

IPM NEWSLETTER

Update for Field Crops and Their Pests

No. 13

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

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Soybean Scout Schools are scheduled for June 25 and June 26 (see below). These programs are designed to provide basic information about plant development and crop and pest management. These schools will include in-field training as weather allows and last about 1.5-2 hours. This effort is partially supported by the Tennessee Soybean Promotion Board. No registration fee or pre-registration is required. CCA and Pesticide recertification points will be available. Detailed directions are available on-line at <http://www.utextension.utk.edu/fieldCrops/upcomingevents.html>, and are also attached to the e-mail message of this newsletter.

- **June 25, 9:00 AM, Dyer Co.** -- Joe Smith's farm, Chic Road past Pugh's shop (Pugh's shed is rain out location).
- **June 25, 1:30 PM, Obion Co.** -- Cheatham Farms, Union City area, south on Oakshire Road from Hwy 431, Road dead ends at shop.
- **June 26, 9:00 AM, Haywood Co.** -- Hwy. 70/79 in Brownsville (North Washington Ave.), Behind American Motors used car business. From court square in Brownsville, follow signs to the Hospital. The field will be about 1 mile north on the left.
- **June 26, 1:30 PM, Gibson Co.** -- Milan Research and Education Center, Ag Museum, Hwy 70/79, E. Van Hook St.

Wheat Harvest in Underway (Chris Main, Extension Cotton and Small Grains Specialist)

Wheat harvest began to pick up late last week. So far yields are surprisingly good. I am hearing reports of many acres averaging above 75 bushels with some producers going above 100 bushels in some fields. Test weights have been good to excellent, but weights fell slightly after last week's rain. In trials at Jackson, planting date has had as much effect on yield as anything. In a planting date trial, wheat planted on October 23 yielded 10% higher than wheat planted on November 6, and 30% higher than wheat planted on November 20. Mark your calendars on September 10. UT Extension will host a wheat production conference at the West Tennessee Research and Education Center beginning at 1:00 pm following the Cotton Field Day that morning. Topics will address all aspects of wheat production and is open to producers, consultants, and industry representatives.

Cotton Progress (Chris Main, Extension Cotton and Small Grains Specialist)

The Tennessee Agricultural Statistics Service reports cotton condition as 11% excellent, 70% good, 18% fair, and 1% poor. According to Boll Weevil Eradication 240,000 acres of cotton are reported in west Tennessee with another 10,000 acres in lower, middle Tennessee. This is half of the planted acreage from 2007. Most early planted cotton is squaring and we are finding plant bugs in trials at Jackson and at Hales Point. Probably more concerning is continued reports of glyphosate failure on Palmer pigweed in our delta counties. I'm sure that Scott and Larry will cover these items in more detail, but it looks like timely, accurate scouting is going to be very important this season.

I will caution against piggy-backing a low rate PGR with early plant bug treatments. As stated in previous newsletters, PGR's are best applied when needed. In early squaring cotton a height to node ratio of greater than 1.2 is considered vegetative and would benefit from an application. To prevent

shutting the plant down I would not apply more than 8 ounces of a mepiquat product or 1.5 ounces of Stance per acre prior to match-head squares being present. This week my most mature cotton has 10 leaves, 4 squaring branches, and a height to node ratio of 1.0. Look at fields of Delta Pine 444 BG/RR first since growth appears to be greatest with this variety under current conditions.

DD60 Accumulation (TASS and NWS data)

Location	4/20- 6/19	4/27- 6/19	5/4- 6/19	5/11- 6/19	5/18- 6/19	5/25- 6/19	6/1- 6/19
Dyersburg	691	646	623	586	567	487	375
Fayetteville	715	658	627	573	555	475	369
Jackson	653	606	584	541	520	452	347
Memphis	814	745	718	660	624	527	402

Weed Control Update (Larry Steckel, Weed Specialist)

Glyphosate Resistant Palmer Amaranth. It appears from the phone calls this week as well as field visits we have made that the glyphosate-resistant biotype of Palmer amaranth is becoming more prevalent. Since it was first found 3 years ago producers have done a good job managing and keeping it relatively confined. It looks like our luck may have run out. The question now becomes what do we do to control this Palmer? This answer really has to be tailored to the crop in the field.

In cotton we have fewer options than in corn and soybeans. If the GR Palmer is still in small pockets in the field consider destroying those pockets. Tillage or over sprays in those small areas should be considered. Make sure to have scouts report other escaped Palmer scattered in the field or nearby fields. It has been my experience in fields where GR Palmer has been found in small patches that upon closer inspection other survivors may be scattered here and there. My colleague in Georgia, Dr. Stanley Culpepper, recommends using post direct applications of Direx + MSMA as the best control option under the hood for GR Palmer amaranth. Other post direct mixtures that contain Valor or Reflex or even the premix LaybyPro should be viable options as well.



GR Palmer after 44 ozs/A Roundup WM



Scattered Palmer Survivor after 66 ozs/A Roundup PorwerMax

In soybeans our research has shown that high rates of glyphosate tank mixed with Reflex, Ultra Blazer or Cobra provide about 80 to 100% control depending upon the Palmer amaranth size. Expect to see some soybean burn with these treatments. Another good option is to use Dual Magnum over the top for residual Palmer control. Remember Dual Magnum can be applied to soybeans until the 4th trifoliolate.

Do not forget to manage Palmer amaranth in corn. This year in particular one must monitor these fields as atrazine has long ago broke and late flushes of Palmer are apparent in some corn fields right now. Late Palmer amaranth flushes, even those after harvest in August, can produce a huge seed bank by our first frost. If late flushes are evident after harvest, consider tillage or an application of Gramoxone Inteon.

Running Out of Herbicides??? The big call of the last few days is the shortage this year of Sequence and FirstRate. Sequence is a premix of Touchdown + Dual Magnum and is in very short supply. This premix is the most economical way to use Dual Magnum in cotton and soybeans. Syngenta, the company that manufactures Sequence, says they have no more in their system and the retailers I talk to are by and large out. Dow, the manufacturers of FirstRate, says they have no more of this product on hand. In talking to some retailers here in West Tennessee some still have a little to sell while others are out.

So now what do we do? In the case of Sequence, you can make your own. The typical Sequence rate of 2.5 pts/A will provide about 1 pint of Dual Magnum and 24 ozs/A of Touchdown Total. So you can make your own by using 0.75 lbs/A ae of glyphosate + a pint of Dual Magnum. The Dual Magnum over-the-top of cotton and soybeans, particularly this year, I think is a good practice to help us manage small-seeded broadleaves and grasses. This also helps us combat glyphosate resistance by using an extra herbicide mode of action. I would like to remind everyone that Dual Magnum can be sprayed over the top of soybeans from emergence until the 4th trifoliolate is showing. In cotton we have a little time as Dual Magnum can be sprayed over the top until 100 days preharvest interval.

Unfortunately, the problem with the lack of FirstRate is there is not a real good option to control GR horseweed and giant ragweed in soybeans. The best runner up for control of large (>4" tall) GR horseweed and giant ragweed is Synchrony. Synchrony at 0.375 ozs/A tank mixed with a high rate of glyphosate will provide some control on regular soybeans. In STS soybean varieties one can use 1 oz/A of Synchrony. In cases where the giant ragweed are still small (< 4" tall) Reflex at 1 pt/A tank mixed with glyphosate has provided fair control in our research.

Insect Management (Scott Stewart, IPM Specialist)

Cotton. Many fields are finally starting to square. I'm getting quite a few reports of tarnished plant bugs at treatable numbers (8⁺ per 100 sweeps during the first two weeks of squaring). There are many more plant bugs around this year than last, but that is not saying much. Make a minimum of 100 sweeps (4 set of 25) in every cotton field and monitor square retention at least weekly until flowering begins. You should check at least 100 fruiting sites per field and record how many missing squares are present on these sites. There are several ways to monitor square retention. You can monitor every first position fruiting site on the top five nodes of the plant, or I like to check the first position fruiting sites on the second and third node down from the top. Check 50 plants and you have examined 100 fruiting sites. Be extra diligent for plant bugs if square retention drops dramatically or approaches 80%.

We've treated our earliest cotton twice for plant bugs here on the experiment station. We treated last Friday for above threshold populations and again five days later, again for above threshold numbers. Why do I mention this? Some people are of the impression that if they sprayed last week, they should not have to spray the next. This is mostly dependent upon whether migration into the field occurs after treatment. It is unfair for a grower to say "don't tell me not to spray this week and then ask me to spray next week." This happens all the time if the grower is already going to make a trip across the field for weed control or some other reason. Expect a maximum of 4-5 days of effective residual control for insecticide applications.

Tobacco Budworm. We don't talk much about this pest because a high percent of our cotton has a Bt trait, but traps are showing a larger and more widespread tobacco budworm moth flight than usual for this time of year (*moth pictured right*). Eggs and small larvae may start showing up in some non-Bt cotton, particularly early fields. Of course, eggs may also be found in Bt fields, but Bollgard, Bollgard II and WideStrike cotton should be safe from attack. The treatment threshold for tobacco budworm (or bollworm) in non-Bt cotton is 8 or more larvae per 100 plants. The best and safest assumption is that prebloom "worm" infestations are tobacco budworm. If treatment is needed, you must use recommended insecticides for tobacco budworm. These include products such as Tracer, Steward, and Denim ([click for suggested rates](#)). Insecticides will be far more effective against small larvae (< ¼ inch). *Pyrethroid insecticides will not provide satisfactory control.* Only treat non-Bt cotton for tobacco budworms or bollworms in accordance with your refuge guidelines for Bollgard cotton. Remember, Bollgard II and WideStrike do not require a non-Bt cotton refuge.



Boll Weevil Eradication. Reduced acreage has resulted in a tight eradication budget, but eradication fees for West Tennessee will remain the same as last year. The assessment fee for 2008 has been set at \$10/acre for West Tennessee and \$2.00/acre for Middle Tennessee. What is most encouraging is the low numbers of weevils being caught in the few remaining "hot spots." There were only four boll weevils caught during the first four trapping cycles. These weevils were caught in the five most problematic field units in Shelby and Tipton Counties. This compares to over 2,600 boll weevils which were caught last year in these same field units during the same time period. This is a 99% reduction in boll weevil populations since 2007. It looks like we are on the short rows (knock on wood).



Mystery Injury to Cotton Plants. Several folks have been wondering why they occasionally see stunted, wilted and dying plants scattered about in a few cotton fields. The stems and leaves of these plants turn conspicuously red (*see stunted plant pictured right*). The culprit is threecornered alfalfa hoppers, and their girdling on stems causes this injury. There is usually a swollen bump (girdle) present on these plants 1-3 inches above the ground. This is not uncommon but appears to be a little more widespread this year. The worst of it is in no-till fields, especially in small fields where the hoppers move in from the edges. Seed treatments will suppress but not totally prevent this injury.



Usually the injured plants will wither and die. In reality, unless the number of plants affected is large or stands are unusually thin to begin with, it is unlikely that threecornered alfalfa hoppers will affect yield. However, similar damage in soybeans is more concerning (see below).

Area Cotton Report for Northwest Tennessee (Gene Miles, Area Crop Specialist). Cotton fields being monitored through the UT Extension county IPM programs ranged from 5th to the 7th node. Visible squares are being noted on the 5th node where plants have begun squaring. All fields being monitored through county cotton IPM programs are past the susceptible thrips damage stage of growth this week.

Square retention counts should be started as soon as possible after cotton begins to square. Square retention is important in determining whether or not plant bugs are causing square loss in your field. Square retention should remain above 80 percent till 1st bloom. If square retention drops below 80% prior to first bloom, consider making an insecticide application to control plant bugs. Square retention counts range from 94-100% this week. Plant bug counts taken in fields monitored by IPM association scouts and private consultants ranged up to 0.3 plant bugs per 6 row feet and/or 3 per 100 sweeps. Beneficial counts range up to 3.4 per 6 row feet.

Corn and Southwestern Corn Borer (SWCB). Moth traps are showing a decline in the first SWCB flight, and there have been treatable first-generation infestations in several corn fields I have seen or heard about. I've discussed SWCB enough in the past few newsletters, but about three weeks from now will be the beginning of the next generation. In a test at the WTREC, we achieved about 80% control of larvae in the whorls by making a foliar insecticide application using a mid-rate pyrethroid (in this case Asana XL). The spray was made with flat fan tips at 12 GPA. The point ... a well applied and timed spray can prevent larvae from tunneling into the stalks. UT recommends treating when 20-30% or more of plants are infested with SWCB. I would use the 20% number considering the current commodity prices for corn.

Soybeans. Not much is going on except for a few calls about thrips and threecornered alfalfa hoppers. I've covered thrips control in soybeans in a previous newsletter. As a general rule of thumb, if applications for thrips are made, they should be made early for maximum potential benefit, perhaps at the first or second unifoliate leaf. Thrips have not been considered a serious pest of soybeans and there are not well established treatment thresholds. However, foliar insecticide applications can sometimes increase yields when thrips are present in high numbers, especially during poor growing conditions. What represents a high number of thrips for a seedling soybean plant, 4-5 per plant, more, less? That is the \$64,000 question, and we need more research to develop treatment thresholds.

Threecornered alfalfa hoppers (TCAH) injure seedling soybean plants by girdling the main stems with their sucking mouthparts. This creates a swollen girdle and injured plants sometimes break over later in the season after they develop a pod load. Almost all of this damage is done when plants are < 10 inches tall. TCAH can be a problem in no-till fields, and they are difficult to scout for on small plants. UT recommends treatment for soybean when 10% or more of seedling plants are infested. This requires close visual examination, and I would also treat if 10% of small plants (< 6 inches tall) show evidence of injury (girdling, causing a swollen bump on the main stem). Girdled plants will often break cleanly at the girdle site and bent over. Cruiser and Gaucho seed treatments help to suppress this injury. Recommended insecticides for foliar



application include 0.75 - 1.0 lb/acre of Orthene 90 (or acephate 90) or mid-rate synthetic pyrethroids (e.g., Asana XL, Baythroid XL, Karate, Mustang Max, Prolex).

Farm Management (Chuck Danehower, Area Specialist - Farm Management). It is hard to believe June is just about gone. It seems just the other day, we were concerned whether it was ever going to dry up so we could get the production year started. It is probably harder to believe that with the corn, cotton, and full season soybean crop 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. With input cost increasing, a question a producer should ask is ... how much do I have in my crop and how does it compare to what I 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. I did notice that early this past winter and late last year, there were some good financing or deferral programs for those producers who had decided on their crop mix.

Sometime during this month, possibly toward the end of the month or maybe early July, it would be beneficial to perform a six – month financial check up. 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.

I would estimate that by the middle of June, producers have invested in their corn crop 88% of their variable or cash costs, cotton around 70%, and soybeans close to 78%. 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.

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

Farm Bill Update - HR 6124 Food, Conservation and Energy Act of 2008 is now law. President vetoed the new bill but House and Senate overrode the veto. Senate vote to override 80-14. The House vote to override 317 to 109. The full 15 titles are now law as HR 6124 and replaces HR 2419.

Tennessee Pheromone Moth Trapping Summary - Trapping efforts are funded in large part by the Tennessee Cotton Incorporated State Support Program. Some County Extension Agents are also reporting additional trap counts for SWCB moths at corn variety test locations. Thanks to them and Bob Williams for these data.

Numbers of Moths per Week (Week 7, Ending 6-18-08)

Trap Location	Tobacco Budworm	Corn Earworm (Bollworm)	Beet Armyworm	Trap Location	Southwestern Corn Borer
Hardeman (Bolivar)	5	1	0	Fayette (Whiteville)	0
Fayette (Whiteville)	0	0	---	Tipton (Covington)	0
Fayette (Somerville)	4	0	0	Madison (Exp. Stn.)	3
Shelby (Millington)	3	0	0	Gibson (Exp. Stn.)	0
Tipton (Covington)	9	*	---	Dyer (Newbern)	*
Tipton (North)	10	0	1	Dyer (Samaria Rd)	11
Haywood (West)	3	0	0	Dyer (Fuller Rd)	43
Haywood (Brownsville)	2	0		Dyer (Welch Rd)	3
Madison (North)	15	3	0	Obion (Central)	17
Madison (Exp. Stn.)	47	12	---	Obion (Northeast)	48
Crockett (Alamo)	*	0	1	Gibson (Sims north)	12
Crockett (Maury City)	39	0	---	Gibson (Sims south)	28
Dyer (Bogota)	0	0	0	Gibson (King)	9
Dyer (Newbern)	19	0	---	Gibson (Idlewild)	14
Lake (Ridgley)	20	44	6	Gibson (Race Track)	42
Gibson (Kenton)	4	24	0	Gibson (Gibson)	3
Gibson (Exp. Stn.)	10	11	0	Lake (Hoecke)	22
Carroll (West)	8	7	0	Lake (Isom)	1
Lauderdale (Goldust)	11	0	3	Weakley (South)	60
				Weakley (North)	2
				Haywood (Hwy 19)	5

An asterisk (*) indicates trap was missing or knocked down.

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Scott D. Stewart (editor)
Extension Cotton IPM Specialist

