Alabama Cotton Pick sack Newsletter
May 2009

*Cotton Planting Delayed in Central and South Alabama. Dale Monks
*Nitrogen Fertilizer Losses After the Heavy Rains in May. Charles Burmester
*Early Season Insect Concerns for Cotton. Tim Reed & Barry Freeman
*Be Alert for Sporadic Early Season Insects. Ron Smith
*Stay Ahead of Weeds in the Cotton Crop. Mike Patterson
*Futures Market Upward Trend Continues. Bob Goodman
*2009 Cotton Calendar. Dale Monks

*Cotton Planting Delayed in Central and South Alabama. Dale Monks, Extension Agronomist

The showers and storms in late March through mid-April and again through mid-May has had a tremendous effect on our planting this year. Corn planting across much of the state was delayed which, in turn, delayed the start of cotton planting for many producers. In short, we are way behind “normal” planted acres for this time of the year. The USDA has predicted that our cotton acreage will end up around 280,000 acres. As of May 11, we were running about 30% planted when compared to the long-term average of 60%. Given the heavy flooding in the heart of central Alabama last week, we are likely to run late into the month before the 2009 crop is finally planted. I attempted to get the “final planting date” for cotton for the state for crop insurance purposes and found out very quickly that this varies from county to county. Since these dates are not necessarily uniform across the state, the best advice I can give to make certain that you contact your crop insurance representative to find out what your final planting dates are for the different crops in your area. There are also provisions for delayed and late planting and prevented plantings that you will need to follow up on as well since there are some very tight deadlines to meet for filing claims.

Growing degree-days, a measure of temperature used to track plant growth, are running slightly behind in Belle Mina and Fairhope and slightly ahead for Milstead and Headland (www.alabamacrops.com, cotton, DD60s). The good news for central and southern counties is that we still have time to plant within the preferred window for normal yields. Given the soil moisture status and the on-set of warmer temperatures, I would expect
Cotton planted over the next week or so to grow off very quickly. You can follow crop progress for many of our row crops at: 

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*Nitrogen Fertilizer Losses After the Heavy Rains in May.* Charles Burmester, Extension Agronomist

Fields are streaked with yellow corn and ponds are still visible in cotton fields that were just recently planted. As one farmer said, “We are all in the same boat.” He said this because with eight inches of rain in a week he knew all the nitrogen fertilizer he applied was probably not available to his crops. How much nitrogen is left and how much more do I need to apply? That is a very valid question, but one that is also very hard to answer.

We generally lose nitrogen fertilizer due to leaching downward through the soil profile or by denitrification when soils are saturated for several days. During denitrification, the nitrogen fertilizer is converted to nitrogen gas and lost from the soil to the atmosphere. In northern Alabama on the heavier soils, denitrification is the main method of nitrogen fertilizer loss. When these soils stay completely saturated for several days, nitrogen loss can be severe. Generally if areas stay flooded for three or more days on these soils, most of the nitrogen fertilizer is denitrified and lost. Areas where rain ran off and soils dried between rain showers also had losses, but were less severe. At this time I would estimate that 30 - 50 percent N losses would be a reasonable estimate on these higher soils.

Soil sampling for nitrogen will be of very little help because of the rapid changes that occur in our soils due to microbial activity and rainfall. Because of the variability, I do not know of any baseline for soil nitrogen that has been developed for the soil types in the southeastern United States.

Leaf sampling can provide a better method of determining a nitrogen deficiency, but it also has drawbacks. With most of our soils still saturated, nutrient uptake is being decreased, which is why we are seeing so much yellow corn at this time. At this early stage, nitrogen requirements are generally low and therefore leaf sampling will also tell us very little about how much nitrogen fertilizer is still in the soil.

So what are we to do? The corn will need side-dressing soon and it may be too big next week to drive over with our tractors. In this case we will have to rely on experience on our Alabama soil types and vary the nitrogen depending on how long the soil was saturated and if water stood on the soil for several days.

**North Alabama Update.** I have seen a little cotton up in northern Alabama, but it has been only a small amount. More cotton was planted the last week in April during the four days without much rain. That cotton is struggling especially in areas where water stood for any period of time. Most areas have received over eight inches of rain in May.
Most of these flooded areas will probably have to be replanted. Farmers are struggling with getting burndown herbicide treatments applied and crops planted. Most farmers are planting a variety of crops this season that is also adding to the burden. Most farmers have corn to sidedress with nitrogen fertilizer and cotton and soybeans to plant in a short period of time. If you have cattle, the fescue hay is long past cutting. So if you see a tractor in north Alabama, please stay out of the way.


Managing nitrogen (N) in cotton is always a challenge. There are so many factors that affect its availability in soil, uptake by the plant, and loss to the environment; these factors are constantly changing. Add to this the high cost of N fertilizers in 2009 and the scene becomes even more uncertain. In the past, some growers would over-apply N to make sure their yield potential didn’t suffer. Then, they would have to apply a growth regulator to control the excessive growth caused by the excess N. With low cotton prices and high costs of production, growers may want to take a closer look at these inputs. Research with N rates on non-irrigated cotton at 5 Alabama locations over the past 10 years suggests that extra N applied beyond the recommended rate is not justified by higher yields. The following figure from Prattville Research Station in Central Alabama illustrates this point. Going much above the recommended total N rate really doesn’t result in much yield increase even in a very good year.

In this figure, half the N is always applied at planting with the remainder as a sidedress application before early bloom.
Litter N. This year, many growers have tried alternative N sources such as poultry broiler litter in an attempt to save on the high costs of fertilizer. Over 12 years of research with broiler litter on cotton has proven that it can successfully substitute for all or part of the N needs of Alabama cotton (see table). Out of necessity, most or all of the litter is applied prior to planting. In studies at the Tennessee Valley Research and Extension Center (REC), E.V. Smith Research Center in central Alabama, and Wiregrass REC Center in Headland, all broiler litter was applied immediately prior to planting cotton but fertilizer N was applied in split applications. At all locations, it took between 1.5 and 2 times as much N as broiler litter applied at planting to equal the yield from split fertilizer N applications.

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Loss of Preplant N and Sidedressing. The Auburn University Soil Testing Laboratory recommends a total N application for the crop to be grown based on on-going N studies around the state such as the test shown from Prattville (above). In all studies, the total N is applied in split applications with half applied at planting and half applied as a sidedress. Comments on the soil test report usually explain split N applications.

Many Alabama producers, especially on fine textured soils, will apply all of the N at planting. This is a risky practice. May and June are typically dry months in most of Alabama; therefore, the risk of leaching rains (on sandy soils) or denitrification (on saturated soils) is minimal. However, about 2 out of 5 years, we will have an unusually wet May and/or June. North Alabama and parts of South Alabama have already experienced this in 2009. If soils are saturated for 3 or more days, assume that all of the preplant N has been lost to denitrification. Once the soils dry out and if the crop assumes normal growth, you will have to reapply the total N rate (60 to 120 pounds N per acre) on cotton or (120-240 pounds N per acre) on corn. However, keep in mind that the yield potential (especially on corn) may have been compromised so a high N
rate may not be needed. *If the soils are saturated for 24 to 48 hours, assume that half of the total N has been lost.*

This is illustrated in a test on a Houston clay in West Alabama in 2003 where excessive rainfall after planting resulted in almost total N loss from denitrification.

![Graph showing the effect of N rates on cotton yield](image)

Effect of N rates on cotton in a Houston clay in West Alabama in 2003 where 6.7 inches of rain fell in May and 8.0 inches in June. Note that almost all the N applied at planting, whether ammonium nitrate or broiler litter, was lost due to denitrification.

Nitrogen losses can be just as severe if poultry broiler litter is used preplant. If several inches of rain occurred after broiler litter (or preplant fertilizer) application or the soil was saturated for several days after application, chances are you lost some, if not all, of the preplant N in broiler litter. How much is anyone’s guess. (The good news is that the phosphorus and potassium are still there.) This risk of N loss is the reason broiler litter and fertilizers are never applied more than 30 days prior to planting a crop. If you suspect preplant N loss, be prepared to increase your sidedress N application. You may wish to apply it a little earlier than normal. On cotton, research has demonstrated that as long as the sidedress N is applied prior to early bloom, the crop can use it. Note in the figure below that most N is taken up by cotton during bloom and boll formation.

The source of N doesn’t matter. It can be liquid urea-ammonium nitrate solutions (e.g. 32-0-0), ammonium nitrate (34-0-0), urea-ammonium sulfate blend (33-0-0), ammonium sulfate (21-0-0-24S) or any combination of these. Because of the lower cost, some growers may choose dry urea (46-0-0). This is fine in conventionally tilled cotton if the crop is cultivated after application or if irrigation is used after application. However, if
dry urea or UAN solutions are surface applied on old crop residue in no-till cotton, then a urease inhibitor (e.g., Agrotain®) may be used to reduce the risk of N volatilization (gas) losses or a slightly higher rate may be applied.

*Early Season Insect Concerns for Cotton. Tim Reed & Barry Freeman, Extension Entomologists

Wet weather continues to delay cotton planting in north Alabama and continuing rain delays may result in even fewer cotton acres and more soybean acres. A survey of local consultants and farmers indicated that less than half of the total intended cotton acres had been planted by May 11. Cotton that was planted ahead of recent rains may see the first true leaf hit hard by thrips since rains may have leached away some of the in-furrow insecticide and insecticide seed treatments. One consultant anticipates needing to mix some insecticide with the first glyphosate application to cotton if leaching of at-planting insecticides is indeed a problem. Tarnished plant bugs were common and caused damage to prebloom cotton throughout north Alabama in 2008. The prebloom stage of cotton is by far the most susceptible stage to plant bug injury. Damage done at this time largely comes from feeding by migratory adults which are difficult to sample.
However, sampling for square loss due to plant bug feeding during this period is easy to do and square loss will be closely correlated with plant bug activity. The treatment threshold for plant bugs in prebloom cotton is when pinhead square retention drops to 80%. Thresholds are guidelines which may be adjusted up or down for various reasons, but this 80% square retention threshold has proven useful for many years. Reduced square retention in north Alabama due to plant bugs generally starts after mid-June and most fields will be sprayed for plant bugs between June 21 and July 7. Square retention may be 60 to 70 per cent in some parts of a field and 80 to 90 per cent in other portions of the same field in prebloom cotton and this is why it is important to inspect each field in several locations to get an accurate estimate of square loss. Once square retention gets close to 80% it can drop within a week to 60% in bad plant bug years.

*Be Alert for Sporadic Early Season Insects. Ron Smith, Extension Entomologist

Several insects may occur and cause economic damage to cotton between emergence and the fruiting stage. Three of these are: cutworms, grasshoppers, and three-cornered alfalfa hoppers. Several species of cutworms may cause damage—the black cutworm, granulate cutworm, and variegated (climbing) cutworm. The black cutworm has been reported in high numbers this spring in Tennessee, Missouri, and Arkansas. Damage usually occurs in poorly drained areas where winter vegetation is still present. Cutworms have become a more widespread problem in conservation tillage since drying winter vegetation attracts cutworm moths to lay eggs. The caterpillars would then still be present when cotton emerges.

The most common cutworm species are generally greasy and dirty grey to brown in color. During the day, cutworms usually hide just underneath the soil surface. Most of the damage occurs at night but the climbing cutworm may feed on cloudy days. Cutworms may cut down more plants than they actually consume. A preventative treatment at or shortly after planting may be advisable in high-risk fields. A low- to mid-rate of a pyrethroid insecticide will provide economic insurance against cutworm damage and provide effective control.

Grasshopper is another insect that has become more common since the movement to conservation tillage. Both nymphs and adults may feed on cotton from emergence up to about the 4-5 true leaf stage. The most attractive stage for feeding may be seedlings in the “crook” stage of emergence. There are no established thresholds for grasshoppers. Therefore, insurance sprays may be warranted when nymphs (jump but do not fly) are numerous and cotton is in the susceptible stage. Most all labeled cotton insecticides are effective on the nymphal stages, but when adults are present (a few weeks later), controls are much less effective. Grasshopper damage may appear similar to cutworm, with the stem of seedlings cut but the foliage not consumed.

The three cornered alfalfa hopper (3CAH) is a more sporadic insect than grasshoppers. They are more common in dry springs when vegetation on field borders (where the 3CAH’s migrate from) begins drying down. Damage to cotton is usually
worse along the edges of fields. Damaged seedlings will reveal that the main stem has been “girdled”, causing stunted plants with reddish or bronze cotyledons, stems, and leaves. 3CAHs usually do not damage enough plants to warrant controls.

One last pest that could occur in isolated pockets during a wet spring is snails and slugs. Snails have shells and slugs do not. The most likely places for these pests are low pockets in no-till fields. Slugs may eliminate stands in these pockets. However, no effective economical controls are available.

*Stay Ahead of Weeds in the Cotton Crop. Mike Patterson, Ext. Weed Scientist

Read any postemergence herbicide label you want to and it will give you the weed species that the herbicide has activity on and what size plant of the species that it will control. If you choose the wrong herbicide for the weed in question, you have wasted your money. You can also waste money by trying to control a weed that is too large for the herbicide to control at the labeled rate. Roundup Ready technology has spoiled us in the past few years by allowing us to control relatively large weeds with later applications than we normally would use. Those days are over. Herbicide-resistant weeds, including pigweed, horseweed, and several other species, have become great problems in many Southeastern fields. We now have glyphosate-resistant pigweed in east central Alabama and it is expected to move across south Alabama in the coming years. Don’t expect the Ag chemical companies to come to your rescue with new herbicides anytime soon. Weed management in a systems approach will be the key to making a clean crop for all of our major row crops, but especially for cotton. We don’t have strong over-the-top herbicides for use in cotton like we do in corn, soybean, and peanut.

Cotton grows slower than corn or soybean and thus does not compete as strongly with weeds. The Staple® herbicide label says Palmer pigweed should not be over two (2) inches tall when sprayed with Staple postemergence. Palmer pigweed can grow over one (1) inch per day after emergence. It may be hard to spray 1000 acres in a timely manner in this situation. Staple plus MSMA can be post-directed in small cotton to suppress larger pigweed until the cotton is large enough for stronger post-directed treatments. Using soil-applied herbicides, either Prowl® or Reflex® with fluometuron, diuron, prometryn, or Staple preemergence, can give you a head start on the weeds if these products are activated by rainfall or sprinkler irrigation within a few days after planting. It is imperative that a height advantage be established for the cotton above the germinating weeds. This will allow directed applications of herbicides underneath the crop with herbicides that are more non-selective, like Valor®, prometryn, and diuron.


The big news in the cotton market is that at the time of this writing, the first number on the December cotton futures contract is a “6” and has been for a week. The two-month trend continues upward and seems likely to continue. How far it will actually go and
when it will stop, nobody knows. The word on the DTN machine last week was that the speculators are back in commodities, and not just cotton. However, I have seen other statistics that indicate otherwise, with a net outflow of investments in agricultural and livestock commodity markets of over 900 million. Overall, the futures markets attracted a record 22 billion additional dollars in the first quarter of 2009. The numbers I saw indicated that most of that went into metals and energy.

You have to keep in mind on all these statistics is that they only tell you history, not what is happening right now (even if the numbers are correct, which sometimes you have to wonder). Given the recent run in the cotton market, it could be that a bunch of speculators decided that cotton was cheap (which it is). However I would rather hope that these recent market numbers are an indication that mills are no longer buying cotton day-to-day, and that they are interested in fixing purchases further ahead. I hope it’s an indication that they are seeing a real resurgence of demand for cotton textile products. I hope that it means cotton prices are going to firm up to the point where we can make money growing cotton. But, it could also be just another bubble. As speculator money comes back into the commodity markets, we have to recognize that what happened last year can happen again…and again.

At any rate, what the trade calls “commercial specs” are net long, meaning they expect cotton price to continue up. These traders, especially the index fund traders, often follow trends, and the trend in cotton is definitely up. However, they are not as far “net long” as they have been. “Commercial hedgers” are net short, which could mean they expect cotton price to fall. It could also mean that they are using the futures market to hedge future sales on the cash market – something they have been known to do in the past. Open interest, the total number of current contracts, is still rising, indicating more and more money is coming into the cotton market. The size of these positions somewhat supports the “bubble” hypothesis, but there are some market fundamentals that also support higher cotton price. The first factor supporting higher price is that the dollar is down, making our exports like cotton cheaper. Second, the price of oil is up,
making synthetic fabrics more expensive. Third is wet weather that has delayed planting. Fourth is the impending release of USDA Supply and Demand Report which is expected to reveal how China is coping with the current economic environment. The health of the Chinese economy is very important in the cotton business these days. The Chinese mills use nearly half the world cotton crop these days. A warning sign that price has already risen too high for current market conditions is that our export sales have fallen from recent levels. Of course, export sales figures are highly volatile, and you can never tell in advance when a sales figure is important and when it is just a fluke. The LDP is below 7 cents. If you are selling cotton during this rally, one strategy is to take the LDP one week and sell the cotton the next. You might gain a few points with very little risk.

*2009 Cotton Calendar. Dale Monks, Extension Agronomist*

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There are two websites that you may be interested in visiting:
Alabama row crop information: [www.alabamacrops.com](http://www.alabamacrops.com)

*Reference Number: PSK-5-09, D. Monks, C. Burmester, and B. Goodman, editors*

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.