



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



# Georgia Cotton

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**CROP SITUATION. (*Brown*)** Scorching hot and bone dry – Georgia growers have had a difficult summer. USDA estimates that Georgia producers planted 1.4 million acres in the state in 2006. A report of certified acreage by the Boll Weevil Eradication Program (BWEP) is expected in a few weeks.

Persisting drought and heat have pushed the limits of irrigation in most areas and have significantly diminished prospects in dry land fields. High temperatures and limited rainfall typically mean a “quick” crop. Other stresses such as nematodes and persisting aphid infestations only compound the effects of drought/heat. There is still time for some recovery, but each passing day pushes further towards disaster.

***Decisions to abandon a crop involve not only agronomic considerations but also crop insurance requirements, technology fee deadlines, and BWEP regulations.***

What about the prospects of a late summer turnaround in non-irrigated fields? As early as the first week in July, there were fields with cotton less than a foot tall and bloomed out the top. Large areas of central Georgia are particularly affected, but there are similar pockets across the state. The effects of drought grow wider with each passing day. There are fields with hopes of a bale of cotton if the crop could mature but others in which not much will be gathered unless conditions change greatly ... and soon.

Is there ever any hope for such a dry land crop? Keep in mind that once blooms reach the upper terminal, re-starting the flowering cycle requires sustained rain and about 3 weeks. If the developmental period between square and bloom is about 3 weeks; if a 3 to 4 week bloom period is needed for a normal crop; and if the last effective bloom date for south Georgia is September 5 to 10; fields must be actively squaring and blooming no later than August 15 to 20 for any

opportunity of near-normal yield. For severely stressed dry land fields which have not received side dress N, a reasonable approach is to delay applications until rainfall patterns change and then to apply reduced N rates (about 30 percent less than less than normal) since the season is compressed. For recovering fields which received earlier side dress applications, foliar N or N/K combinations sometimes aids recovery. Productivity obviously requires continued favorable growing conditions for the remainder of the season. For any prospects for adequate yields, the necessity of continued and sustained rain cannot be overstated.

**EAST GEORGIA CROP SITUATION (Jost)** For much of the year the eastern side of the state was in much better shape than the severely drought stricken west. However since our last general rain during the last week of June, only sporadic showers have fallen. Lately much of the cotton on the eastern side has been stressing quite heavily lately. (However, thunderstorms are popping up across much of east Georgia as this writing.) As far as the development of the crop, this recent drought occurred at a critical time, just as the crop was getting into the 1<sup>st</sup> to 3<sup>rd</sup> week of bloom. No doubt much of east Georgia cotton is still in better shape than that described above, but it is also no doubt that without continued rainfall yields will be reduced. Many fields are shedding young squares and bolls. If rainfall does occur, expect this shed to continue as the crop attempts to crank up again.

While aphids are crashing in the southwest, they seem to be quite happy in the east. *Spraying for aphids is addressed in the article below by Dr. Phillip Roberts.* From what I have observed the past week, I agree with his comments. If the fungus is not present at any higher levels than we have observed lately, a treatment for these pests seems like a good management decision on some of the more heavily infested fields.

**BOLLGARD RE-REGISTRATION (Brown)** The National Cotton Council newsletter *Cotton's Week* reported in the July 7, 2006, issue that EPA "has approved Monsanto's request for the re-registration of Bollgard (BG) single gene Bt cotton for three years ... [extending] the availability of current BG varieties to growers through the '09 season ... to allow time for development of BGII varieties that will produce yields and qualities equal to premium BG varieties."

**WHERE IS THE APHID FUNGUS? SHOULD WE SPRAY APHIDS? (Roberts)** The naturally occurring fungus, *Neozygites fresenii*, which causes aphid populations to "crash", has been slow to spread this season. Historically aphid infestations are eliminated by the fungus during late June or early July depending on location. The slow spread of the fungus is most likely due to the dry conditions we have experienced to date; high relative humidity favors fungal sporulation and spread. Aphid populations have declined due to the fungus in areas south and west of Tifton. However few or no reports of the fungal epizootic have been received from central and east Georgia.

Aphids feed on plant sap and serve as an additional stress factor on developing plants. High infestations result in the accumulation of honeydew (a sticky sugary excretion) and sooty mold, delayed plant growth, and in severe cases lower leaf drop. Numerous research trials have been

conducted during the last five years investigating the impact of aphids on lint yield and quality. Results rarely indicate a significant improvement when aphids are controlled. However, 2006 appears to be a much different environment compared to recent years in that aphid populations are being sustained at high populations for a much longer time period.

Gray, fuzzy aphids cadavers are indicative of the naturally occurring fungus. Once these cadavers are observed in a field we expect the aphid population to crash in about a week. Likewise if no indication of the fungus is present, we should expect the aphids to remain for at least another week. In areas where there is no indication of the aphid fungus, we believe some fields should be treated for aphids at this time. Aphid treatments should only be applied in fields where there is no indication of the naturally occurring fungus (grayish, fuzzy aphid cadavers). Decision to treat aphids is a judgment call based on plant health. Excessive honeydew, yellow terminals, and delayed plant growth are indications of high aphid populations. Theoretically, one would assume that aphids would be more injurious on drought stressed cotton. However, it will be difficult to justify the expense on many dryland fields due to poor yield prospects. On irrigated fields, we believe treatment is justified where high aphid populations have slowed plant development. Many irrigation systems cannot fully apply all the water needed by a cotton plant. Thus it may be beneficial to remove the stress associated with aphids.

The neonicotinoid insecticides Centric and Trimax have provided good control of aphids. Although not used on many acres due to costs, Assail provides very good aphid control. If stink bugs are also a target pest, Bidrin would be an option.

**THE COMPONENTS OF PROFITABILITY IN COTTON PRODUCTION (Shurley)** “Profit” is an elusive and often hard to define concept. Most often, we just like to think in terms of “Net Return”. Within the span of a single year or growing season, the producer is (or hopefully should be) most concerned with achieving the highest “Net Return Above Variable Costs”. Variable Costs are those inputs and costs associated directly with production, i.e. they are due entirely to decisions made on what to produce and how to produce it. Producers may often refer to these as operating costs or out-of-pocket costs. The key thing to see is that these costs are related to *decision-making*.

USDA’s *Acreage* report released on June 30, estimated that Georgia farmers planted 1.4 million acres of cotton this year— almost 15% above last year and the highest acreage since 2002. Given the high and increasing cost of some of cotton’s major inputs (fertilizer- particularly nitrogen, seed and technology fees, and fuel) and low market prices, this increase in acreage might have been unexpected. But other factors of importance in farmers’ decisions include competitiveness (or lack thereof) of other crops, crop rotation and pest management, and government programs.

Georgia cotton producers have faced a number of challenges in recent years including weather (drought and/or hurricanes), low market prices, increasing costs, and industry concerns about fiber quality. On a very positive note, fiber quality (with the exception of length Uniformity) has been much improved in past 2 years and yield has also been much improved.

Perhaps unlike no other crop, the profit picture for cotton is very “integrated”. In other words, decisions made and inputs used have a multiple of effects. OK, to explain let’s look at the “Profit Equation”. This excludes any program payments and crop insurance indemnity.

$$\text{Net Return Above Variable Costs} = (\text{Price} \times \text{Yield}) - \text{Variable Costs}$$

*Variable Costs* include inputs like seed, fertilizer, herbicides, insecticides, nematocides, PGR, defoliant, fuel, labor, custom applications, etc. Today, when you buy seed you are buying a “system”. Your choice of seed type and variety will determine not only seed/tech fee costs but also yield, fiber quality, herbicides and insecticides, PGR.... just about everything.

*Price* is a function of market supply/demand forces, basis (the difference between the futures market price and the local cash price), marketing decisions, and fiber quality. Fiber quality is determined by seed type and variety, decisions on inputs (Variable Costs), management, weather, and ginning. And, of course, just about everything affects *Yield*.

Data suggests that the basis for the standard Color 41-Staple 34 cotton has widened in recent years (meaning the market is not paying as much for this type cotton as it used to). This is likely due to (1) the decline in the US textile industry which is concentrated mostly in the Southeast and (2) the demands of foreign mills for higher quality cotton.

Profitability depends on the combination of yield, costs (type and amount of inputs), and management that will result in the lowest cost per lb of lint (not per acre) and sold at the best price by wise marketing decisions and producing quality fiber. Cotton yield, fiber quality, and profitability are all “integrated”. A “systems approach” is the key to improved profitability.

**MIDVILLE FIELD DAY (Jost)** The what is becoming “annual” field day at the Southeast Research and Education Center in Midville will be held on Thursday, August 24, 2006, beginning at 9:00 am, a sponsored lunch will be provided.

Topics of discussion at this field day are to include plant growth regulators, replant decisions, new insecticides, and nematode control options. There will also be a discussion of the “systems” variety trial in which select varieties from all available technology systems are grown according to the technology package they possess. Depending on crop maturity, various defoliation treatments will be available for viewing.

Other stops will include pre-plant tillage options and foliar fungicide programs in peanuts.

After lunch there will be a demonstration of GPS-guided equipment.

**COFFEE COUNTY FIELD DAY (McGriff and Jost)** On October 26 beginning at 10 am there will be a Cotton Field Day in Coffee County. During this field day a discussion of a large-plot “systems” trial will be held. Plans include a discussion of inputs to the 20 varieties from the 10

different technology packages currently available to producers. Yield, fiber quality, and net returns from these 20 varieties will be available.

Another stop will be made at a large-plot nematicide trial.

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

Edited by: **Philip H. Jost**, Extension Agronomist-Cotton & Soybeans



Contributions by:

**Steve Brown**, Extension Agronomist – Cotton

**Philip Jost**, Extension Agronomist – Cotton/Soybeans

**Eddie McGriff**, County Extension Coordinator – Coffee County

**Philip Roberts**, Extension Entomologist

**Don Shurley**, Extension Economist - Cotton

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