



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



Georgia Cotton

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New Farm Bill. (Shurley) A new farm bill has become a reality although officially, there are still (as I understand it) a few kinks to yet work out. The new farm bill will cover the 2008-2012 crops. The new farm bill includes but is not limited to:

- A continuation of the 2002 farm bill Direct and Countercyclical Payment (DCP) program but with slight modifications in some Target Prices and Loan Rates. Payment Acres dropped from 85% of Base to 83.3% for 2009-2011 crops.
- Rather than DCP, an optional new safety net—the Average Crop Revenue Election (ACRE) program. Producers will have a 1-time election.
- Changes in Payment Limitations and the Adjusted Gross Income (AGI) eligibility test but still separate and equal payment limits for peanuts.
- Elimination of the 3-entity rule, replaced with rules on direct attribution.
- Permanent disaster program.
- Specifically regarding cotton-- changes in the Loan Schedule, in the A-Index (which may impact AWP and LDP), and in payment for storage when the AWP is less than the Loan Rate.
- Economic Adjustment Assistance payments of 4 cents/lb to US mills.

The Department of Agricultural and Applied Economics is preparing a series of Fact Sheets discussing and analyzing various aspects of the farm bill. These Fact Sheets will be available through the county Extension Office and on-line. The Department will be conducting training *for County Extension Agents* at the following times and locations.

Tuesday, June 10, Stripling Irrigation Research Park, 9am-Noon
Wednesday, June 11, Sumter County Extension Office, 9am-Noon
Friday, June 13, Coffee County Extension Office, 9am-Noon
Monday, June 16, SE Georgia Res. And Ed. Center- Midville, 1-4pm
Tuesday, June 17, Toombs County Extension Office, 9am-Noon

We will also be conducting educational meetings for farmers. These meetings will be held as soon as practical and co-sponsored by Extension and FSA.

The National Cotton Council has scheduled a series of Farm Bill Informational Meetings—4 of those meetings to be held in Georgia. The times and locations are:

June 19, Bulloch County Ag Center-Statesboro, 3pm
June 20, Fair Grounds-Perry, 9am and RDC-Tifton, 2pm
June 25, Lions Hall-Donalsonville, 10am

Fertilizer Prices, Additives and Wheat Straw. (Harris) Fertilizer prices continue to climb and are in fact at an all-time high. I listed some ideas to help deal with these higher prices in previous newsletter articles but thought it would be a good idea to revise and revisit the list. Remember, there are no “silver bullets” here, but doing a lot of these seemingly small things can add up to some big savings in terms of fertilizer dollars.

- 1) Soil Testing – This should go without saying but let’s face it, it is the only way to tell what you really need or don’t need. And even though we don’t actually test the soil mobile nutrients like nitrogen, sulfur and boron, the recommendations are based on field trials and should be followed closely. Cotton is also one of the crops that we make adjustments in fertilizer recommendations based on yield goal.
- 2) pH and Liming – The effect of maintaining a proper soil pH on uptake of both nutrients already present in the soil and nutrients applied in fertilizer is largely underrated. Not only that, but letting pH slip below a 5.5 water pH can start decreasing yield due to aluminum toxicity.
- 3) Split Nitrogen Applications – previous research studies have shown clearly that split applications of nitrogen (approximately ¼ to 1/3 the total n rate at planting and then the remainder at sidedress (and maybe some foliar) is the best way to get the most out of your money spent on nitrogen. The recommended rate of P and K should be applied all at planting.
- 4) Explore Alternative Fertilizer Sources – Poultry litter is the obvious alternative most people think of first. Due to its prevalent usage in South Georgia however, I’m not sure it can even be considered an alternative. Other alternative sources include biosolids (treated municipal sewage), compost and even winter legume cover crops that fix nitrogen and ‘recycle” some P and K. Caution is always recommended when trying a

new source of fertilizer nutrients due to questions about content and availability of the nutrients.

5) Investigate “Enhanced Efficiency” Fertilizer Additives – Currently there a lot of different products out there claiming they increase uptake of fertilizer nutrients or efficiency. Most of these are in the developmental and testing phase and can not be recommended at this time. One product that has been tested and can be recommended in certain situations is Agrotain. Agrotain is a urease inhibitor designed to reduce loss of N from surface applied urea fertilizers. Agrotain should be considered in dryland and strip-till cotton production where urea fertilizers can not be incorporated with irrigation or tillage. There is also another formulation called Agrotain Plus that can be used to treat liquid N solutions that contains a nitrification inhibitor in addition to the urease inhibitor. High-yield irrigated cotton and early sidedressing under irrigation are situations where this product should be considered.

6) Account for All Nutrients – Soil testing should go a long way in this regard, but don’t forget to account for nutrients added in poultry litter, starter fertilizer etc. Also, look for where fertilizer nutrients are removed from fields, such as in peanut hay and **wheat straw**. With the significant increase in wheat acres in Georgia this year, there are a lot of questions concerning nutrients in wheat straw. Textbook values say that for a 60 bu/a wheat yield, approximately 34, 8 and 108 lbs of N, P₂O₅ and K₂O are removed from the field if you bale the straw. Since the nitrogen in wheat straw is not nearly available as commercial fertilizer N and there is very little P removed, the main fertilizer value in wheat straw is in the potash. Based on current prices for muriate of potash, the 108 lb/a K₂O removed in wheat straw would represent about a \$50 fertilizer value. And the K in wheat straw if you leave it on the field should be readily available to the next crop. And what if you burn the straw? Research in Canada showed that you lose 100 % of the N and 20-40% of the P and K in wheat straw when you burn it. All of the K should be left in the ash, but it is possible that some of the K actually drifts away from the field in smoke and particulate matter and is deposited offsite.

Early Season Insects Troublesome. (Roberts) Thrips and grasshoppers to a lesser degree have been problematic in many areas of the state. Thrips numbers were high on April and early May planted cotton. Much of this early planted cotton benefited from a foliar spray to supplement thrips control provided by at-plant insecticide treatments. At plant insecticides were providing control, but more control was needed. Fortunately, it appears that thrips injury is less on cotton planted more recently. Less visible thrips injury is due to two factors. Thrips numbers are generally lower on late planted cotton (an at-plant insecticide is still needed) and later planted cotton generally develops more rapidly. A rapidly growing seedling can tolerate thrips feeding better than a slow growing seedling. High winds and sand damage, relatively cool temperatures, and other plant stresses during early-mid May resulted in slow growing seedlings compounding the negative effect of thrips in some areas. During the past week, cotton has begun to grow rapidly (where moisture is present). Once seedlings attain the 5-leaf stage and are growing rapidly, economic damage from thrips is unlikely. Grasshoppers have been a more localized problem, but damage and insecticide applications targeting grasshoppers have been reported from several counties.

More seedling cotton than normal has been treated with foliar insecticides to date. Although there are relatively few beneficial insects in seedling cotton, foliar insecticides used for thrips and grasshopper control will remove what beneficial insects were present. Scouts should be on the lookout for pests such as aphids and spider mites which are more likely to be problematic in fields where beneficial insects are not present.

Disease and Nematode Management in Cotton After Emergence. (*Kemerait*) For cotton producers, the most important decisions regarding management of diseases and nematodes are made before the seed is covered in the furrow. After that time, options for managing nematodes and seedling diseases become more difficult or even impossible. As the season progresses, cotton growers have a few options to consider to improve management of nematodes and perhaps affect boll rot and leaf diseases.

Two products, Temik 15G and Vydate C-LV, are labeled for management of nematodes affecting cotton after emergence. The objective of applying Vydate (17.0 fl oz/A) or Temik 15G (5.0 lb/A) to young cotton plants is to extend the window of protection provided by an earlier application of Temik 15G, Telone II, or nematicide seed treatments such as AVICTA Complete Cotton or AERIS Seed-Applied System. Therefore, timing of application of Vydate or side-dressed Temik is critical. Applying too early may not optimize the extended time of efficacy; applying too late may not only disrupt continuous protection of the cotton plants, but may also result in damage to the roots during the side-dress application of Temik 15G. Typically, use of Telone II, 3 gal/A, provides better yields in fields with high populations of plant parasitic nematodes than does Temik 15G supplemented with later applications of Vydate or Temik.

In Georgia, we recommend that growers who wish to use Vydate C-LV to manage nematodes should apply 17.0 fl oz/A to the young plants during the 5th-7th true-leaf growth stage. In numerous nematicide field studies conducted in southern Georgia, we have had trouble documenting a yield benefit when testing this treatment. However, results have been a bit more favorable in eastern Georgia around Burke County where we have heavier soils and Columbia lance nematodes occur in the studies as opposed to southern root-knot nematodes.

A side-dressed application of Temik 15G prior to the pin-head squared growth stage has proven to be an effective treatment in field trials where elevated populations of nematodes can cause severe damage to the cotton crop. In a summary of field trials (many of them on-farm) where Temik 15G (5 lb/A) was compared to Temik 15G (5 lb/A) + Temik 15G (5 lb/A side-dress), the value of the average lint increase using the side-dress application over an at-plant application alone increased profit for the grower 12 out of 23 times.

Although we have very limited data, growers may see increased lint yields when using side-dressed Temik after using AVICTA Complete Pak, AERIS Seed-Applied System, or perhaps even Telone in troublesome fields. Growers can improve the chances of increased profit when using the side-dressed application of Temik by minimizing damage to the cotton roots during application. This can be achieved by avoiding unnecessary delays in application (i.e. after pin-head square) and by taking care to keep from getting too close to the plants during application. Also, Temik applied at side-dress requires adequate soil moisture for activation.

Foliar Diseases: In 2008, the fungicide Headline (pyraclostrobin) received a Section 3 label from the EPA for use on cotton. In trials conducted at the University of Georgia, it is clear that Headline can significantly reduce the severity of foliar diseases and even premature defoliation in some instances. It is not clear that this disease control is directly related to an increase in yield, but the potential does exist.

Growers, especially those who have expressed concern about foliar diseases in southwestern Georgia, can consider applying Headline at 6 fl oz/A 2 weeks after first bloom and a second application 3 weeks later if needed. I would encourage the growers who adopt this practice to leave un-sprayed strips in the field in order to judge for themselves the effects, if any, of the fungicide on their crop.

Stemphylium leaf spot is a particularly damaging malady of cotton in some areas of our state. The cotton crop is predisposed to this disease by insufficient soil fertility, most often linked to potassium and perhaps nitrogen. In periods of drought, the amount of potassium in the soil may be sufficient; however without adequate soil moisture the nutrient may not reach the foliage and Stemphylium leaf spot will prevail. It is unknown whether or not a fungicide like Headline can protect the crop against a disease whose foundation lies in inadequate nutrient levels; however we hope to evaluate this by applying Headline in fields with a history of Stemphylium leaf spot ahead of the disease.

Trying to Control Glyphosate-Resistant Palmer amaranth at Layby? (*Culpepper*) For growers who are not at war with glyphosate-resistant Palmer amaranth, herbicide options at layby are numerous and can be extremely effective. This, of course, is not the case when fighting glyphosate-resistant Palmer amaranth. Options are limited, challenging, and control is quite often not adequate. Our research is still in its infancy and our recommendations will likely change before next season but current recommendations to battle with glyphosate-resistant Palmer amaranth at layby include the following. As always, greater control will be noted with small pigweed and adequate spray coverage!!!!!!

Potential Layby Options:

1. Diuron (Direx, others) or Layby Pro + MSMA:
 - * Diuron rate: 1.6 to 2.4 pt/A, see label for use on your soils, cotton must be 12 in tall.
 - * Layby Pro rate: 2 pt/A, cotton must be at least 16 inches tall.
 - * MSMA rate: 2.5 pt of a 6.6 lb ai per gal or 2.67 pt of a 6.0 lb ai per gal.
 - * Add Crop Oil when applying Diuron or Layby Pro + MSMA alone.
 - * The addition of **Valor** to this mixture will improve control. If adding Valor to this mixture one **MUST USE SURFACTANT and NOT CROP OIL!!! Never apply Valor with a crop oil at layby.**
 - * The addition of Aim or ET to diuron or Layby Pro + MSMA will likely improve control.
 - * Valor, Aim, and ET should only be applied to cotton that is at least 16 inches tall having 3 inches of a “barky” stem. Spray should not contact higher than 2 inches up on the cotton.
 - * Apply in approximately 15 gallon of water per acre.

2. Paraquat (38 fl oz of Gramoxone Inteon) + diuron (1.6 to 2.4 pt) + Crop Oil.
 - *HOODED APPLICATION ONLY!!!!!!
 - *See label for use of diuron on your soil.
 - *Spray or even spray drift **can not contact any part of the cotton or very, very serious injury will occur.**
 - *Of course, this application will not control weeds in the cotton row.
 - *Apply in 15 to 20 gallon of water per acre.

RR Cotton Injury From Glyphosate, Glyphosate + Staple, or Glyphosate + Dual Magnum Alone or Mixed with Insecticides. (Culpepper and Roberts) Timely glyphosate applications rarely cause any visual injury to Roundup Ready cotton. However, mixing Staple *OR* Dual type products with glyphosate will injure cotton 10 to 20% when applied ovetop of cotton (Figures 1 and 2). This injury is almost always transient and cotton recovers rapidly.

Mixing Orthene, Mustang Max, Dimethoate, or Bidrin with glyphosate will not impact the level of cotton injury noted (Figures 1 and 2). Similar results are noted when mixing Orthene with glyphosate plus Staple *OR* Dual. However, adding Mustang Max, Dimethoate, or Bidrin with glyphosate plus Staple *OR* Dual will increase cotton injury. Although injury from these mixtures will often exceed 20%, cotton has recovered without a yield penalty (thus far).

Never apply a mixture of Staple and any type of Dual (metolachlor) product ovetop of cotton.

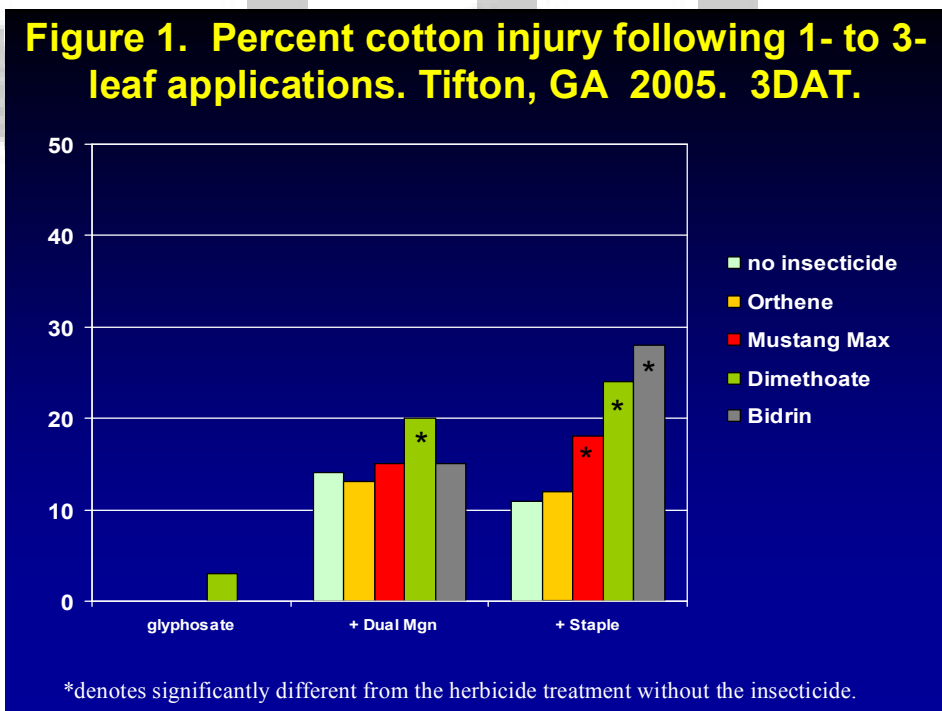
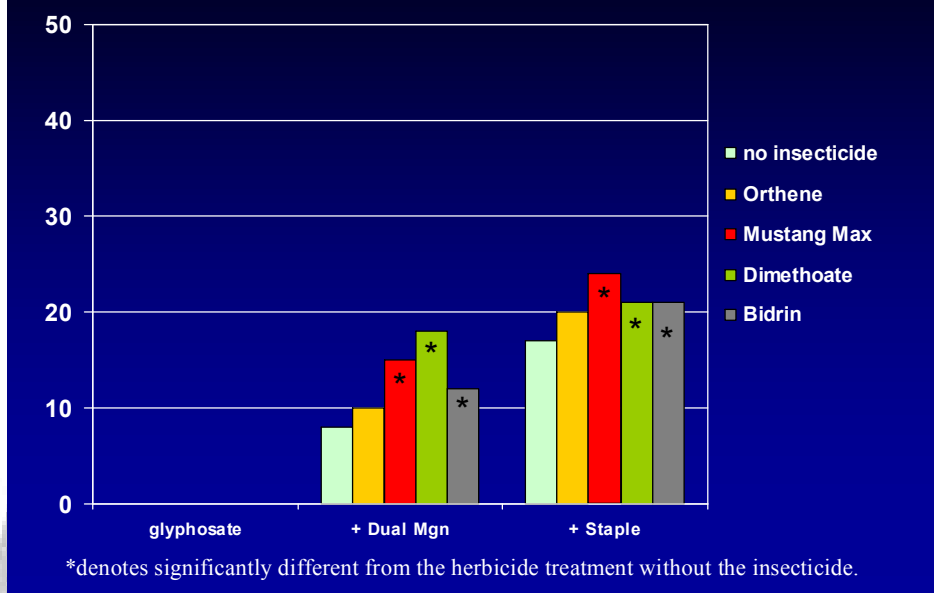


Figure 2. Percent cotton injury following 1- to 3-leaf applications. Tifton, GA 2006. 3DAT.



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

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