Alabama Cotton Picksack Newsletter  
July 2006

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*Cotton Questions and Answers. C. Burmester and D. Monks, Extension Cotton Agronomists

**Question:** My cotton is beginning to bloom in the top; will it begin growing again if it starts to rain?

**Answer:** Much will depend on the boll load on the plant, the amount of rainfall, the cotton variety, and residual fertilizer in the ground. Under these conditions the cotton plant’s first response is to develop the bolls on the plant. The more bolls set, the slower the recovery and the lower chance for additional growth. In many areas it will take significant rains over an extended period to change the soil moisture levels so the plant will add vegetative growth. With rainfall, residual nitrogen fertilizer that is still in the soil could also help stimulate late season vegetative growth. Considering these factors, the southern half of Alabama with its longer season varieties and longer growing season should have the best chance of responding to late season rains. In the Tennessee Valley area, if cotton completely blooms out-the top, second growth may occur but we often do not receive enough heat units to mature the bolls.

**Question:** Why is my cotton not growing as it should? I have received two half inch rains over the last week and my cotton hasn’t grown any.

**Answer:** In many cases the soil is so dry these rains only wet the top few inches of soil and this is still not enough moisture to deliver nutrients to the root system of the plant. Without much plant canopy this moisture also evaporates quickly. It is apparent in many of our cotton test plots that the side-dress nitrogen

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fertilizer has not been picked up by the cotton. It is also apparent that reniform and rootknot nematodes are playing a big factor in some fields where cotton growth has stopped. In addition to nematodes, we cannot forget damage to the root systems from the cold temperatures that were present in early to mid-May. Most of the cotton we have seen has a poorly developed root system, making it very difficult for the plant to maintain vital processes during the drought.

**Question:** Should I eliminate all input into this crop until I receive rain?

**Answer:** Unfortunately, this may be the case in some of the most severely affected fields, especially where cotton is less than a foot tall and not growing. This recommendation has already been made in some areas. Producers in areas that have been receiving some rain and cotton is fruiting should continue to monitor their crop. Most of this cotton has already received most of its inputs and decisions still need to be made on a field by field basis.

**“1-800 Insect Line” Update. R. Smith, Extension Entomologist**

Here it is mid July and dry weather continues to dominate all other concerns with cotton production in Alabama. In recent weeks, field surveys somewhere in the state have noted significant numbers of adult plant bugs, stink bugs, (both brown and green) bollworm and budworm moths, aphids and spider mites. Of most concern have been the aphids and spider mites since cotton is already under some level to extreme drought stress. As expected, younger cotton is holding up better than earlier planted cotton. Much of our earlier planted cotton could be described as 10-12 inches tall – cut out – with blooms out the top. We may want to stop further inputs into cotton that fits that description, realizing that the majority of inputs are already into the crop.

Most growers may want to focus their attention and inputs into those fields that still have harvestable yield potential. On these fields I am recommending aphid controls while waiting for the natural fungus to occur. Most samples sent to the Univ. of Arkansas are coming back with 0% fungus detection. It will likely be between July 16 and 20 before the fungus takes out our aphids.

Basically we have 3 products of choice for aphid control – Trimax Pro, Intruder and Centric. All have performed well in Alabama in past years. However, some problems have occurred in past years on drought stressed cotton and more recently it appears that aphids have built some level of resistance to the neonicotinoid chemistry – the class where all 3 of these products belong.

On to the worm situation: reports are coming in of numerous moths in fields – in S. AL it is a mixture of bollworm & tobacco budworm. In the other areas, it is primarily bollworms that are being flushed. There are going to be some hard decisions to be made about worm control on conventional cotton during the next few weeks. If a mixed population of both BW and TBW are present it will mean newer chemistry will be necessary and that means $12 or so per acre on cotton with marginal yield potential. I have had 2 reports of the southern armyworm and the fall armyworm in the Gulf Coast area. One report only noted etching on boll bracts but no FAW’s found.

The situation is so variable and the weather is such a factor in our decisions that it is difficult to do justice to all situations in a general overall report. I will be happy to address particular questions or situations by phone – cell 334-332-9501 or Southern Linc at 635 *366.

**Late-season Weed Control in Cotton. M. Patterson**

We are in the middle of July as I write this note. It is still very dry across most of Alabama. Normally we would have applied lay-by treatments and be concentrating on insect management at this time. Unfortunately, this is not the case. Weeds in most cases are just as drought stressed as the crop. If you are
contemplating any weed control measures, you must consider what might happen from now on out. If the crop remains dry, there is little to do other than pray for rain and spot treat with the lowest cost materials available. Glyphosate may be the lowest cost material available for the weed control we get out of it. This should be directed to the base of the cotton stalk. Spending money on a residual herbicide to add with glyphosate is a gamble. If it appears a change in the weather will provide rain for the last part of the summer, then adding a residual herbicide may be wise. If you plan on planting a small grain following cotton then don’t use diuron, because it is too residual for late season application. Prometryn (Caparol, etc.) at 1 pint per acre or Valor at 1-2 oz per acre will have less residual activity than diuron. Layby Pro at 1 pint per acre could also be considered until the end of July. I have received a few calls in the past about morningglory vines topping through cotton in late summer. Envoke has worked better than expected on these large weeds.

*Late-season Fertilization. C. Mitchell, Extension Soil Scientist*

I have had several calls the last few days from growers worried about drought stricken cotton that is small and has stopped growing although it is setting a few bolls. They want to broadcast or foliar apply nitrogen and/or sulfur and/or potassium in the hopes of boosting growth and salvaging a crop. A healthy cotton plant is 85% H2O and only 0.01% N on a fresh weight basis. What the crop needs to grow is H2O not N. With the price of N fertilizers nearly 50 cents per pound of N, I find it difficult to recommend sinking more money into a crop with very poor yield prospects. In most cases, adequate N was applied either at planting or as a side-dress or both. On the “Old Rotation” experiment at Auburn, we consistently make about 300 to 500 pounds lint per acre in plots that have NEVER received any N fertilizer and have never had any legume on the plot. I interpret this to mean that we get enough N from the rainfall and non-symbiotic soil N fixation to make about a bale of cotton. If you have fertilized at all, you probably have enough N to make much more than this if moisture is available.

If we did have a wet August on a drought stressed cotton plant that had additional N applied, we may end up with open bolls in late August near the ground and a lot of immature bolls near the top of the plant after frost.

I also have had a few conversations about foliar fertilizing healthy cotton that is not moisture stressed. This is a different situation. Foliar-applied, feed grade urea (about 10 pounds per acre dissolved in at least 10 gallons of water) is a good way to supplement fertilizer N to help set additional bolls in a healthy, growing cotton crop – a crop with a potential of 2 bales per acre or more. Usually multiple applications are needed. Foliar-applied potassium nitrate (10 pounds KNO3 per acre per application) in at least 4 applications beginning at early bloom has been successful in some situations at boosting yield. Again, this does not work on stressed cotton.

*The Market Staggers. B. Goodman, Extension Economist*

The chart of December futures on the cotton market lately has been very enlightening. If you chart daily volume under the price bar chart, you will notice that on some days volume is double or triple what it is on normal days. It may be a coincidence, but those are the days where we tend to have a big sell-off. Recent history is that we have a big down day and then the market kind of works its way back up over the next few days or week, then there is another big sell-off. The only explanation I can offer is that on those days the specs are running the market down and on the other days the trade is trying to buy some cotton so the price slowly inches back up to where supply and demand is more or less balanced. Right now that point seems to be in the low to mid 50’s on the December contract. But I believe with the supply situation in so much doubt and with demand still looking strong we have to believe that before long we can get prices back at least much closer to 60 cents, maybe over. But the market cannot work such a miracle that it will save the day for Alabama cotton this year. The break-even price on the yields we are looking at would be over $1 per pound even if no further inputs are needed. My marketing advice again is to do nothing. There is no
point in pricing cotton right now. Corn harvest is underway. The market has recovered its short-term slump so marketing corn right out of the field now is a pretty good plan that I would have a hard time finding fault with. Beans are still flat. I’ve got no good idea on beans.

*Drought 2006. W. Birdsong, Extension Agronomist*

As I write this there is a crop disaster in the making. Some farms have already experienced the impact of such a disaster. Others are in the stages of worsening crop conditions. All cattle farmers have been experiencing limited feed situations for the past 7 to 10 months. With such farm crisis, it is hard for me to write about stink bugs, aphids, growth regulators, lay by sprays and other crop management techniques. Therefore, I believe the first and foremost topic should be thoughts on what to do during such trying times. First, if you are fortunate to be in an area that still has potential to produce a crop, do not give up. Make every decision a calculated decision. Evaluate all inputs and justify the return. Call upon Extension and others who are knowledgeable and evaluate their advice. Nobody can see in the “crystal ball” but some have more vision and experience than others. Please draw on that experience. Every farm is different and every farm will have different potential but there is not doubt that every farm has incurred damages due to this year’s drought. Here is a plan of action that I think would be feasible for most growers.

1. Evaluate all your fields and estimate your yield potential;
2. Know your crop insurance coverage for each crop;
3. Contact your crop insurance agent for any advice or situations that might develop in the coming weeks;
4. Request a farm evaluation by crop insurance. This may offer you more options that you realize. – KNOW your insurance;
5. Contact the legislators in your area. They must hear from you. The squeaky wheel is more likely to get the grease and the more of us that sound off the more likely it will be that we get help from Washington. Let there be no doubt that we need help;
6. Stay in touch with your local Extension Representative;
7. Pray for rain!!

*Precision Ag Notes – July 2006. A. Winstead and S. Norwood, Precision Ag Specialists*

**Guidance Systems:** Guidance systems using GPS technology are rapidly increasing in popularity on many Alabama farms. These systems can reduce driver fatigue, cut down on overlap, improve applications under reduced visibility and provide the ability to operate at night and at higher speeds. Newer systems also provide a visual screen which allows the applicator to “see” the swath pattern they have applied and a “look-ahead” feature which tells them what direction they are heading or where they need to go to stay on a previous swath pattern. Guidance systems range in price from a few thousand dollars upwards to $40,000, although costs have decreased over the past few years.

There are two main types of GPS guidance systems: GPS-assisted guidance and hands-free, auto-steer guidance systems. GPS-assisted systems include lightbars, visual displays mentioned above, and auto-assist units that mount onto the steering wheel or are built into the steering of the tractor. These units are becoming more and more advanced and affordable however they range in their accuracy and on-farm application uses. Spraying, tilling, applying lime and fertilizer and other broadcast applications can be done with a relatively inexpensive system, operating with a GPS receiver using a free differential source such as WAAS. These systems usually provide an accuracy of 3 feet or less. In order to use one of these systems for planting you need a higher grade receiver that will provide greater accuracy. These systems typically operate off a differential GPS subscription type service through the system’s dealer and provide around 4 inches or less accuracy.

Completely automated, auto-steer guidance systems provide sub-inch accuracy and repeatability by
eliminating GPS drift that occurs with most satellite based systems. These systems use a RTK GPS differential signal which is provided through a base station and subscription service or through high-grade wireless technology such as CORS. If you want to use the system for farm applications such as planting and harvesting a crop (such as peanuts) where you need to be able to follow your exact row pattern each time, then repeatability as well as accuracy becomes a factor. Repeatability in a guidance system means that you will be able to come back to the exact same spot in a field again and again. Only auto-steer systems operating on a RTK signal will provide such accuracy (<1inch) and repeatability.

Factors to consider when choosing your system:
1. Will it fit my current operations and possible future operations?
2. What type support does the manufacturer/dealer offer?
3. Is it compatible to other GPS systems I may have or want to purchase? (for example if you already have a yield monitor, the same receiver could possibly be used for both systems)
4. Is the software compatible to my computer, is it easy to use, and can it be upgraded?
5. Can I move the system to different tractors throughout the season with relative ease?

*2006 Cotton Calendar. D. Monks, Extension Cotton Agronomist

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<td>August 3-6</td>
<td>Alfa Commodity Tour, Huntsville</td>
<td>Alfa</td>
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<td>August 18</td>
<td>East Alabama Cotton Tour</td>
<td>Jeff Clary, L. Kuykendall</td>
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<td>August 22</td>
<td>SW Alabama Reniform Nematode Field Day, Huxford</td>
<td>R. Petcher</td>
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There are two websites that you may be interested in visiting:
Alabama cotton information: [www.alabamacotton.com](http://www.alabamacotton.com)

*Alabama Cotton Update: The Drought Continues. B. Goodman, B. Dillard, L. Kuykendall, and R. Yates; Extension Economist and Regional Extension Agents, respectively

Wiregrass Crop Notes - Brandon Dillard: As of this week, we are seeing a lot of aphids in cotton. At what point do you spray? That is the million-dollar question. Earlier this fall, acephate was causing a flare-up of aphids. Ron Smith is recommending neonicotinoid chemistry. We are also keeping an eye out for plant bugs, spidermites, and stinkbugs in stacked gene cotton. Worms are also of consideration in conventional cotton. With varying plant stands, soil moisture, and overall progress of the crop, recommendations should be given on a field to field basis.

Keeping fields clean with herbicides is becoming difficult. Applying high rates of water per acre, spraying in the morning before leaves shrivel up, and using 1-2 quarts of surfactant per 100 gallons of water are some small things that can be done to make sprays more effective. Also, adding ammonium sulfate (Granted, it is more expensive.) will “heat up” the chemical. Always check the label to be sure a tank mixture with ammonium sulfate is safe.

Central Cotton Update - Leonard Kuykendall: Aphids are pulling down some of the better cotton and it appears the fungus has not yet arrived. As in previous years, some growers are applying insecticides for aphids where some yield potential still exists. Our bug or worm infestations have been severe as of this writing. Most of the cotton started blooming out of the top the last week of June and almost all the crop was blooming by the 4th. The heat and lack of good moisture has matured the crop very quickly. The longer season varieties may have the potential to respond if more favorable growing conditions arrive. Timely mainly glyphosate herbicide applications have held many troublesome weeds as morningglory in
check, though some harder residual lay-by herbicides will probably be needed to keep the tougher weeds from coming back later in the season and/or next year. The nitrogen fertilizer applied earlier in the season is probably still waiting for moisture so the cotton can utilize it. It is possible that we may see some delayed maturity with late season rains result from nitrogen remaining from application and poultry manure. Whenever we can help you with decisions, please call us.

Black Belt Crop Update- Rudy Yates: Spraying for weeds and plant bugs has been ongoing for several weeks. There have been a few reports of caterpillars, but their low numbers are credited to beneficials. Moth traps for corn earworm and tobacco budworms have been in place for over a week around cotton in parts of the region, and more earworm moths than budworm moths have been caught. This fact may be attributed to moths moving out of corn as it begins to dry down in many areas. The soybean rust sentinel plots located at the Black Belt Research and Extension Center in Marion Junction, AL, are still holding up to the drought as well as can be expected. No rust has been detected from the samples sent to the diagnostic lab at yet. The soybean plots were planted with one group 3 variety, two group 4s, and one group 6. The group 4 soybeans in some areas are starting to dry down. Iron chlorosis is still being observed in some soybean fields. Peanuts are holding up except for some individual fields. Some spraying has been reported.

*Fusarium Wilt Found in Cotton Fields. C. Burmester, K. Lawrence, and D. Derrick Extension Agronomist, Plant Pathologist, and Regional Extension Agent, respectively*

Fusarium wilt is a disease you don’t expect to find in cotton fields in late June in northern Alabama. It is a disease that thrives in cool wet conditions and we usually only see damage very early or late in the growing season. However, in trouble-shooting several cotton fields in Cherokee County we found scattered plants that had very red stems, and red lower leaves that were falling off the plants. Several cotton plants had recently died. In many cases the tap root was twisted and malformed. We ruled out possible herbicide damage and this appeared too severe for a nematode problem. When the cotton stems and roots were split we found vascular discoloration in both the stem and root (a sure sign of Verticillium or Fusarium wilt).

The plants were sent to Auburn and Fusarium wilt was verified in 14 of the 20 samples tested. It appears that conditions must have been ideal for infection when these plants were very young. The cool, wet conditions experienced in late April and early May set these plants up for infection. Although nematodes can increase this infection process they are not always necessary. This appears to be a very unusual event, but this has been an unusual year. Since June, Fusarium wilt has also been confirmed in a cotton field in Talladega County.

There is no control measure for Fusarium wilt at this stage. Over the years we have limited this disease mainly through planting resistant varieties. The on-farm Roundup Flex cotton variety test we are conducting in Cherokee County is one of the locations we have seen Fusarium wilt. Perhaps we will learn something about resistance in these new varieties.

*Reference Number: PSK-7-06, D. Monks and C. Burmester, editors*

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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.
Trade names are used **only** to give specific information. The Alabama Cooperative Extension System does not endorse or guarantee any product and does not recommend one product instead of another that might be similar.

**For more information**, call your county Extension office. Look in your telephone directory under your county's name to find the number.

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