Terrell County Extension News – Jun 10, 2010

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Dr. Glen Harris: UGA Extension Soils and Fertilizer Specialist:

Cotton:

If you are producing cotton in a conservation tillage system with a cover crop then research has demonstrated that you may need more nitrogen than in a conventional system. The reason for this is due to higher levels of organic matter (carbon) produced by cover crops. Thus nitrogen rates should vary according to amount of cover in conservation tillage to override this nitrogen: carbon ratio, nitrogen tie up. Our current recommendations are as follows:

Heavy cover increase N 25% (harvested small grains with straw/stubble left).
Moderate cover increase N 10-15%.
Behind winter weed cover or behind winter grazing where the crop was completely grazed off 0% N increase.

These percentage increases should be calculated on your total nitrogen needs for your cotton or should at least be applied to you sidedress nitrogen needs.

Cotton Growth Management in 2010

The transition away from DP 555 BR has contributed to most likely one of the most diverse cotton crops Georgia has seen in several years, from a variety perspective. Now that the majority of this year's crop is off and growing, the first applications of plant growth regulators (PGR's) will soon follow.

Some of the newer varieties may require less aggressive plant growth management. However, this does not mean that PGR applications are not needed, but that careful attention should be paid to vegetative growth or vigor and fruiting characteristics on a case-by-case basis when making these decisions.

Extensive research is being conducted in 2010 which will hopefully shed more light on this issue. However, we have found that some of the newer varieties, especially the later maturing ones, can grow as aggressively as DP 555 BR in the very wet environments that were observed in 2009. Therefore, PGR decisions should be made on an individual field basis, and not on a broad or generalized basis.

Controlling Emerged Glyphosate-Resistant Palmer amaranth in Emerging Roundup Ready Cotton

Dr. Stanley Culpepper, UGA Extension Weed Scientist
Numerous calls have suggested that many growers are dealing with emerging glyphsoate-resistant Palmer amaranth in emerging Roundup Ready cotton. In situations where directed herbicide applications are not feasible, topical applications are ultimately limited primarily to Staple and Cotoran. Staple can be applied topically to cotton from cotyledonary stage up to 60 days of harvest and will control non-ALS resistant Palmer amaranth that is up to 2 inches in height. Cotoran is also an option and can be applied overtop of 3- to 6-inch cotton, albeit this option is certain to cause significant cotton injury often including maturity delay and yield loss. Activity of both Staple (non-ALS resistant populations) and Cotoran depend on Palmer size with acceptable control often achieved only when plants are 2 inches or less in height. Larger plants are often not controlled effectively (Table 1); HOWEVER, these herbicides may *provide a height differential* even on these larger plants which will be needed for a follow up directed herbicide application in an effort to salvage the crop.

MSMA is also an herbicide that could be applied overtop of 3- to 6-inch tall cotton. Numerous MSMA labels still exist with this use pattern. Unfortunately, this specific use of MSMA will likely be removed from labels in the near future in an effort to sustain our ability to use MSMA as a directed application. ***Table 1.*** **Five inch** Palmer amaranth response to Staple, Cotoran, and MSMA mixtures.*

Herbicide Option	Percent Palmer control 10 d after treatment	Percent cotton injury 19 d after treatment
MSMA + NIS	51 c	18 b
Staple + NIS	57 c	3 c
Cotoran + NIS	46 c	18 b
Cotoran + MSMA + NIS	74 b	23 a
Cotoran + Staple + MSMA + NIS	83 a	25 a

*MSMA 6 L, 1.5 pt/A; Staple LX, 2.6 fl oz/A; Cotoran, 2 pt/A; NIS = non ionic surfactant, 0.25% v/v. Values followed by the same letter do not differ at P = 0.05.

Layby Directed Herbicide Options for the Control of Glyphosate-R amaranth , Dr Stanley Culpepper, UGA Extension Weed Scientist Regardless of cotton technology being grown, the most consistently effective options for the control of emerged Palmer amaranth include diuron (Direx, others) plus MSMA plus crop oil or Layby Pro plus MSMA plus crop oil. Diuron will likely provide a greater level of residual controwhen compared to Layby Pro. Cotton should be at least 12 inches in height prior to applying the diuron mixture and at least 16 inches in height before applying the Layby Pro mixture. With both of these herbicide applications, growers should target Palmer amaranth 3 inches in heightor smaller. Valor plus MSMA is also a good option if Palmer amaranth is less than 2 inches in height. Valor offers the greatest level of residual control of any layby directed herbicide option assuming activation by rainfall or irrigation.

Cotton Scout Schools: Tifton June 14, 2010: The annual Cotton Scout School in Tifton will be held on June 14, 2010 at the UGA Tifton Campus Conference Center. The training programs at each location will begin at 9:00 a.m. and conclude at 12:30 p.m.

BOB KEMERAIT

CORN

Southern corn rust was confirmed today (2 June) for the first time in Georgia in 2010 in a field in Seminole County in the extreme SW corner of the state. Rome Ethredge, the county agent who found the southern rust reports that it was "sparse" in the field and that the rust was "found in heavily irrigated, corn behind corn, high level of management, corn at silking stage."

To date, northern corn leaf blight is reported as "moderate" in Seminole County and has also been found in Worth County by consultant Jay Holder at a very low level. Recommendations as to timing of fungicide application: Given the current findings of southern rust and northern corn leaf blight, I believe that all growers who are considering a use of a fungicide to protect their crop should consider "first tassel/VT stage" as the start point to determine if a fungicide is needed.

I do not believe that every grower should initiate fungicide applications at first tassel, but this is certainly a stage to consider an application.

Updates on corn diseases, especially southern corn rust on the web at;
http://scr.ipmpipe.org/cgi-bin/sbr/public.cgi?host=Corn&pest=southern_corn_r

There seems to be some confusion about labeled materials for Southern Rust in corn. Below are those materials that are specifically labeled for this disease according to the UGA 2010 Georgia Pest Management Handbook:

Registered fungicides are:

Headline 6-9 oz/A
Headline AMP 10 oz/A
Quilt and Quilt Xcel 10.5-14 oz/A
Tebuconazole 4-6 oz/A
Tilt 4 oz/A

According to a recent email from Dr. Kemerait Evito 480SC has also been added to the list. Check with your dealer or Arista Representative for rates. If you know of others please let us know.

Corn Situation

Scout corn for diseases this week. Make a decision as best you can about whether you need to make a fungicide application to cure a problem, for plant health purposes, or not make one at all. Northern Corn Leaf Blight has been found in the county, so beware. Southern Rust is in Seminole County so keep your eyes open.

PEANUTS

Figure 1. Georgia-02C response to paraquat. **Left Plant:** Gramoxone Inteon (8 oz/A) + NIS **Right Plant:** Gramoxone Inteon (12 oz/A) + Basagran (8oz/A) + NIS. Photo taken 3 days after treatment

Pigweed is giving everybody a headache in all crops this week. I have heard mixed reports on the activity of Ignite to pigweed in the 6”- 12” range. It seems that the words of Dr. Culpepper are true. Don’t expect extraordinary results from any herbicide when dealing with large palmer amaranth. Spray herbicides when weeds are less than 4 inches and pull the rest.

Gramoxone in peanuts. Most of questions revolve around the various tank mix possibilities. Keep in mind that Basagran or Storm are safeners for the paraquat, and we recommend that either be included with Gramoxone beyond 14 days after cracking. Paraquat is labeled for peanuts up to 28 days after emergence. Application to blooming plants will result in possible delay of maturity.

Why Does Basagran “Safen” Paraquat? *(Eric Prostko)*

It is a very common practice for GA peanut farmers to tank-mix either Basagran (bentazon) or Storm (bentazon + acifluorfen) with paraquat (Gramoxone Inteon, Firestorm, Parazone). There are 2 reasons for this. One is to improve the control of certain weeds, specifically smallflower morningglory. The other reason is to minimize the effects of paraquat on the peanut crop. This “safening” effect is illustrated in Figure 1. Studies conducted in the early 1990’s (Weed Science 1992, 40:90-95) indicated that when paraquat and bentazon are tank-mixed, each herbicide in-hibits the foliar penetration of the other. This is good for the peanut but bad for weed control. Unfortunately, this same antagonism mechanism occurs in weeds, particularly Florida beggar-weed, sicklepod, and Texas panicum.

CALCIUM USE IN PEANUTS

If you need to apply calcium (gypsum) to your peanuts the decision to do so needs to be made and the material applied between 35 and 50 days after planting (germination). Any earlier and you run the risk of leaching calcium from the pegging zone area by late in the season, any later and the risk of damage to vines by the spreader becomes too great (in most cases).

Large seeded peanuts such as GA 06G: We have a lot to learn about the calcium needs of large seeded peanuts such as GA 06G, GA 07W, TIFTGARD, FL 07, etc… I would suggest applying gypsum at 1000 lbs/A if the residual calcium in your pegging zone test is less than 1000 lbs/A. If it is more than 1000 lbs/A you may still want to consider 800 lbs of gypsum per acre. If you don't pull a pegging zone test I would suggest applying a minimum of 1000 lbs of gypsum/A.

For smaller seeded runner peanuts such as Georgia Greener and Georgia Green: Apply gypsum (800-1000 lbs/A) or other suitable calcium source if calcium pegging zone samples indicate residual soil calcium is less than 500 lbs per acre and the Calcium to Potassium ratio is less than 3 to 1. A more conservative formula is to apply gypsum or other suitable calcium source if calcium pegging zone samples indicate residual soil calcium is less than 700 lbs per acre and the Calcium to Potassium ration is less than 5 to 1.

PEANUTS FOR SEED & VIRGINIA PEANUTS: Apply gypsum or other suitable calcium source regardless of residual soil calcium.

AGAIN, IF YOU ARE NOT GOING TO PULL A PEGGING ZONE SAMPLE: Apply gypsum or other suitable calcium source automatically to large seeded peanuts.

REMEMBER! The rates of gypsum recommended are made assuming that your calcium source will provide 160-200 lbs of calcium per acre. However, all calcium sources are not created equal in terms of percent calcium. Even gypsum, depending on the source can range from 15-23% calcium. If your peanuts need calcium and your sample results provider did not give an exact amount to apply then assume that you need 160-200 lbs of calcium per acre for runner types. Make sure you calculate the amount of calcium you are getting per ton so that you will know how many pounds to apply per acre. You cannot assume that 800-1000 lbs gypsum per acre will supply your needs.

Peanut Pointers

Kemerait June 2010

NEW Web-based Peanut Rx calculator available!

Through the cooperation with Dr. Gerrit Hoogenboom's program in Griffin, our UGA Peanut Team now has a UGA version of the 2010 Peanut Rx that automatically calculates the risk values for spotted wilt, leaf spot, white mold, and limb rot. You can find this tool at www.ugapeanuts.com or at http://www.griffin.uga.edu/PeanutRx/.

Building a fungicide program

Many peanut growers have reached, or are rapidly approaching, the start of their peanut fungicide program. Weather at the beginning of June, to include warm temperatures coupled with scattered storms; create conditions that are generally favorable for the development and spread of leaf spot diseases, white mold, Rhizoctonia limb rot, and other disease. The current forecast is for an active hurricane season which could bring torrential rainfall and storms that would spread disease and affect our abilities to effectively manage the diseases.

The good news for growers today is that we have an abundance of effective fungicides that can be used to manage diseases in their peanut crop. We have never had a more effective arsenal to manage the many fungal diseases that affect the peanut crop.

Today a difficulty for growers is how best to select a fungicide program that is both effective in the management of disease and cost effective.

In the section below I have tried to dissect an effective fungicide program into its basic components.

Peanut fungicides and "KISS" (keep it simple-stupid)

1. All peanut fungicide programs must successfully control foliar diseases, e.g. early leaf spot and late leaf spot, and soilborne diseases to include Aspergillus crown rot (especially at the seedling stage), white mold, and Rhizoctonia limb rot. Some growers may also need to control Cylindrocladium black rot (CBR) as well.
2. **Triazole fungicides** include tebuconazole, Tilt (propiconazole), Provost (tebuconazole + prothioconazole), Proline (prothioconazole), Eminent (tetraconazole) and Quash (metconazole). **Strobilurin fungicides** include Abound (azoxystrobin), Headline (pyraclostrobin), and Evito (fluoxastrobin). **Triazole- chlorothalonil combinations** include Tilt/Bravo, Echo/PropiMax and Echo Eminent. **Triazole-strobilurin combinations** include Stratego and Absolute. Unique classes include chlorothalonil, ELAST, thiophanate methyl (to include Topsin M, etc.) and flutolanil (Convoy).
3. Growers should consider initiating a fungicide program for control of LEAF SPOT at approximately 30 days after planting (DAP). A grower may want to begin his program earlier if weather has been especially wet or if he has poor rotation (peanuts behind peanuts). A grower can delay a fungicide program if, using 2010 Peanut Rx, his field is at reduced risk to leaf spot diseases or if he plans to use higher rates of Headline (9 fl oz/A) or Tilt/Bravo (2.25 pt/A).
4. There are a number of fungicides available for the control of leaf spot diseases. These include:
    a. **Bravo WeatherStik, Echo, and other formulations of chlorothalonil.** These are protectant fungicides and must be applied before disease becomes established in a field. Though chlorothalonil has been around for nearly 40 years, it still provides good disease control when used appropriately. Chlorothalonil, 1.5 pt/A, is often used in fungicide applications at 30 and 44 DAP. It is also frequently tank-mixed with a fungicide like tebuconazole (e.g. Folicur 3.6F, Tebuzol 3.6F, etc.) to enhance leaf spot control. **Resistance management:** Chlorothalonil can be used in any fungicide program and is an excellent partner for fungicide resistance management.
    b. **ELAST.** Elast (dodine) is another protectant fungicide used in peanut fungicide programs to manage leaf spot diseases. ELAST is best used earlier in the growing season where it competes well with chlorothalonil. Growers should avoid using ELAST later in the growing season. ELAST is applied at 15 fl oz/A when used

alone or at 12.7 fl oz/A when tank-mixed with a fungicide such as tebuconazole. As a protectant, ELAST must be applied prior to onset of infection. **Resistance management:** ELAST is a unique chemistry in our arsenal and can be used in programs with all other peanut fungicides without concern for resistance. When used only early in the season, is at low risk for development of fungicide resistance.

c. **Tilt/Bravo.** Tilt/Bravo is a pre-mix of propiconazole and chlorothalonil which combines a systemic fungicide and a protectant fungicide for management of leaf spot. The Tilt/Bravo pre-mix is typically applied at a rate of 1.5 pt/A when used in applications 30 and 44 DAP or 2.25 pt/A when applied at 40 DAP. When sold as a co-pack (as is the similar product **Echo/PropiMax**) Tilt/Bravo is applied at 2.0 fl oz/A propiconazole and 1.0 pt/A chlorothalonil. Tilt/Bravo is best applied preventatively; however the addition of Tilt does offer limited curative activity. **Resistance management:** Neither Tilt/Bravo nor Echo/PropiMax should be used in the same program with other triazole fungicides (to include tebuconazole, Quash, or Provost) or Artisan (flutolanil + propiconazole) unless these fungicides are tank-mixed with a protectant fungicide like chlorothalonil.

d. **Stratego.** Stratego is a pre-mix of propiconazole and trifloxystrobin and is thus a member of both the triazole and strobilurin classes of fungicides. Stratego, applied at 7.0 fl oz/A typically at 30 and 40 DAP, offers a combination of systemic and protective activity. Like Tilt/Bravo, Stratego offers limited curative activity but is most effective when applied preventatively**. Resistance management:** Because it is a pre-mix of a triazole and a strobilurin fungicide, we encourage growers to avoid using Stratego with other triazole or strobilurin fungicides.

e. **Absolute.** Absolute is a combination of tebuconazole and trifloxystrobin. Because there is confirmed resistance to tebuconazole in Georgia from leaf spot pathogens, it is difficult to find an appropriate fit for a product that is a combination of tebuconazole and trifloxystrobin. Absolute should be used with caution and not in programs that contain other triazole or strobilurin fungicides.

f. **Echo/Eminent.** Echo/Eminent is a new co-pack from Sipcam Agro that contains chlorothalonil (1.0 pt/A) and tetraconazole (7.2 fl oz/A). (Note- as this product is further tested, use rates may vary.) Echo/Eminent offers both protective and systemic modes of action and is typically applied at 30 and 44 DAP. In recent trials at UGA, this product has performed well. **Resistance management:** Echo/Eminent should not be used in the same program with other triazole fungicides (to include tebuconazole, Quash, or Provost) or Artisan (flutolanil + propiconazole) unless these fungicides are tank-mixed with a protectant fungicide like chlorothalonil.

g. **Headline.** Headline (pyraclostrobin) is an excellent fungicide for management of leaf spot diseases. Headline is applied at 6 fl oz/A when used at 30 and 44 DAP or at 9 fl oz/A when applied as a single application at 40 DAP. Headline offers excellent protective control and some of our best curative control; though as with all fungicides, it is best used BEFORE disease is established in the field. **Resistance management:** Headline should not be used in the same programs with Abound, Evito, Stratego, or Absolute.

h. **Topsin M.** Topsin M is thiophanate methyl, a fungicide in the benzimidazole class. Though resistance exists to benzimidazole fungicides, to include Topsin M, this fungicide can be effectively tank mixed (5 fl oz/A) twice with a fungicide like tebuconazole. Topsin M can also be used quite effectively as a final application at 10.0 fl oz/A at the end of the season. Use appropriately, Topsin M can offer very good leaf spot control. Note: we have not been able to determine any relationship between increased “peg strength” and use of Topsin M.

5. Initiation of a soilborne fungicide for the management of white mold and Rhizoctonia limb rot usually occurs approximately 60 DAP. In some years, especially when soil temperatures are unusually high earlier in the season, growers may want to begin their soilborne program earlier. High temperatures, especially when coupled with frequent rains, are a proven recipe for significant outbreaks of white mold. Fungicides applied for the control of leaf spot diseases must also control leaf spot diseases or must be tank-mixed with a fungicide that does control leaf spot (e.g. Convoy + chlorothalonil).
6. Fungicides used to manage soilborne diseases include the following.
    a. **Tebuconazole**, most famously known as Folicur 3.6F, is now sold under a number of names. Tebuconazole is typically applied in a 4-block program beginning 60 DAP at a rate of 7.2 fl oz/A. Tebuconazole is typically tank-mixed with another fungicide, e.g. chlorothalonil at 1.0 pt/A or Topsin M at 5.0 fl oz/A, to improve control of leaf spot. **Resistance management:** Tebuconazole should not be used with other triazole fungicides.
    b. **Provost** is a combination of tebuconazole and prothioconazole and offers excellent control of leaf spot diseases and white mold. It is also our most effective foliar-applied fungicide for management of CBR. Provost is applied in a 4-block program beginning 60 DAP at a rate of 8 to 10.7 fl oz/A. The 8.0 fl oz rate is effective for "normal" threat from white mold and limb rot. The 10.7 fl oz rate is effective where white mold is more severe and where CBR is present. **Resistance management:** Provost should not be used in the same program with other triazole fungicides.
    c. **Quash** is a new fungicide from VALENT. Quash is metconazole and is applied in a 4-block program beginning 60 DAP at a rate ranging form 2.5 to 4.0 fl oz/A. Though we continue to learn more about Quash, it appears that the 2.5 fl oz rate is appropriate where threat from white mold is not sever; where the threat is severe the rate should be increased to 4.0 fl oz/A. Where growers have experienced difficulty controlling leaf spot with tebuconazole, they should mix chlorothalonil, 1.0 pt/A, with the Quash. **Resistance management:** Quash should not be used in the same program with other triazole fungicides.
    d. **Abound** (azoxystrobin) offers excellent control of Rhizoctonia limb rot and good control of white mold. Abound is typically applied at 60 and 90 DAP at a rate of 18.5 fl oz/A. **Resistance management:** Abound should not be used in the same program with Headline, Stratego, Evito, or Absolute.
    e. **EVITO** (fluoxastrobin) is another strobilurin fungicide and is also applied at 60 and 90 DAP at a rate of 5.7 fl oz/A. Evito is NOT "generic Abound" and should not be used in the same program with Abound, Headline, Stratego, or Absolute.
    f. **Headline** (pyraclostrobin) can be used for the management of soilborne diseases when applied at a rate of 12.0 fl oz/A, typically at 74 DAP as a COMPONENT of a traditional 4-block program that would include a fungicide such as tebuconazole. **Resistance management:** Headline should not be used in the same program with Abound, Evito, Stratego, or Absolute.
    g. **ARTISAN** is a tank mix of flutolanil and propiconazole. Artisan is excellent in the management of white mold. Artisan can either be applied at 60 and 90 DAP at a rate of 26-32 fl oz/A (in which case additional leaf spot control is generally not needed) or in a 4-block program at a rate of 13-16 fl oz/A (in which case a protectant fungicide like chlorothalonil, 1.0 pt/A, should be mixed with each application). **Resistance management:** Artisan should not be used in the same program with other triazole fungicides unless all are mixed with a protectant fungicide like chlorothalonil.
    h. **Convoy** is also an excellent product for the management of white mold. Convoy is NOT a pre-mix with propiconazole; Convoy must always be tan-mixed with a

full rate of a leaf spot partner such as chlorothalonil at 1.5 pt/A. **Resistance management:** Convoy can be used in a program with all other peanut fungicides.