



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



Georgia Cotton

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Crop Progress through Early June. (*Brown*) Through June 2, 74 percent of the expected 1.1 to 1.2 million acres of the 2007 Georgia cotton crop was planted. Producers have battled one of the worst droughts in 50 years – it has been a most difficult start for both irrigated and non-irrigated acreage. Significant rainfall came this past weekend to the eastern three fourths of the state, with many areas receiving a slow accumulation of 2 inches or more. What a rain!! Unfortunately, rainfall amounts diminished progressively moving west from Thomasville, Sylvester, Americus, etc. Will the rain change the course of acreage for which “Prevented Planting” provisions of crop insurance have been claimed? That is yet to be determined. Where an inch or more fell, cotton that was “dusted in” should come up to a good stand. It remains to be seen how much of the crop will be normally farmed.

Has the smoke from wildfires affected cotton growth? Our resident physiologist Glen Ritchie indicates that in the seedling stage light is not a major limiting factor, and thus, the intermittent smoke has probably had minimal effects (if any) on cotton to date.

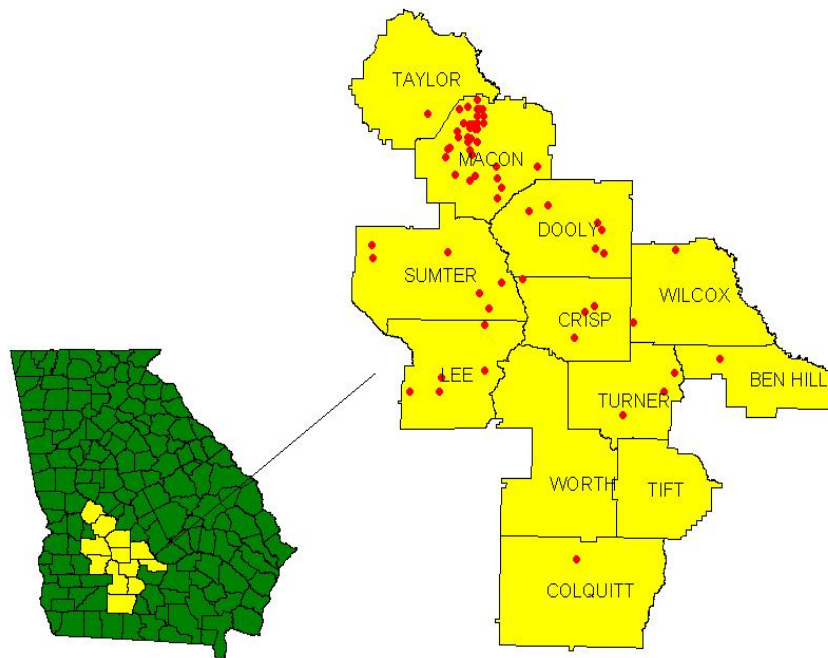
The UGA Cotton Team has provided several documents pertaining to the '07 Drought. They are posted in the Breaking News section of the UGA Cotton Web page and include:

1. May 15 – Reasonable Approaches with Dryland Cotton
2. May 22 – Cotton Prevented Planting Situation and Update
3. May 24 – Tillage: A Lingering Issue in Dealing with the Drought
4. May 30 – How Late is Too Late to Plant?
5. June 1 – Documentation Issues for Prevented Planting
6. June 1 - Points for Justification for Prevented Planting Decisions on Cotton

Thus far, the battle has focused on stand establishment. Assuming this rain will result in successful cotton emergence on thousands of non-irrigated acres in the south central, central, southeastern, and eastern parts of Georgia, the next formidable foe is Palmer amaranth.

Glyphosate-Resistant Palmer Amaranth Location Update. (*Culpepper*) To date, Palmer amaranth from 136 fields throughout middle Georgia has been evaluated for resistance to glyphosate. Glyphosate-resistance in Palmer amaranth has been confirmed in 71 of these 136 fields. Locations with confirmed resistance are noted in the figure below.

Figure 1. Location of 71 fields in Georgia with glyphosate-resistant Palmer amaranth.



Irrigation Management in the Midst of the '07 Drought. (*Brown*) It would be nice to think the rains of this past weekend have broken the drought. Maybe so. Hopefully so. The drought has stretched and stressed resources simply in the process of crop establishment, and many producers are considering how to proceed given their current limitations. Irrigation decisions, in addition to considerations about crop growth requirements, must also reflect water availability, pumping costs, labor, soil moisture, etc.

Research in Georgia indicates that about 17 inches of water are needed to make a normal crop. Peak water demand coincides with bloom and boll-fill. After crop establishment and prior to bloom, irrigation needs are minimal, but common sense suggests that irrigation should be used to prevent total depletion of the soil profile. Research also suggests that visual observation of stress in terms of plant wilting is a little past the time for needed to start watering; in other words, once you see wilted plants, you should have already done something about it. We rarely see wilting

prior to the 8th leaf stage. With persisting drought, irrigation should be initiated a week or so prior to bloom to encourage normal development as the plant moves into reproductive growth.

For the grower who has limited water – for example, 4 inches total – when should he irrigate? This is one of the most important research issues we face. Assuming the crop is up and going, a reasonable approach is to delay watering until the second week of bloom. Apply a couple of inches and follow with the remainder in about 10 days...and hope the weather changes.

Surprising Seedling Disease in a Dry Spring. (*Kemerait*) For presentations to our growers and county agents about seedling diseases on cotton, the following points are routinely made:

1. For most cotton growers in Georgia, seedling disease is typically not a problem if they a) plant seed treated with a standard fungicide regime (e.g. RTU Baytan-thiram-Allegiance) and b) avoid planting into cool and wet soils.
2. Our most common seedling disease of cotton is “soreshin” caused by *Rhizoctonia solani*. We have a limited problem with *Pythium*.
3. Although the active ingredients in ADDITIONAL fungicide “overcoats” are very effective against our seedling diseases, it is often difficult (from our data) to demonstrate a yield benefit at the end of the season versus plots planted with seed that received the standard fungicide treatment alone.
4. It is also difficult to consistently document in Georgia a yield benefit for growers who use an in-furrow fungicide or a hopper box treatment in addition to the standard fungicide treatment.
5. Growers who use a standard fungicide seed treatment and plant into warm soils should not have a significant problem with seedling diseases of cotton.

Because we have had a warm and too-dry planting season, most growers and county agents would not expect to have had any issue whatsoever with seedling disease in 2007, based upon the comments above. Unfortunately, there have been reports of significant stand loss to seedling disease in southwest Georgia in 2007 and at least some growers have seriously considered replanting their cotton.

To give an example, seedling disease was fairly common this season in my cotton plots in Attapulugus and staff considered replanting the plots. This is such an unusual occurrence at the Attapulugus Station that the staff was initially baffled on the cause of the decline. The culprit turned out to be *Rhizoctonia soreshin*.

Given the comments above, what can be learned from cotton seedling disease in 2007? There are several things to note.

1. Over the state as a whole, seedling disease remains a fairly minor problem for our growers.

2. Seedling disease TYPICALLY is much more of a problem in cooler and wetter soils than in warmer drier soils. Cooler and wetter soils slow the germination and growth of the cotton plant and allow the pathogens, especially *Pythium*, to injure or kill the seed and seedling. HOWEVER, *Rhizoctonia solani* is also very aggressive in warmer soils and can cause damage in conditions like we have experienced this season.
3. Much of the seedling disease observed in southwestern Georgia has been in conservation tillage. The organic matter could have served as a “bridge” allowing the *Rhizoctonia* to survive and effectively attack the seedlings. Less disease was reported from conventionally tilled fields.
4. Although cotton growers would like to eliminate ALL seedling disease, this is not possible or even practical. Growers who suffer losses to seedling diseases should carefully assess the real damage and seek additional input before replanting any field. Any stand loss can be discouraging to a grower; however it may not be severe enough to significantly affect yield or decrease crop value to the grower.
5. Growers who have had a problem with seedling diseases, or who used reduced seeding rates, or who just want more “insurance” on their plant stand, should consider using additional fungicide seed treatments or in-furrow fungicides at planting. It is not certain that any of these treatments would have protected my cotton in Attapulcus or in other fields in southwestern Georgia, but they would have offered an additional line of defense against the seedling disease.

Prowl H20 is NOT Currently Labeled for Topical Application to Cotton. (*Culpepper*)

Numerous calls over the past week reflect the desire by some growers to apply Prowl H20 in combination with glyphosate over-the-top of Roundup Ready Cotton. Currently, Prowl H20 is not labeled for this use and should not be applied over-the-top to cotton. In 2008, an expected Prowl H20 label will allow application over-the-top of cotton ONLY at specific growth stages. An application of Prowl H20 to young cotton can cause significant injury. The anticipated label will provide instructions and warnings regarding such applications and growers are strongly advised to not proceed with these treatments.

Sidedress Fertilizer Notes for 2007. (*Harris*) Irrigated cotton planted at the normal time (early May) will need sidedressing with N soon. Remember, the sidedress window is from 1st square to 1st bloom. Applications should be made earlier in the window if you skimped on preplant N or if stunted growth, yellow leaves, or other signs of poor growth are obvious. Applications can be delayed more toward first bloom if preplant N and/or residual N are sustaining plant health, as indicated by good growth and color.

A lot of dryland cotton was not planted until recently, while some will be planted after the rains of this past weekend. On these acres, conservative N rates (whether post plant or side dress) should still be used until we see what the weather is going to do and how it will affect the yield potential. Foliar feeding remains a viable option on dryland cotton if good rainfall occurs through peak bloom.

Sidedress N fertilizer options are going to be 32% Urea Ammonium Nitrate (UAN) liquid with no sulfur or 28 or 25 % liquid which are UAN with sulfur. Dry materials include urea or a urea plus ammonium sulfate blend that happens to come out to a 34-0-0 analysis. Ammonium nitrate will probably be scarce and more expensive than other options. Other aspects to N management include products intended to increase uptake efficiency, materials such as Agrotain (used on either urea or UAN) and Nutrisphere N (coated granular urea marketed by Southern States). Again, we have some data on the effectiveness of Agrotain but we did not have time to properly test Nutrisphere N until this year. We are also evaluating a liquid Nutrisphere N used to treat liquid UAN.

There are other N fertilizers and other additives that will need to be considered on a case by case basis. Things to consider when evaluating a sidedress N source for cotton are the form of N and, of course, the price per pound or unit of N.

Monsanto Acquires D&PL. (*Brown*) On May 31, the U.S. Department of Justice filed suit in U.S. District Court in Washington, D.C. to block the proposed purchase of D&PL by Monsanto and simultaneously filed stipulations that if approved by the Court, would allow the purchase to proceed. There is a 60-day public comment period, and presumably, if the Court approves, then the deal would be finalized.

Specific requirements include divestiture by the two companies of (1) Stoneville Pedigreed Seed Company with most of its genetics, facilities, and personnel, etc., (2) certain DPL lines, including conventional varieties such as Delta Pearl, DP 491, DP 393, DP 565, DP 5690, and DP 5415 as well as numerous experimental lines, and (3) 43 lines with VipCot (Bt trait) to Syngenta. There are other details regarding future license agreements with the purchaser(s) of Stoneville and other companies. There are many complexities in the proposed requirements issued by the DOJ, and until the requirements are met and the case approved by the Court, Monsanto must keep D&PL as a separate, independent unit.

Monsanto moved quickly to announce the purchase of D&PL for \$1.5 billion, the sale of a portion (picker varieties, primarily) of Stoneville to Bayer Crop Sciences for \$310 million, and the sale of the Stoneville NexGen brand varieties (stripper cottons of west Texas, etc.) and related assets to Americot for \$6.8 million.

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