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

Georgia Cotton

August 5, 2004 http://www.griffin.peachnet.edu/caes/cotton

CROP SITUATION. (***Brown***) An abundance of rain in June sparked hopes that the 2004 growing season would mimic 2003. Similarities between the two ended in early to mid-July with the onset of high temperatures and the cessation of broad, regional rains. Heat unit accumulations for the past 4 years are posted in the table below. Elevated temperatures resulted in significant fruit shed in mid-July, even in irrigated fields. Sporadic showers have fallen across the state in the past three weeks and there are significant differences in the haves and have-nots in terms of moisture. Crop expectations are great in some areas but considerably less in areas that have received little to no rain over the past couple of weeks. A few fields, once lush and rank, have now collapsed due to heat/water stress. Without question, the 2004 crop should mature earlier than did the 2003 crop.

Heat Unit Accumulation, DD-60s (93/60° F) April 20 - July 29				
Location	**2004**	**2003**	**2002**	**2001**
Arlington	1616	1566	1635	1462
Plains	1596	1444	1589	1367
Statesboro	1752	1501	1675	1359
Tifton	1604	1475	1609	1149

FIBER QUALITY CONCERNS STILL PROMINENT. (***Brown***) Concerns about the quality of Georgia cotton continue to reverberate in the U.S. textile industry. As stated in the July edition of this newsletter, at least four major mills have indicated their intent to NOT purchase 2004 cotton from Georgia or to do so only with more stringent quality standards. Such statements undoubtedly increase the scrutiny on our crop. Mills that intend to run our 2004 crop will carefully watch production efficiency when Georgia cotton moves through their system. It cannot be overstated that we are under the microscope.

The specific mill problems probably relate to short fibers. Among the possible causes of excessive short fiber content include variety, growing season, weather, pest management, harvest timing, and ginning.

To date, the market has not made clear how Georgia cotton will be treated in terms of discounts and possible segregation.

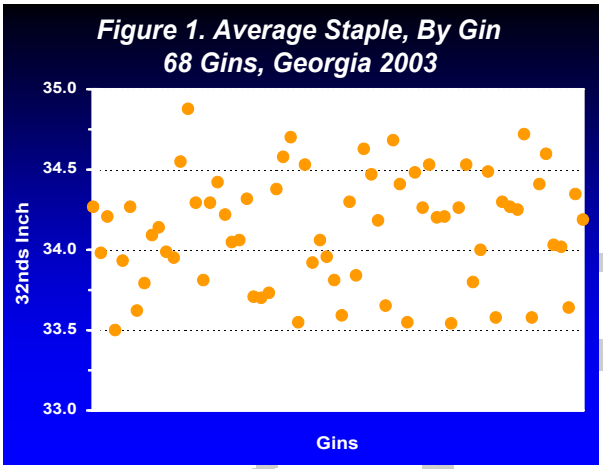
In the meantime, how can we help ourselves with the 2004 crop? There are at least three things growers can do over the remainder of the season to maximize quality: (1) Control stink bugs. Stink bugs (and other bugs) feed on seed within young bolls and frequently cause internal rot. Anything that damages seed affects fiber development. Preliminary data show that excessive bug damage significantly reduces almost every measure of fiber quality. (2) Defoliate in a timely fashion. Too often we wait until almost every boll is open before applying harvest aids. With considerations for weather and picker availability, fields should be defoliated at 60 to 70 percent open boll. Most should receive boll openers to expedite leaf drop and harvest readiness. (3) Harvest ASAP. Rapid, timely harvest minimizes weathering. Combined with proper equipment operation, it insures that growers gather the greatest possible yield at the greatest possible quality. On these latter two points there is room for considerable improvement. Timely defoliation and harvest is one big step we can take towards enhancing the quality of Georgia cotton.

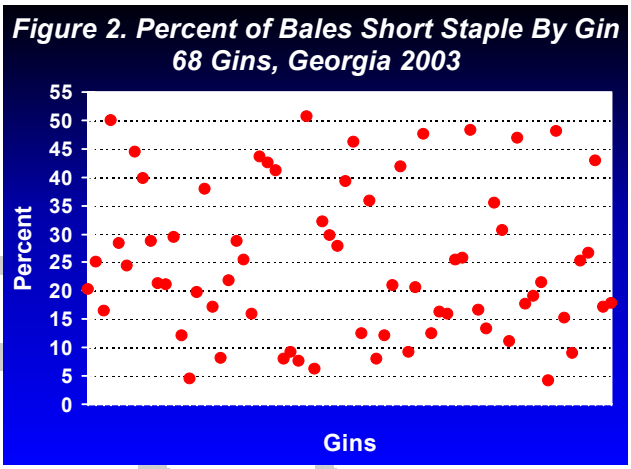
Finally, every effort should be made at the gin to maintain quality. The gin industry is undergoing significant internal examination to make ensure they deliver the highest quality cotton as possible.

SHORT STAPLE – THE NO. 1 PROBLEM FOR GEORGIA COTTON (*Shurley*). Much has been said and written recently concerning the fiber quality problems and challenges facing the Georgia cotton industry. Make no mistake, the challenges and concerns are real and a workable solution must be found quickly. Quality problems have and will continue to result in loss of markets and price discounts that can cut deep into producer profits.

Several segments of the industry representing producers, ginners, merchants, and mills along with University of Georgia Extension/Research and USDA-AMS are presently cooperating to search for the causes and solutions to the state's fiber quality problems. In particular, leadership by the Georgia Cotton Commission and the Southeastern Ginners Association has been key in this effort.

In recent years, the most persistent problems in Georgia cotton have been short Staple (fiber length) and low fiber length Uniformity. Whether this is the cause for the problems experienced by mills when spinning Georgia cotton is still unknown and being investigated but Staple and Uniformity are clearly the major deficiencies in Georgia cotton based on HVI measurements.

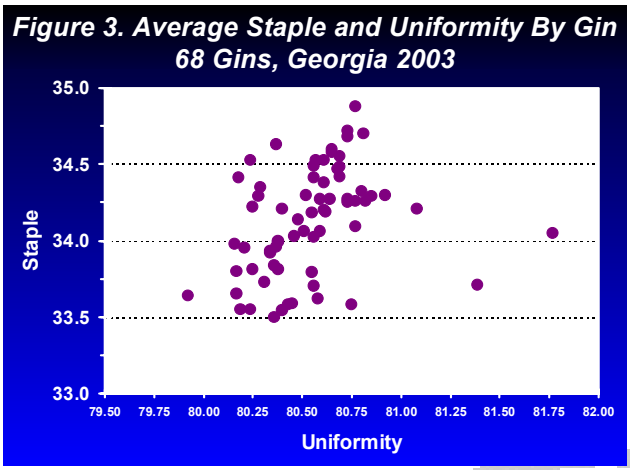


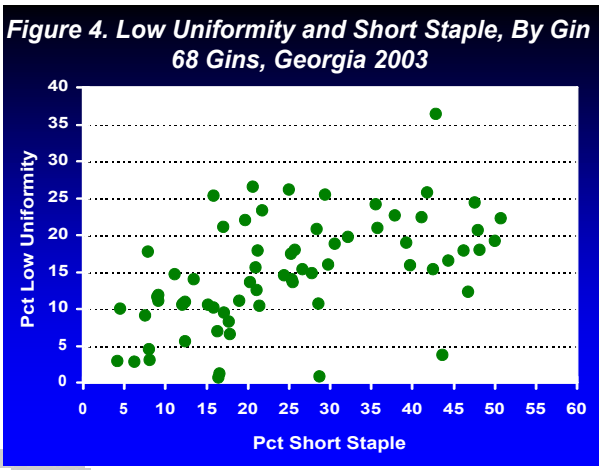


To begin to investigate and analyze these issues, fiber quality data was collected for every gin in Georgia for the 2003 crop. This dataset did not identify the name and location of the gin so confidentiality was not compromised. For purposes of this analysis, a "gin" is simply a group of producers. The "gin" represents a group of producers– their location, growing and harvesting conditions, production practices, and ginning. ***No inference is suggested or intended specifically regarding ginning practices alone.***

The standard or base Staple is 34/32nds inch. Price discounts are received for shorter fiber and premiums for longer fiber. Staple for the 2003 Georgia crop averaged 34.2. The average Staple for most producers/gins was from a little less than 34 to about 34.5 (Figure 1). Some producers/gins averaged close to 33.5 while others averaged 34.5 or better. For 2003, 22.4% of the bales graded less than 34 Staple. Most producers/gins experienced 15-30% short Staple (Figure 2). There was a wide distribution in the degree of the problem, however. Some producers/gins experienced very little problem with short Staple while yet others had over 40% of bales grade short.

The standard or base for Uniformity is 80 to 82. Discounts are given for lower and premiums given for higher. The average Uniformity for the 2003 Georgia crop was 80.5. The average Uniformity for most producers/gins was 80.25 to 80.75 (Figure 3). One gin reported an average less than 80 while there were 3 gins reporting an average over 81. For the state in 2003, 15.5% of the crop had Uniformity of less than 80. Most producers/gins experienced 10-20% of bales grading low in Uniformity (Figure 4). Low Uniformity was little or no problem for some producers/gins while yet others experienced over 25% low Uniformity.





Georgia cotton has been criticized for both short Staple and low Uniformity. Staple and Uniformity are best considered as a package or combination. For example, high Uniformity may not be most desirable if Staple is low-- this would mean the cotton was "uniformly short". Optimally, mills might consider the "best" cotton to be both long in Staple and high in Uniformity. In Figures 3 and 4 we seem to have at least some hints of evidence that (1) Uniformity may improve slightly as Staple increases and (2) the "short" Staple problem and "low" Uniformity are somewhat related– reduce the incidence of short Staple and the incidence of low Uniformity may also decline.

The top 10% producers/gins in the state averaged Staple of 34.7 and only 7.4% of bales grading short in Staple (Table 1). Uniformity averaged 80.7 with only 10.6% of bales low. By contrast, the lowest 10% of producers/gins in the state averaged Staple of 33.6 and 48.2% of bales grading short Staple. Uniformity averaged 80.4 with 19.2% of bales low.

Table 1. Summary of Longest and Shortest Average Staple By Producer Group/Gin [1], Georgia 2003.

	Longest 10% Producers/Gins	Shortest 10% Producers/Gins
Average Staple	34.7	33.6
Percent of Bales "Short" Staple [2]	7.4%	48.2%
Average Uniformity	80.7	80.4
Percent of Bales "Low" Uniformity [2]	10.6%	19.2%

1/ The "Gin" represents a group of producers. Nothing is intended or concluded regarding ginning practices.
2/ "Short" Staple is defined as less than 34/32nd's inch and "Low" Uniformity is defined as less than 80.

The key to further analysis of the problem is to now determine why and how the top groups did so well. What can be learned?

Income losses for short Staple are estimated to be $15.87 per bale (Table 2). Income losses for low Uniformity are estimated to be $1.49 per bale. Losses on a bale receiving discounts for both Staple and Uniformity would be estimated at $17.36 per bale. The Uniformity discount may

seem insignificant but repeated quality problems could lead (may already have lead) to declining markets and a wider basis which is not reflected in these calculations.

Based on the average Georgia gin size of 30,000 running bales, the difference between the top 10% of producers and lowest 10% by average staple length is estimated to have been $194,273 per gin ($6.48 loss per bale ginned when averaged over all bales).

Table 2. Bale and Quality Losses Summary of An Average Gin By Staple Length Group, Georgia 2003

	Longest 10% Producers/Gins	Shortest 10% Producers/Gins
Average Running Bales Per Gin	30,000	30,000
Bales Short Staple Per Gin	2,220	14,460
Bales Low Uniformity Per Gin	3,180	5,760
Base Value of Lint [1]	$9,910,080	$9,910,080
Estimated Short Staple Losses [2]	$35,236	$229,509
Estimated Low Uniformity Losses [2]	$4,732	$8,571
Estimated Total Losses	$39,968	$238,080
Net Value of Lint	$9,870,112	$9,672,000
Average Price (Cents Per Lb) [3]	66.3	65.0

1/ Average December-February cash price of 66.6 cents per lb (USDA-AMS) and average running bale weight of 496 pounds (USDA-AMS and USDA-NASS). Assumes all quality factors are base grades.
2/ Average price discount of 3.2 cents per lb for mostly Staple 33 and .3 cents per lb for Uniformity 79 (USDA-AMS)
3/ Based on deductions for Staple and Uniformity only for the number of bales indicated. All other quality factors assumes base grades.

Short Staple is the major challenge facing Georgia cotton. Staple is a function of variety (genetics), growing conditions, and production practices and management. The purpose of this article and the analysis is (1) to illustrate the array of differences in quality around the state, (2) to cause us to begin to think and challenge ourselves to find out why, and (3) to investigate and adopt, if feasible and possible, measures that will improve the state's quality and price and markets for our cotton.

Some markets desire a 35 Staple fiber. 36% of Georgia's cotton in 2003 was Staple 35 or better. So some folks are clearly having success in this area. No gins averaged 35 Staple for their entire crop ginned but many averaged over 34 and some over 34.5. So we need to strive to move ahead in that direction in terms of production practices and management and hope the weather cooperates.

Uniformity can be increased somewhat by longer Staple. The "base" for Uniformity is 80-82. Most bales produced in Georgia in 2003 were 80 and 81. About 16% of the crop was actually 82

or higher. Buyers and mills requesting 82 or higher will not likely buy much Georgia cotton. But a reasonable goal would be to strive to find solutions that would push more of our crop into the 81 to 82 range.

COTTON INSECTS SPORADIC. (*Roberts*) To date cotton insect pests have been patchy and sporadic. Infestations range from relatively light to heavy depending on location. This patchy distribution is why we recommend that all fields are scouted and treated on an as needed basis.

Stink bugs and other boll feeding bugs such as tarnished plant bugs and clouded plant bugs have been treated in many areas. However, boll feeding bug populations have been much lower when compared with 2003. Both southern green and brown stink bugs have been observed in cotton during recent days. If brown stink bugs are the predominant species present, an organophosphate insecticide such as Bidrin, methyl parathion, or Orthene should be used. Pyrethroids will provide excellent control of southern green stink bug, but at normal use rates may only provide 50 percent control of brown stink bug. Scouts should be sampling bolls approximately the diameter of a quarter, bolls of this size can be easily squashed between your forefinger and thumb, and assessing them for internal boll damage. Internal boll damage is defined as warts or callous growths on the inner surface of the boll wall and/or stained lint. If 20 percent internal damage is observed, treatment is recommended. Scouts should also be observant for boll feeding bugs while walking fields and searching plants for other insects so appropriate insecticides can be selected for the boll feeding bug complex if needed. Stink bugs can damage bolls up to 25 days of age. Tarnished plant bugs can only damage bolls up to about 10 days of age.

In some areas, producers are treating the border rows of cotton for bugs. This may be beneficial in that stink bug damage is often more severe on field edges, especially those bordering peanuts and corn. Perhaps this may help with management of the entire field but if will definitely help to lower damage in high risk portions of the field. If border treatments are made, the entire field should also be scouted and treated on an as needed basis.

We would anticipate mixed populations of tobacco budworm (TBW) and corn earworm (CEW) to infest cotton for the remainder of the season. The percent makeup of this complex infesting cotton will vary from area to area. Where TBW has infested non-Bt cotton, pyrethroids have failed to provide consistent control of TBW. This is most likely due to pyrethroid resistant TBW populations. Scouts should be observant for moths while walking fields as this will give us an idea of which is the predominant species. On non-Bt cotton, non pyrethroid insecticides such as Tracer, Steward, or Denim would be recommended for control of TBW. If CEW is the primary species, a pyrethroid should provide good control of CEW. On Bt cotton, TBW will be controlled by the Bt toxin, however supplemental treatment with a pyrethroid for control of CEW escapes may be needed. Both TBW and CEW are capable of damaging bolls up to 21 days of age. We have received a few reports of fall armyworm infesting both non-Bt and Bt cotton. If detected early, pyrethroids will provide good suppression of fall armyworm. Once fall armyworms approach ½ inch in length, control will be difficult.

UPCOMING FIELD DAYS. (***Jost***) There are a couple field days during the latter part of this month.

August 24 – Grady County - *Tropical Spiderwort: Biology and Control*. Start time is scheduled to be at 9:00 am. Due to the importance of this issue and the amount of information to be covered, it is expected that this meeting will last the majority of the day. Contact Tim Flanders at 229-377-1312 for more information.

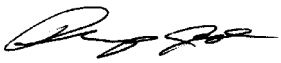
August 27 – Midville, Southeast Research and Education Center – *Cotton and Soybean Field Day*. Registration begins at 8:00 am with the tour beginning at 8:30 am. Agents, growers, and industry personnel are invited to attend. Please RSVP to Philip Jost at 912-681-5639 or pjost@uga.edu if you plan to attend so that arrangements can be made for the sponsored meal.

PHONE NUMBER CHANGES. Effective July 15 the Crop and Sol Sciences Tifton Office will be operating with new telephone numbers. The numbers 229-386-3430, 386-7497, and 386-3194 will no longer be in service. New numbers are listed below.

229-386-3006 – Ann Goodwin
Steve M. Brown
Glendon H. Harris, Jr.
J. Micheal Moore
R. Dewey Lee

229-386-3328 – Dena Watson
John A. Baldwin
John P. Beasley
Stanley Culpepper
Eric P. Prostko

Your local County Extension Agent is a source of more information on these subjects.
Edited by: **Philip H. Jost**, Extension Agronomist-Cotton & Soybeans



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