaves will then go necrotic and die. This is what I want to discuss with respect to defoliation timing.

Below are two pictures that I took yesterday as I was defoliating cotton. About two to three weeks ago I noticed this farm was at threshold for jassid, and Dr. Roberts asked me to spray half of the farm and leave the other half untreated. Looking back, I didn't think the treatment would have the impact that it did, but now I am glad that I left a check. Figure 1 is part of the farm that got sprayed with a product evaluated and recommended by Extension that was sprayed in a timely manner. Figure 2 is just across a field road and

was left untreated. Same variety, fertility, irrigation, etc. Only difference is one side of the road got sprayed for jassids while the other did not. Again – I am not an entomologist… but it doesn't take a rocket scientist to see the differences in the two pictures below.

Why is this important? I began thinking about impacts to defoliation and defoliation timing. Generally speaking, if the leaf is still living then I think we have a good chance of getting good uptake of our defoliation chemistries, resulting in good defoliation with optimum yield and fiber quality. However, as I think about how things normally go during harvest, I start to get concerned about potential impacts on defoliation and fiber quality.

Based on the recommendations generated by Dr. Roberts and his colleagues, it seems like we can preserve yield losses by protecting the cotton up to a certain point, **but the major caveat is that the plant still needs to be green when you stop protecting the cotton.** While this protects the top bolls in the plant with respect to yield, there are some lingering questions with respect to fiber quality. Generally, in Georgia, growers get peanuts first and then move to cotton – and while I understand why in that as long as a storm isn't coming, cotton isn't going anywhere and peanuts are a little more susceptible to yield losses from untimely harvest as well as labor issues, we need to have a conversation about defoliating cotton when it is ready to preserve quality with respect to jassids.

While these pests may not directly impact the fiber once the cotton is open, based on the pictures below, I believe that if cotton is left in the field during peanut harvest, which is commonly done, that leaves and plants will continue to deteriorate, which could possibly result in higher levels of trash or leaf grades, and there is even potential for extraneous matter issues. Thus, the point of bringing attention to this is to stress the need for timely defoliation, particularly where jassids are an issue! The longer they feed and build on the cotton that is left undefoliated but is ready, I believe there could be issues. **None of this is certain and as Dr. Roberts has stated this is a fluid situation, but I am bringing light to this as a POSSIBILITY, which means it may not happen either.**

We will keep everyone in the loop, and as always if you have questions please reach out to your local county extension agent.

Figure 1. Cotton treated for jassid approximately two to three weeks prior to picture being taken while defoliating.

Figure 2. Cotton not treated for jassid approximately two to three weeks prior to picture being taken while defoliating.

Important Dates:

J. Phil Campbell Cotton Field Day – Watkinsville, GA – September 23, 2025

Georgia Cotton Commission Annual Meeting and UGA Cotton Production Workshop - Tifton, GA – January 28, 2026