



## Crop Progress and Late Cotton (Freeman)

Conditions across the state have changed drastically over the last few weeks. Conditions have gone from near perfect, to good, to bad, to REALLY bad as temperatures have soared and rainfall has stopped. The last significant rainfall event recorded at both the Tifton and Midville weather stations happened on March 12<sup>th</sup> with temperatures at both sites going well into the upper 90's. Early and mid-May Crop Progress Reports estimated that we had planted about 10% more acres compared to the five year average. However, since then planting has slowed down in most areas as soil moisture is essentially gone and growers have decided to wait on potential rainfall.

As of today (June 3<sup>rd</sup>) Crop Progress Reports have estimated that Georgia growers have planted 80% of the state's crop, which is much lower than I would have guessed it would be a few weeks ago. However, it is not too far off of the state's average acreage of June planted cotton. Yield potential for cotton planted in June is lower than cotton planted earlier in the season but there are a few management practices that growers can do to help maximize that yield potential. At planting growers may want to slightly increase seeding rates. Since the growing season is compressed, the plants may not have adequate time to mature upper and outer boll positions therefore more total stalks per acre can help ensure more mature bolls per acre. Careful considerations should also be made to PGR management. Growers may want to be slightly more aggressive with pix applications to help retain more bolls in the lower part of the plant which will help with crop "earliness" by maturing the crop sooner. Growers should also try to minimize any and all stresses from drought (if irrigated), insects, or any other pests. Fruiting gaps within the crop will have more of an impact in later planted cotton as there is less time for compensation. For more information and tips on how best to manage a June planted crop refer to this article from 2018:<http://www.ugacotton.com/2018/05/when-it-rains-it-pours-managing-late-planting-dates-in-georgia-during-2018/>

As a reminder about insurance deadlines for cotton planting, the final planting date for full coverage is June 5<sup>th</sup> in South Georgia. After June 5<sup>th</sup>, there is a 10 day late period in which coverage will decline a percentage point each day until that late period ends on June 15<sup>th</sup>. In North Georgia, the final planting date ended May 20<sup>th</sup> with a 15 day late period which ends June 4<sup>th</sup>.

## Herbicides, Cotton, and Dry Conditions (Culpepper)

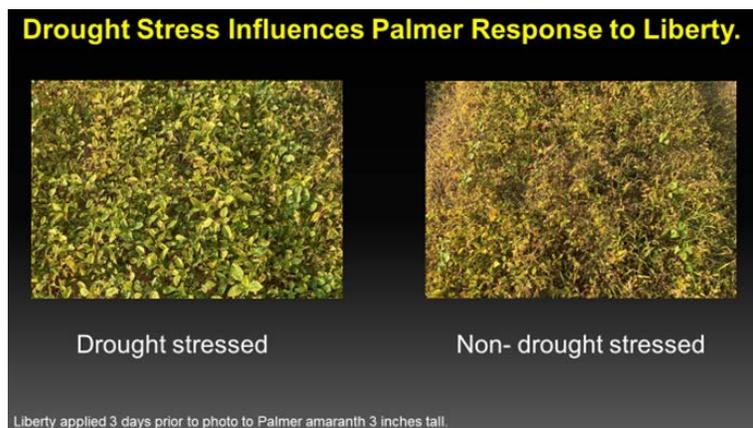
Dry conditions across the region are influencing both weed control and cotton injury.

**Weed Control:** Most weeds, especially Palmer amaranth, become more tolerant to topically applied herbicides under dry conditions. A thicker wax layer on the leaf (stem) surface, dust on the leaf surface, and leaf closure or stem rolling can reduce herbicide uptake and ultimately control.

Additionally, drought can reduce the movement of herbicides once they enter the weed. Systemic herbicides such as Roundup, Select, dicamba, and 2,4-D are especially sensitive to these conditions as translocation within the weed is critical for maximum effectiveness. Contact herbicides such as Gramoxone or Liberty actually perform better during warmer/hotter and sunnier conditions but even these products are hampered under significant drought conditions. The figure below shows Palmer amaranth response to Liberty as influenced by drought. In this study, Liberty was applied on May 30, 2019 with the photo taken 3 days later. Less control is visually obvious when Palmer amaranth was stressed from drought during treatment.

Of course, there is no solution solving the issue of drought on herbicide performance other than obtaining adequate soil moisture. However, herbicide applications in the morning (remember not too early because of time of day impact, label requirements, and inversions) when plants are less stressed may be more effective. And as always, the smaller the weed and the better the coverage often equals better control.

For those growers only applying herbicides topically, consider reevaluating the management program and get to work on the hooded or layby sprayer as it will likely be very beneficial in many fields this season.



**Cotton Injury:** In most situations, herbicide injury increases as temperatures move through the 90's when the cotton crop is growing "normally". However, there is a complex relationship of herbicide injury, temperatures, and stressed cotton. A reduction in herbicide uptake can be a result of drought stressed cotton, similar to weeds. Less herbicide uptake in cotton can lead to less herbicide injury; our research has observed this across the state during the last two weeks. However, it is important to point out that drought stressed cotton may also increase cotton injury depending on the herbicide chemistry applied. For example, if the plant needs to metabolize a herbicide to obtain safety but the plant is too stressed for this process to occur normally, then injury may last much longer than expected.

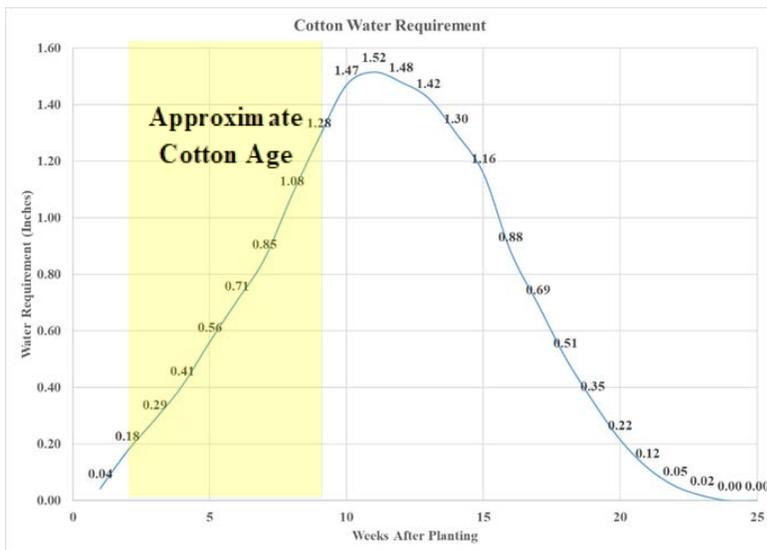
Herbicide persistence or carryover would likely be much greater during dry/drought conditions. Irrigation is less effective than rainfall in facilitating herbicide degradation!

## Early Season Irrigation for Cotton (Porter)

We have been abnormally hot and dry since the middle of May. Typically we do not need to irrigate cotton very much early during the growing season. Between the low water requirement and the supplemental rainfall that we receive during that time of year irrigation requirements are kept at a minimum. However, since we have not received any rainfall since around the second

week of May, and the temperatures have been consistently in the mid to upper 90's (even over 100 in some cases), we have depleted our soil moisture and have not had an opportunity to replenish it.

I would suggest considering irrigation on your young cotton crop. I would make this decision based on a few factors. Consider your planting date and the age of the crop, check your field for moisture either via a soil probe, shovel, by hand etc. to determine your moisture, or if you have a sensor installed go by it. This one will be tough, but since it's so hot, if possible try to irrigate late evening and into the night that would be best, both for the plants and evapotranspiration. It is understood that many pivots cannot make a fully rotation or application in an 8 to 12 hour time window. Keep track of the water use graph throughout the month of June, stay on top of your irrigation requirements. If you planted your cotton during late April or early May you will be approaching peak water requirements by late June. Hopefully we will receive some rain soon.



Remember the requirement is IRRIGATION and RAINFALL! Also consider irrigation efficiency especially on these hot dry days. A typical pivot is 85% efficient, so don't under-irrigate, at the same time don't over irrigate either. Good record keeping and a sound irrigation scheduling strategy can aid significantly in increasing profitability in multiple ways, including reductions in irrigation applications, correlating to reductions in energy requirements, and potentially increases in yield.

## Important Dates

Scout Schools: Tifton – June 10th  
Midville – June 18<sup>th</sup>