The University of Tennessee

UT Extension

West TN Research and Education Center
605 Airways Boulevard
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IPM NEWSLETTER

Update for Field Crops and Their Pests

No. 13 *June 25, 2009*

Past newsletters and other information can be found at UTcrops.com

Bookmarks: Cotton update Insect stuff Weed control Farm management Moth traps

Soybean Scout Schools Begin Next Week

- July 1st (Wednesday) 9:00 AM Dyer Co. (3581 Bethlehem Road, Newbern, TN)
- July 1st (Wednesday) 1:30 PM Fayette Co. (2357 Highway 222, Somerville, TN)
- July 14th (Tuesday) 9:00 AM Cannon Co. (Location TBA)
- July 14th (Tuesday) 1:30 PM Lincoln Co. (63 Benson School Rd., Kelso, TN)

Click here for Directions to Soybean Scout Schools next Wednesday. These are hands-on, field-side programs that provide training on crop development and pest management (including insects, diseases and weeds). The program will last 1.5 – 2.0 hours and all are welcome. Watch for further information and directions in the next newsletters and on UTcrops.com. The programs will go on, rain or shine.

Cotton Situation (Dr. Chris Main, Extension Cotton and Small Grains Specialist)

The Tennessee Agricultural Statistics Service reports cotton condition as 4% excellent, 58% good, 30% fair, 6% poor, and 2% very poor. 26% of the crop is squaring compared to 17% last year and 47% for the five year average. Generally the low rankings are related to poor/skippy stands, late planting, and lack of Palmer pigweed control.

Plant growth regulators. See Table 1 below from the University of Georgia regarding crop status during different growth stages. Remember that a PGR **will NOT** shrink the crop, the PGR will only control elongation of cells associated with new growth. As a general rule I like to make an application of PGR (mepiquat product) at 16 oz/ac at first bloom or about 60 days after planting. This application works well in all my variety trials.

Helpful Hints:

- Do not make a single application of 0.5 to 1 pint of mepiquat chloride to cotton that is drought stressed. If using the low rate multiple option, discontinue use until the moisture stress is alleviated.
- Do not apply more than 1.5 pints of mepiquat chloride per acre per season.
- Do not apply mepiquat chloride within 30 days of harvest.
- Do not graze or feed cotton foliage to livestock within 30 days of application.
- Do not tank mix with other products other than mentioned on label.
- Do not apply mepiquat chloride through any type of irrigation system.

In a trails conducted at 12 locations across the cotton belt over the last two years by myself and colleagues from other Universities we did not see a difference in PGR products. I strongly encourage

the use of a rate high enough to control growth with the first application. The most expensive treatment to make is the one that does not work. What we really want to do with a PGR is to improve earliness and harvest efficiency. Missing with a low rate on that first application reduces the chance of making both of those goals. Table 2 provides some general use guidelines for application rates.

Table 1. Height to node (HNR) ratios for cotton PGR decisions (Jost et al 2005).

Growth Stage	Normal	Stressed	Vegetative
		HNR (inches/node)	
Seedling	0.5-0.75	-	-
Early Squaring	0.75-1.2	0.7	>1.3
Large Square - First Flower	1.2-1.7	<1.2	>1.9
Early Bloom	1.7-2.0	<1.6	>2.5
Early Bloom + 2 weeks	2.0-2.2	<1.8	>2.5

Jost, P., S. M. Brown, S. Culpepper, G. Harris, B Kermerait, P. Roberts, D. Shurley, and J. Williams. 2005. 2005 Georgia Cotton production guide p 37-39.

Table 2. Plant growth regulator application strategies.

Single or Dual Application	Rate per acre	
	Mepiquat	***Stance***
First Application Apply when cotton is actively growing and is between 20" and 30" tall, provided cotton is not more than 7 days beyond early bloom stage (5-6 blooms per 25 row feet). If cotton is 24" tall and has no blooms apply Mepiquat chloride plant regulator. Use 2 pint per acre on cotton where excessive vegetative growth is not likely to be a problem, and 1 pint per acre in areas tending to have excessive vegetative growth.	*0.5-1.0 pint*	*2.0 oz*
Second Application Field has a history of excessive growth, and/or conditions after the first application are favorable for excessive growth, apply a second application 2 to 3 weeks after the first application.	0.5 pint	2.0-3.0 oz
Multiple Low-rate applications	***Mepiquat***	
First Application: Match head square stage of growth.	2.0-4.0 oz	
Second Application: 14 days later, or when excessive re-growth occurs.	2.0-4.0 oz	
Third Application: 14 days later, or when excessive re-growth occurs.	2.0-4.0 oz	
Fourth Application: 14 days later, or when excessive re-growth occurs.	2.0-4.0 oz	

Insect Considerations (Scott Stewart, IPM Specialist)

Cotton - Tarnished Plant Bug and Thresholds. It is not too surprising that as more fields start squaring, more are being treated for tarnished plant bug. There are reports of many fields averaging 2-4 times above threshold in some areas (parts of Henderson, Carroll, and Weakley Co.), and I've seen the same here at the station. However, most consultants are reporting more typical numbers with scattered fields breaking threshold. As I mentioned last week, a midsouthern regional project was recently completed that evaluated treatment thresholds for tarnished plant bug (TPB). These results should give you confidence in our current thresholds. A couple of user-friendly publications were developed from this cooperative work. They are available on line and linked below. Are you making automatic, pinhead square applications? Are you treating because you are putting out "RoundUp" anyhow? You should read these publications.

- Treatment thresholds for tarnished plant bug in **pre-flowering** cotton (pdf)
- Treatment thresholds for tarnished plant bug in **flowering** cotton (pdf)

The annual debate about Centric (thiamethoxam) vs. Trimax Pro (or other imidacloprid products) has begun. These are the two most commonly used products for plant bug control prior to bloom. Keep in mind there are other good options including Carbine 50WG and Intruder 70WSP. Centric has more killing power on plant bugs than Trimax Pro (A.I. vs. A.I.) However, Trimax Pro and the generic alternatives are generally less expensive so you can compensate by increasing the rate. I consider both good treatments. I recommend Centric at rates ranging from 1.5 - 2.0 oz/acre depending upon the size of the cotton and the size of the infestation. I will not recommend Trimax Pro at rates less than 1.35 oz/acre (or 1.5 oz/acre of 4 lb/gal imidacloprid). You will not get effective residual control beyond 4-5 days, less if you are using lower rates.

Corn - Southwestern Corn Borer, Etc. SWCB moth catches have dropped greatly and we are clearly between generations. As I indicate before, expect the beginning of the second generation in a couple of weeks July. This means, as it often happens, that insecticide applications made for corn borers during the next two weeks (in non-Bt corn) will miss their target --- too late for the first generation and too early for the second. Nevertheless, a lot of folks will include an insecticide with their fungicide during these next two weeks, even on Bt corn. Many can't tell you what pest they are trying to kill.

Soybeans – Stink Bugs. Some of our earliest soybeans are beginning to put on pods. Sometimes stink bugs will concentrate in these earliest fields. You should check fields every 7-10 days for stink bugs once flowering begins. Use a sweep net. UT recommends a threshold of 12+ stink bugs/100 sweeps from first bloom to R5.5 (mid pod fill). This is a very aggressive threshold. In fact, I would ride populations of less than 24 stink bugs/100 sweeps until R3 if I was planning to put out a fungicide application at this time.

Regional Report (Hayden E. "Gene" Miles, Area Extension Specialist, Northwest Tennessee).
Producers are enjoying dryer weather this week and being able to continue normal farming operations for this time of the year. Growth stages for most cotton fields reported from Dyer and Lauderdale IPM programs and private consultants are primarily in the 5th-6th nodes. All cotton fields being reported this week are out of the susceptible growth stage for thrips. Plant bug numbers being reported from private consultants and IPM scouts range up to 12/100 sweeps and/or 0.6 per 6 row feet in 1st and 2nd week squaring cotton. The threshold is considered to be 8/100 sweeps or 1 or more per 6 row feet for 1st and 2nd week squaring cotton. Square retention being reported from private consultants this week is averaging 100 percent. Square retention is very important and should be done as soon as possible after cotton begins squaring. Square retention can be determined by counting the 1st position square on the

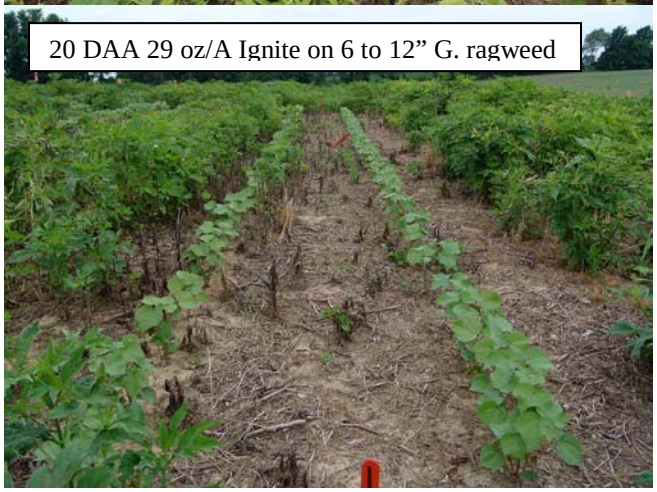
top 5 nodes of the plant. This should be done till 20 positions are checked in one location. Check 5 locations in the field which will give you 100 1st positions checked. Subtract the 1st square position missing from 100 to obtain percent square retention. Square retention should remain above 80 percent till 1st bloom. If square retention drops below 80 percent prior to first bloom, a recommended insecticide should be made to control plant bugs. One cotton field which had 60% square retention and a stink bug population of 1.4 per 6 row feet last week was treated with recommended rate of Centric and is reporting 82% square retention this week and a 0 stink bug count. The high beneficial count this week is 11.2 per 6 row feet.

Weed Control (Larry Steckel, Weed Specialist)

Glyphosate-Resistant Giant Ragweed. There have been several folks ask about managing GR giant ragweed in the last few days. In Ignite tolerant cotton or LL soybean, the best treatment is 22 to 29 oz/A of Ignite depending upon the weed size. Go with the higher rate when the giant ragweed is over 6" tall. In RR cotton our recommendation is 0.15 oz/A of Envoke followed 2 weeks later with a hooded application of Ignite alone or Direx + MSMA or glyphosate. In RR soybean 0.45 oz/A of FirstRate + 32 to 44 oz/A of Roundup PowerMax has provided good control. If you cannot access the FirstRate then the runner up treatment has been 16 oz/A of FlexStar + 32 oz/A of Roundup PowerMax.

20 DAA 32 oz/A Roundup PowerMax on 6 to 12" G. ragweed

20 DAA 29 oz/A Ignite on 6 to 12" G. ragweed



Glyphosate-Resistant Palmer Amaranth Management in Soybean. As folks find that glyphosate is no longer controlling Palmer amaranth they are turning to that PPO (burner class) of herbicides in soybeans. In our GR Palmer amaranth trials at Millington where we are mixing PPO herbicides like Flexstar or Ultra Blazer with glyphosate on 6 to 10" Palmer pigweed, we are getting no more than 65% control (Picture below). Glyphosate tank mixtures with other burners like Resource or Cadet are not providing even 30% control. If someone tells you that they are controlling 12" tall Palmer with a glyphosate + a PPO then rest assured the Palmer is still susceptible to glyphosate.

Going into this year I thought cotton was the crop most threatened by GR Palmer. This is true but what has really been driven home to me lately is that soybeans are not much better off. I felt confident that we could kill 6 to 8" GR Palmer amaranth with a PPO like Flexstar + glyphosate. When applying this mixture to GR Palmer amaranth this year however, we are finding that we cannot control GR Palmer pigweed that is 6" or more tall. You will burn those large Palmer pigweeds and then typically see regrowth from auxiliary buds at the base of the plant. Follow-up applications of another PPO will be needed and even then expect some Palmer to be there when the combine runs this fall. The only post application in soybean that is coming close to controlling (80%) 6 to 8" GR Palmer amaranth is Ignite. My point is that now in the era of GR Palmer amaranth we must rely on pre applied herbicides

coupled with a very early post application to manage this weed. Trying to control them totally post-emergence, particularly over several thousand acres of soybean, will not work!

It is not uncommon this summer to see some burned soybeans in grower fields where a PPO herbicide has been sprayed post. It reminds me of how soybean fields looked in the late spring and early summer during much of the 1990s prior to the RR soybean era. In that PPO class of chemistry though, there are a few new products that we did not have in the early 90s.

14 DAA 3 pt/A Flexstar GT + 1% MSO on 6 to 10" GR Palmer

Flexstar GT is a premix of Flexstar and Touchdown. The rate of Flexstar GT is 3 pt/A which provides 17 oz/A of Flexstar + 30.5 oz/A Touchdown Total. This formulation in our research has shown significantly less soybean burn than if we had made our own premix of the two herbicides. The adjuvant of choice is MSO at 1% v/v. Crop oil at 1% v/v is the next best choice. Some folks have asked about spiking up the Flexstar GT with more Flexstar or another burner like Ultra Blazer in order to control 8" plus Palmer amaranth. I would not recommend this as the soybean burn with these hot temperatures could be extreme. In order to get best control of Palmer amaranth, apply before the weeds are 5" tall.

Prefix is a premix of Flexstar and Dual Magnum. The rate of Prefix is 2 pt/A which provides a pint of Flexstar and a pint of Dual Magnum. If it is being applied alone then add NIS at 0.25% v/v. In order to get best control of Palmer amaranth, apply before the weeds are 5" tall.

Cadet (Fluthiacet Methyl) I have had a lot of folks inquire if this herbicide will control large Palmer amaranth. At the 0.6 oz/A rate Cadet will provide control of Palmer if it is no larger than 2" tall. Add 0.25% NIS if it is not applied with glyphosate. Cadet has good activity on wild cotton and morningglories, but not on larger Palmer. My best description of Cadet is that it is Aim with less burn.

Farm Management (Chuck Danehower, Area Specialist - Farm Management). Each production year is unique and no two years are just alike. The 2009 production year will definitely be remembered as one that had a unique start to the year. During the winter, producers studied and some agonized on what would most likely be the most profitable crop. Some of these decisions were all for naught as in West Tennessee, we had about 30% more rainfall than normal during the prime corn and cotton planting period. This caused delayed planting as well as replants. I think there is no doubt that this will be a more expensive crop than what was originally planned. Replants, additional fertilizer, as well as added chemical expense will push variable costs up.

Although it just seems like the production year as just started, we are at the mid-point of the calendar year. With all the turmoil that has gone on in the financial markets, it is imperative that producers perform a six – month financial check up to see where they stand with this year's crop. With just about all the crops now in the ground, the bulk of a producer's expense in the crop are also in the ground. It seems each year that the majority of the investment in the crop is made earlier and earlier and most

times at planting. How much do you have in your crop and how does it compare to what you projected or anticipated? Granted, this might not be a fair question at this time as some expenses may not have been received yet and others may be deferred to a later date.

Updating your records through the month of June will allow you to quickly note your financial progress by comparing your actual expenses and also income to what you projected. Any major differences should be noted and explained as to the difference. If the crop mix that was planted differs much from what was planned and what your cash flow plans were based on, then an overall update on your plan is warranted.

I would estimate that by the middle of June, producers will have invested in their corn 91% of their variable or cash costs, cotton 76%, and soybeans 72%. When reviewing your income and expenses to date, also compare your production line of credit as to what you have used, amount left to use, and how much you will need. If equipment or land payments have to be made, don't forget to account for them. Although this is a busy time production wise, do some calculations to determine whether you are on budget. This can prevent problems or at least surprises later on. Share your updated budget or plan with your lender. If there are potential cash flow problems, your lender needs to know early on so as to explore your alternatives. If you wait until the end of the year or when your production loan is due, then the alternatives narrow considerably.

If we can assist you with budgeting, marketing or whole farm planning, please contact your local County Extension office or call the MANAGEment Information line at 1-800-345-0561.

Tennessee Pheromone Moth Trapping Summary - Trapping efforts are funded in large part by the Tennessee Cotton Incorporated State Support Program. Thanks to the County Extension Agents who are also running southwestern corn borer traps.

Numbers of Moths per Week (Week 8, Ending 6-24-09)

Trap Location	Tobacco Budworm	Corn Earworm (Bollworm)	Beet Armyworm
Hardeman (Bolivar)	0	0	0
Fayette (Whiteville)	2	0	---
Fayette (Somerville)	0	0	0
Shelby (Millington)	3	24	0
Tipton (Covington)	3	8	---
Tipton (North)	0	6	0
Lauderdale (Goldust)	0	94	0
Haywood (West)	2	0	0
Haywood (Brownsville)	1	0	---
Madison (WTREC)	0	16	0
Madison (North)	3	3	0
Crockett (Alamo)	1	0	0
Crockett (Maury City)	6	8	0
Dyer (Dyersburg)	1	25	0
Dyer (Newbern)	3	101	0
Lake (Ridgley)	STOLEN	STOLEN	0
Gibson (Kenton)	1	12	0
Gibson (Milan REC)	0	6	0
Carroll (Coleman Farm)	0	25	0

Trap Location	Southwestern Corn Borer
Fayette (Whiteville)	3
Tipton (Covington)	2
Madison (WTREC)	0
Crockett (Maury C.)	0
Obion (Midway)	2
Obion (Crockett)	0
Obion (Union City)	0
Obion (Obion)	3
Lake (Owl Hoot)	2
Lake (Croanville)	2
Lake (New Markham)	14
Haywood (B'ville)	0
Haywood (Hwy 19)	0
Dyer (Newbern)	0
Dyer (Craig Rd)	15
Dyer (Hwy 104 E)	31
Dyer (Parker Rd)	8
Weakley (Ore Sprg.)	0
Weakley (Greenfield)	0
Weakley (Bean's S.)	3
Gibson (MREC)	0
Gibson (Rutherford)	0
Gibson (Strawberry)	8
Giles (Tarpley Shop)	0
Giles (Agnew)	0
Henry (Tosh Farms)	5
Lincoln (Molino)	0
Lincoln (Camargo)	2
Lincoln (Meridianvil.)	0

An asterisk (*) indicates the trap was missing, knocked down, or no report was received.

Just say no to trap theft. We've lost over $1,000 in traps this year.

Scott D. Stewart (editor)
Extension IPM Specialist