



The University of Georgia  
**Cooperative Extension**  
College of Agricultural and Environmental Sciences



# Georgia Cotton

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## **Considerations for the Remainder of the 2012 Planting Season** (*Collins and Whitaker*)

As of June 3<sup>rd</sup>, approximately 92 percent of the 2012 Georgia cotton acreage has been planted according to the USDA NASS Crop Progress Report, leaving only a few acres to be planted by the end of our typical window, which ends on June 15<sup>th</sup>. The acres remaining to be planted mainly consist of cotton to be planted behind wheat or in a few irrigated fields. Rainfall across Georgia has been variable as usual, although most areas have received at least some (if not a lot of) rainfall in the past week. All things considered, the large majority of the 2012 crop has gotten off to a very good start. Compared to this time last year, the cotton crop is in much better shape with regard to early season growth, vigor, and stand establishment.

***Remaining Acres to be Planted:*** At this point in time, most cotton that has yet to be planted *should* be double-cropped cotton, or irrigated fields that were passed over while planting dryland acres when adequate soil moisture was available. However, there are likely some dryland fields that have yet to be planted because of missed rainfall earlier in the planting season. Ideally, cotton planted in the latter part of our planting window (first 2 weeks of June) should be irrigated primarily for two reasons: (1) to ensure soil moisture is adequate for rapid stand establishment, and (2) to aid in developing optimal yields in a shorter season. Later planted cotton often encounters a compressed growing season, unless cool fall temperatures are delayed. Therefore, some flexibility in crop development can be lost, and proper irrigation of later planted cotton may alleviate unnecessary delays in maturity (whether a result of delayed emergence or development of fruit over a prolonged period of time).

## **Early Planted Cotton PGR Decisions** (*Collins and Whitaker*)

Cotton planted from the end of April to the first of May has likely encountered some rain and many of these fields are growing vigorously. At this point in time, earlier planted cotton is approximately 10-12 leaves and the first PGR applications are likely being considered. Pre-

bloom PGR applications are most often only necessary in irrigated situations with varieties proven to grow excessively. Many things should be considered when making any PGR decision, and we recommend that growers make those calls on a case-by-case and field-by-field basis.

With respect to variety influences on PGR requirements, our research has indicated that varieties do differ in their overall growth potential and requirements for PGRs. These differences may play a role in determining when to initiate PGR applications. Table 1 contains information on varieties based on their relative PGR requirement. Varieties are listed in one of four groups, from highest to lowest based on relative growth and PGR requirement (DP 555 BR would be in a group by itself at the top). Varieties are grouped together because they demonstrate similar growth patterns and response to PGR applications. Beside each group of varieties are three comments on management schemes for those varieties: (1) the likely number of applications needed to properly manage growth (2) the timing in which PGR applications should likely be initiated and (3) thoughts on product selection and rates. Comments are intended to be somewhat vague because many things other than variety play a role in proper growth management.

With regards to pre-bloom applications on early planted cotton, varieties listed in the top two groups would more likely require that application (varieties in the top group would be better candidates than ones in the group below).

Table 1. Relative PGR requirements of cotton varieties grown in Georgia.

Varieties		UGA PGR Recommendations
DP 1050 B2RF	DP 0949 B2RF	# of Applications - MULTIPLE Initiation - PRIOR TO BLOOM
DP 1048 B2RF	PHY 499 WRF	Product – MC (all applications, rates can vary)
PHY 565 WRF	DP 1137 B2RF	# of Applications – MULTIPLE, MOST CASES Initiation – Squaring to 1 <sup>st</sup> Bloom
ST 4145 LLB2		Product - 1 <sup>st</sup> application - Stance or MC; - Sequential applications – MC only
ST 5458 B2RF	DP 0912 B2RF	Applications – ONE to MULTIPLE Initiation - Bloom initiation likely sufficient
FM 1773 LLB2	PHY 375 WRF	Product - 1 <sup>st</sup> application – Stance or MC (↓rates)
DP 1133 B2RF		- sequential applications - Stance or MC
FM 1740 B2RF	ST 4288 B2RF	Application – NONE to ONE Initiation - Bloom initiation almost always
FM 1845 LLB2		Product – Stance or MC (↓rates) at all applications

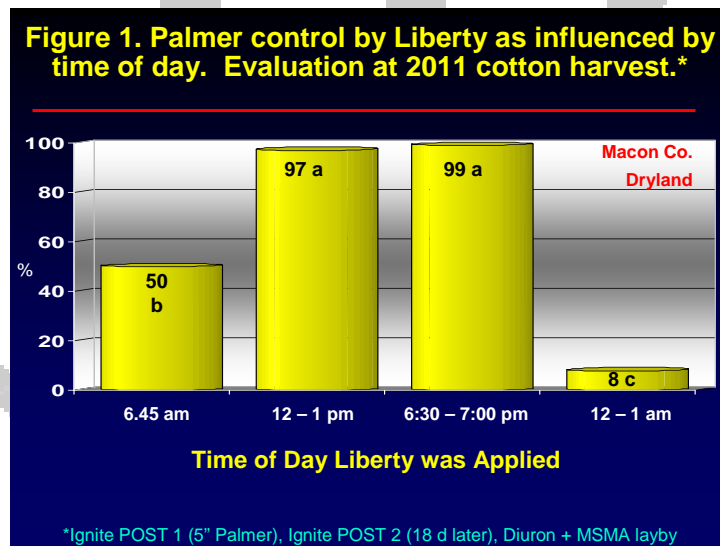
- This information was developed from UGA research which documented overall vegetative growth potential of varieties and their response to plant growth regulator (PGR) applications, with respect to growth reduction and effect on maturity and yield.
- Varieties are listed in 4 groups and PGR recommendations are listed for each group. Varieties within a group have demonstrated similar growth patterns and response to PGR applications.
- Recommendations are based total number of applications, initiation timing of PGR applications, and product selection and use rates.
- PGR requirements vary widely and depend upon many factors other than variety. These recommendations should be used only as a guide and were developed so that more informed PGR decisions can be made by producers with little or no previous experience with a particular variety.

*Collins & Whitaker, 2011*

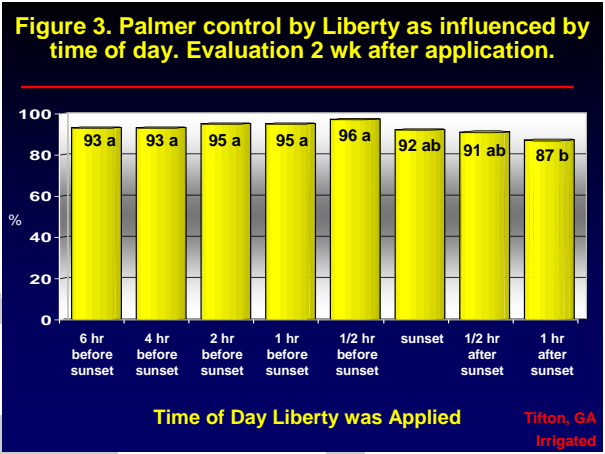
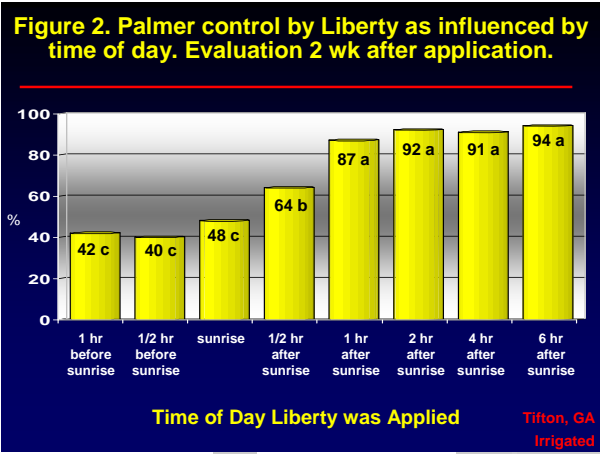
Knowledge about field history of excessive growth could also be another key indicator for the necessity of pre-bloom PGR applications. However, as we've mentioned before, many (but not all) of the newer varieties are earlier maturing (tend to fruit up quickly) and DO NOT grow as aggressively as DP 555 BR did. Especially in dryland situations, growers should be cautious about making hasty PGR decisions based on vigorous growth at this point in time, especially if rank growth is not expected in those fields in a "normal" year. Keep in mind that the rains could subside and premature PGR applications could force cotton to prematurely cutout, thus potentially limit yields. Delaying PGR decisions, or waiting to apply PGRs until first bloom (or very soon before) may be an approach worthy for some less aggressive varieties, especially in dryland fields.

### **Palmer Amaranth Control by Liberty Varies Greatly Depending on Application Time of Day (Culpepper)**

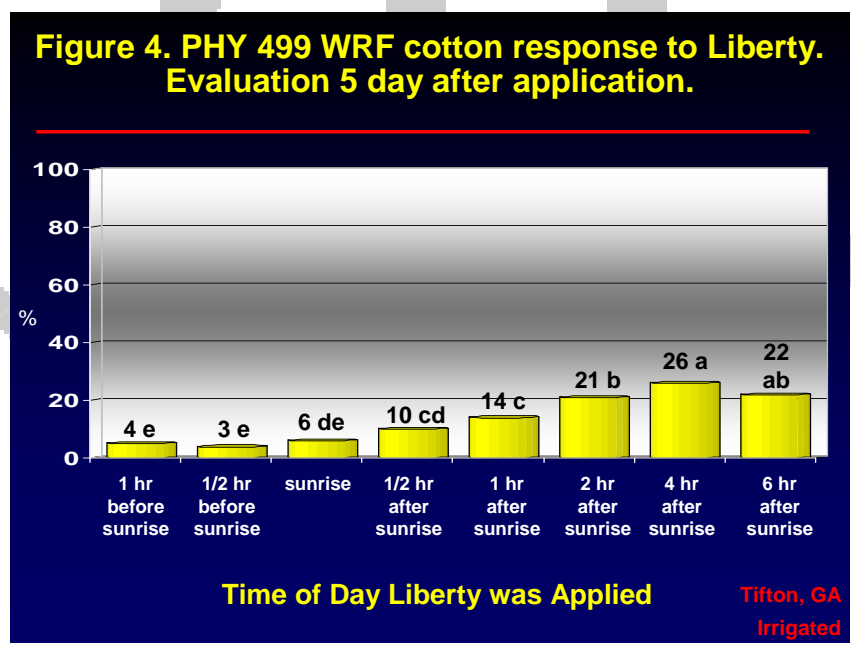
During winter meetings, Georgia growers were presented research results showing how the time of day influenced Liberty (Ignite) activity on Palmer amaranth during 2011 (Figure 1). Control ranged from 8 to 97% in response to the time of day in which applications were made. Control from applications made around 12:30 am and 6:45 am provided 8 and 50% control, respectively. In contrast, mid-day or late afternoon applications provided excellent control (97-99% control).



Additional studies are in progress to better understand this interesting time of day impact on Liberty. Figure 2 shows the level of Palmer amaranth control from a single Liberty application made from one hour before sunrise up through 6 hours after sunrise; results suggest applications should not be made until at least one hour after sunrise. Figure 3 shows the level of Palmer amaranth control from Liberty applications made 6 hours before sunset through 1 hour after sunset. Control with afternoon/evening applications were more stable when compared to morning applications but the data does suggest less control may be achieved as the sun sets.



Applications of Liberty to Liberty Link cotton pose no significant injury risk regardless of the time in which applications are made. However, response of Widestrike cotton is more complex (Figure 4). As expected, Widestrike cotton injury from Liberty applied alone is greatest during mid-day applications (similar to Palmer control). It is important to note, the addition of Dual Magnum or Warrant with Liberty would increase the level of injury noted regardless of the time of day applications are made BUT the greatest level of injury would now most likely be observed with early morning applications to cotton covered in heavy dew when followed by a hot sunny day. Just as a reminder, we do not recommend or suggest applications of Liberty be made to any cotton other than that containing Liberty Link technology.



There has been a significant push to include ammonium sulfate (AMS) with Liberty. So far, research has shown the impact from AMS (regular spray grade) to Liberty often causes 1) reduced Palmer control with early morning sprays, 2) minimal to no benefit of Palmer control with sprays during other times of the day, and 3) potential to increase the level of cotton injury

regardless of application timing. Therefore, we strongly encourage growers do not use AMS for in-crop applications of Liberty.

These 2012 research efforts are currently being conducted at 2 GA locations as well as a location in TN, NC, MS, and LA. The early results from the TN location (Larry Steckel) are similar to our results. By this winter, we should have a very good understanding on how time of day influences control of Palmer amaranth by Liberty across the Southeast and Mid-South.

**Cotton Scout Schools: Tifton June 11, and Midville June 19, 2012 (Roberts)**

Cotton insect scouting schools are annually held at various locations in Georgia. These programs offer general information on cotton insects and scouting procedures and will serve as a review for experienced scouts and producers and as an introduction to cotton insect monitoring for new scouts. The annual Cotton Scout School in Tifton will be held on June 11, 2012 at the UGA Tifton Campus Conference Center. The Midville Cotton Scout School will be held on June 19, 2011 at the Southeast Georgia Research and Education Center. The training programs at each location will begin at 9:00 a.m. and conclude at 12:30 p.m.

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*Your local County Extension Agent is a source of more information on these subjects.*

Edited by: Guy Collins, Extension Cotton Agronomist

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