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**Cotton Crop Status**

*D. Monks, Extension Agronomist*

The 2008 Alabama cotton crop looks much better than the previous two years when producers suffered from devastating droughts. The USDA crop reporting service has our crop at 86% in the “fair to good” range with 49% setting bolls. We match up similarly to the crop in the other southeastern states. As far as heat units and cotton development are concerned, we seem to have made up some of the ground lost earlier this year in the cool spell. In fact, Milstead and Headland DD60s are ahead of the 20-year average while Belle Mina and Fairhope are very near average. We could use some general rainfall at this point to keep the crop moving and to avoid early cut-out. We still have a long way to go with this crop and moisture is critical factor between mediocre and good yields. East central counties received some large storms this week which will prove beneficial to all of our crops in general. We visited some fields in the Huxford area last week and the cotton looks very good with a significant boll load and excellent potential. However, in other areas nearby, there are moisture stressed fields that are in need of rainfall. It seems to be this way across the state, with some areas suffering while others receive regular rains.
Through the financial support of Alabama producer and Cotton Incorporated, we were able to establish on-farm cotton variety trials in the following counties: Cherokee, Fayette, Shelby, Macon, Elmore, Barbour, and Mobile. If you would like to visit those trials, feel free to contact your regional agronomic crops agent through your local ACES office.

*Evaluating Cotton Approaching Cutout: C. Burmester, Extension Agronomist*

Cotton is maturing rapidly in many areas because of very little rainfall during the last month. One farmer asked me, “If the blooms are on the shoulders of the cotton how much longer until cutout”. Another frequent question is, “If it rains this week will the cotton recover and have time to set another crop”. Both are practical questions that require evaluation of the cotton variety, nodes above white bloom, boll load, and the area of the state where you are farming.

Generally as I am evaluating cotton fields at this time of year, I first check for the nodes above first position white flowers as I walk across the field. At the same time I am also looking at the size and number of cotton bolls I am seeing on the plants. Most people believe that when cotton reaches four nodes above white flower the cotton plant is in cutout and vegetative growth will stop. In most cases this is correct, but I also look at boll load on the plant. If boll load is low, a good rain may still produce more vegetative growth to produce more squares and bolls even on short season varieties. Cotton under moisture stress is also going to shed many of the small bolls in the top of the plant whether it rains or not. These bolls will not be a sink for carbohydrates and therefore there is a better chance for more vegetative growth. On the negative side, if cotton is extremely short, there is less vegetative area to produce carbohydrates and thus less chance for recovery even with a small boll load.

The area of the state where you are farming will also play a large role whether cotton has time to recover. In northern Alabama a cotton bloom by August 20th has a good chance to mature before frost. In central and southern Alabama this last effective bloom date may be two to four weeks later. In northern Alabama if cotton completely blooms out the top it is almost a sure bet that there is not enough time to set and mature a second crop while I have seen this done several times in the southern part of the state.

Whether you plant full or early season cotton varieties, cotton recovery from drought will require significant rainfall, usually over one inch to see a significant change. I still do not give up on cotton until I see it has no chance to recover.
**Cotton Insect Outlook for Late July and August:**  
* R. Smith, Extension Entomologist

By the time this information reaches the user we will be about out of the two week window where most of our “worms” are primarily bollworms. These were the caterpillars that infested corn the previous generation. It is during this window of the season when the pyrethroid insecticides perform at their best. During the month of August our worm population will likely be a mixture of both bollworms and tobacco budworms. When this is the situation, sprays targeting this generation have to be selected with the budworm in mind. Pyrethroids give little to no control of budworms due to a high level of resistance. Therefore, sprays for August worms on conventional cotton have to be with the more highly effective newer chemistry. Insecticides in this group are: Tracer, Steward, Denim and the recently registered Cougen (Dupont). Belt (Bayer) should be available soon. None of these products are clean-up materials. All work best on small larvae. All require excellent coverage (increased water). If supplies become short we will need to find our best alternatives.

We have more stink bugs in all our crops in 2008 than in 2006 or 2007. Damage to soft, quarter diameter (10-12 day old) bolls should be held to 10-20% or less during August.
It is more effective to monitor bolls than to look for stink bugs. Stink bugs are elusive, hard to find in cotton, and damage numerous bolls per bug. The damaging stage (adults and large immature) lasts more than one month. Phosphates (such as Bidrin) and pyrethroids at mid to high label rates, should give good control of both the green and brown species.

*Badly Needed Rains Fell Across Portions of North Alabama This Week (July 21-25): Tim Reed, David Derrick, Barry Freeman*

Badly needed rains fell across portions of north Alabama this week (July 21-25). These rains will help improve yield potential which before the rain was not good in many situations. Fungal disease is taking out aphids across north Alabama. Plant bug pressure was heavy in June and July and many fields received 2 plant bug sprays. In many cases a neonicotinoid insecticide was used for the second application to reduce aphid numbers. Tobacco budworms were a serious problem in non-Bt cotton and up to 3 insecticide applications were made for worms in non-Bt cotton. Presently we are seeing lots of “fresh” boll worm moths flying about in cotton and soybean fields and some non-Bt cotton will probably need to be sprayed next week for boll worms. Tobacco budworm (TBW) moth activity appears to be low, but traditionally TBW activity tends to rebound about August 10 in north Alabama. Stinkbug numbers are increasing in cotton and soybeans as corn dries down.

*Importance of Crop Rotation for Combating Weed Resistance: M. Patterson, Extension Weed Scientist*

Many articles are in the popular press now about the threat and problem of herbicide resistant weeds in the Southeast, especially glyphosate (Roundup, etc.) resistant palmer amaranth (pigweed) in Georgia and the Carolina’s. This is a very serious problem for row crop farmers and will continue to spread across the south, and that includes Alabama. With our row crop weed control programs based heavily on Roundup Ready systems, what can be done to fight glyphosate resistant weeds? Agricultural chemical companies are searching for the next postemergence herbicide for row crops that will control pigweed, but this may be several years away from commercialization. Currently, crop rotation and the concurrent rotation of herbicides associated with each crop is one of the most important means of dealing with glyphosate-resistant weeds. Postemergence herbicides are registered for use in corn, soybean, and peanut that cannot be used in cotton and vice versa. Foliar herbicides like Cobra, Reflex, and Storm can be used in soybean and peanut and these products have good pigweed activity if sprayed on small pigweed. Atrazine plus crop oil concentrate can be sprayed over the top of corn and grain sorghum and also has good pigweed activity. 2,4-D and dicamba can also be sprayed over the top of young corn to provide pigweed control. The increase in prices for soybean and corn over the past
couple of years has provided an incentive to grow these crops even in the south where cotton and peanut have traditionally been grown. Rotating into a crop that provides good economic returns is a blessing for management of glyphosate-resistant pigweed. Most weed scientists, myself included, believe that it will take several herbicides, each with a different mode of action to adequately manage glyphosate-resistant pigweed. This is best accomplished by rotating crops each year and preventing pigweed from making seed if possible.

*Variable Rate Growth Regulator Applications:  S. Norwood and A. Winstead, North Alabama Regional Agents

Advances in sprayer equipment have made variable rate (VR) applications easier and more affordable. Most sprayers come equipped from the factory with the components needed for VR applications or the capability to easily add-on the necessary components. Often of interest to cotton growers is the ability to vary plant growth regulator (PGR) applications. Variable rate PGR is most beneficial in fields with highly variable growth conditions. Variable rate PGR applications can improve crop uniformity which impacts defoliation and harvest. Growers report applying less product when using variable rate technology versus a blanket application. Others say that although for years they have manually adjusted their PGR rates as they move through the field in the sprayer, it was not until using GPS-based VR technology did they see a significant improvement in crop uniformity and maturity.

The producer and/or consultant must first determine the rates of PGR to apply (3-4 rates per field are typical) and identify the areas or ‘zones’ of the field that will receive the high, medium or low rate. Using the GPS field boundary, a prescription map is created using GIS software to assign the high, medium and low rates to the specific areas of the field. As the sprayer moves through the field, the pre-assigned rates of growth regulator are applied to the field based on the prescription map and the GPS receiver on the sprayer.

There are currently several methods for determining zones for VR application. Commercial remote sensing imagery flown during the growing season (from companies such as InTime) provides field images classified into zones based on plant health. Multiple years of yield maps can also help identify production zones for the field. Sensor technology (i.e., Greenseeker™ or Crop Circle™) employs sensors, which read NDVI, a factor that corresponds to plant health. The sensors can be run over the field prior to PGR application and readings used to determine zones (2 trips over the field), or the sensors can be used on-the-go when mounted on the sprayer. In all scenarios the grower and/or consultant must verify map zones and determine rates for the prescription map.

For additional information, please contact us at 256-353-8702 ext 26 (Amy) or ext. 28 (Shannon).
July and August are the months when cotton makes most of its vegetative growth and all of its yield. It is also the season of greatest nutrient uptake by the plant. Therefore, nutrient deficiencies can have the most dramatic impact on yield at this time of year. The two nutrients that most often seem to be a late-season problem are nitrogen (N) and potassium (K).

**Nitrogen.** Late-season N deficiencies occur most often when we have an unusually wet growing season. This has not been the case in Alabama since 2005. As long as side-dress N was applied by first bloom and the crop is not suffering from drought, there should be no cause for concern. Experienced growers can often look at a crop and determine if more N is needed. Growers with irrigated cotton and a high yield potential may want to take advantage of a petiole nitrate testing program that is offered by the University of Georgia, University of Arkansas, and some private laboratories. However, to be effective, petioles need to be monitored weekly during this time of year. If additional N is needed, a foliar application of about 10 pounds urea per acre (4.6 pounds actual N) dissolved in water and foliar applied weekly can supplement soil applied N. This only works on healthy, actively growing cotton. It does no good to foliar apply N to drought stressed cotton.

Many Alabama cotton producers used poultry broiler litter as their sole source of N at planting and they want to know if additional N is needed by the crop. Assuming that the litter contained about 60 pounds total N per ton (the litter should have been tested), then 2 tons per acre should have supplied about 120 pounds total N which should be adequate to produce about 2 bales lint per acre, all other factors being optimum. Long-term tests in Central Alabama have shown that 2 tons litter does indeed provide enough N for optimum cotton growth in most years. However, some on-farm research by Dr. Tim Reed and others in North Alabama and William Birdsong and others in South Alabama suggest that supplemental side-dress N will be needed in most years especially if leaching rain has occurred or if the cotton is irrigated with a high yield potential. Again, careful observation of the crop and/or petiole monitoring

![Late-season K deficiency in 2007 on a plot on the Old Rotation Experiment (circa 1896) which later produced almost 4 bales lint per acre.](attachment:image.png)
Potassium. This is the time of the year when K or “potash” deficiencies usually show up. Classic symptoms show up as yellowing of the leaf margins in older leaves, but we’ve also seen yellowing of younger leaves near the top of plants. This happens because cotton plants start moving K from the leaves to the developing bolls. It is usually worst in crops with a heavy boll load. If you encounter K deficiency this time of the year, then there’s not much one can do about it anyway. If it is an old cotton field, then consider yourself fortunate because you are probably looking at a bumper yield if you see some spotty K deficiencies in August. As an example, we have never seen K deficiency on cotton on the Old Rotation experiment at Auburn. This experiment goes back to 1896. Last year, we saw some pretty severe K deficiency on our high-yielding, irrigated plots. As it turned out, the plot with the worst K deficiency yielded almost 4 bales per acre (see photo)! Adding more potash late in the season probably would not have increased yields that much.

*Market Ups and Downs: B. Goodman, Extension Economist

On Monday July 7, the December cotton contract started out at nearly 76 cents and ended the day under 73. Corn didn’t even trade that day, but since then has lost nearly $2 per bushel, as have beans. You could say that July 7 was a bad day in general for agricultural commodities. I looked at the open interest on the September corn contract and calculated the approximate value change over the first 2 days of that week at 1.125 billion dollars. That’s just one contract month, and not the biggest, on one commodity. The amount of money (potentially) changing hands on these contracts on these days where everything limits out boggles the imagination. That’s what happens when a speculative bubble bursts.

As you can see from the graph, history since “that week” has been mostly sideways for December cotton, but there were three days with what I would call a big range – 3 cents or so. A three cent move on an open interest of around 170,000 contracts means a total value change (increase for one, decrease for the other) of 255 million dollars. That happened three times this week on one month’s cotton contract, and cotton has a smallish volume compared to corn or wheat or soybeans. I don’t know why, but for the last month or so, the cotton, soybeans and corn graphs look remarkably similar. Wheat looks different, but you must remember that we are in a different season on wheat, harvest being just over.
While we have lost about a dime over the past 2 weeks, the market can’t seem to decide if it should go up on the basis of crop losses in Texas and the reduction (0.1 m bales) of US carryover, or down on the basis of the stock market and energy price increases. Or at least that’s my story. At any rate, it would be hard for me to market any cotton today when just a week ago it was “worth”, according to the futures market, a dime a pound more. On the other hand, a farmer told me he just put all his remaining ‘07 cotton on the market just because he was tired of messing with it. I don’t know if that qualifies as “good marketing” or not. It might be a stroke of genius, or it might not be. Time will tell.

One of the big questions for discussion for upcoming months will be at what price cotton will attract more US acres in 2009. According to USDA, our stocks are finally “dwindling”, albeit very slowly, and we need more acres for next year. My take is that it depends on the price of corn, soybeans, wheat, diesel fuel, and fertilizer, among other things.

We had a meeting in South Alabama earlier that same week to talk about the huge basis for soft red winter wheat we are seeing in Alabama. I wish I had something constructive to tell the farmers. All I can tell them is to have a product the buyer wants – clean and dry – and have it available when the buyer wants it – on farm storage. And don’t worry about basis or futures market prices, just consider what the cash offer is. Futures speculation will be around forever, but we probably will be able to get a handle on it for future harvests. We need a futures market for hedging purposes, and speculators perform an essential function – they supply liquidity or “grease” to make prices move easily in either direction. One very good suggestion from a farmer I heard was that we need marketing coops for our grains in Alabama. This suggestion has a lot of merit.

*2008 Cotton Calendar. D. Monks, Extension Specialist*

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<th>Date</th>
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<td>Aug 9-11</td>
<td>ALFA Commodity Tour and Conf., Mobile</td>
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<td>Aug 27</td>
<td>East AL Cotton/Peanut Tour</td>
<td>J. Clary, L. Kuykendall</td>
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<td>Sep 5</td>
<td>Wiregrass Precision Ag Field Day</td>
<td>W. Birdsong</td>
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There are two websites that you may be interested in visiting:
Alabama cotton information: [www.alabamacrops.com](http://www.alabamacrops.com)
Use pesticides only according to the directions on the label. Follow all directions, precautions, and restrictions that are listed. Do not use pesticides on plants that are not listed on the label.

The pesticide rates in this publication are recommended only if they are registered with the Environmental Protection Agency and the Alabama Department of Agriculture and Industries. If a registration is changed or cancelled, the rate listed here is no longer recommended. Before you apply any pesticide, fungicide or herbicide, check with your county Extension agent for the latest information.

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