

IPM NEWSLETTER

Update for Field Crops and Their Pests

No. 11

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Soybean Scout Schools are tentatively scheduled for June 25 and June 26 (see below). More detailed information will be made available in the next couple of newsletters, but please mark your calendars. These programs are designed to provide basic information about plant development and crop and pest management. They will include in-field training and last about 1.5-2 hours as weather allows. This effort is partially supported by the TN Soybean Promotion Board.

- June 25: Dyer Co. (9:00 AM) and Obion Co. (1:30 PM)
- June 26: Haywood Co. (9:00 AM) and Gibson Co. (1:30 PM)

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

The Tennessee agricultural statistics agency reports that 90% of the cotton crop was planted as of this is about 10% behind of 2007 and about 5% behind the five-year average of 95%. These numbers are deceiving since we are planting half as much cotton as last year and the five year average. Other than a few replants, cotton planting is finished in Tennessee.

Thankfully we are getting some useable heat units and sunshine. The table below gives average DD 60's for certain benchmarks in cotton development. Please be aware that we are accumulating nearly 20 DD 60's per day this week. That means that cotton will rapidly develop. Keep a close eye on any Roundup Ready cotton for the emergence of the fifth true leaf to cut off over-the-top glyphosate applications. This is especially important if you want to apply some Dual with that last glyphosate application.

Table 1. Average DD 60 accumulations for cotton development.

Growth stage	Heat units
Planting to seedling establishment	50-60
Nodes up the main stem	45-65
Emergence to first square	425-475
Square to white flower	300-350
Planting to first flower	775-850
White flower to open boll	850
Planting to harvest	2300

DD60 Accumulation (TASS and NWS data)

Location	4/20-6/5	4/27-6/5	5/4-6/5	5/11- 6/5	5/18-6/5	5/25-6/5
Dyersburg	425	380	357	320	301	221
Fayetteville	448	391	360	306	288	208
Jackson	406	358	336	293	273	204
Memphis	519	450	424	365	329	233

Insect Management (Scott Stewart, IPM Specialist)

Thrips in cotton are generating a lot of phone calls. Much of our cotton is late planted and in the 1-3 leaf stage, and there are low to moderate thrips numbers being found at some locations (0.5 - 3 per plant). But most of the phone calls are for relatively early planted fields. These fields are now hitting the 4th or 5th true leaf and the plants look “thripy.” It is important to remember that previous thrips injury can not be reversed, and the plants are most sensitive to injury during the first 10-15 days after emergence. Even under good management, some injury is inevitable under adverse conditions. The following is borrowed from a previous newsletter.

“In some cases, a supplemental foliar spray may be needed even if an at-planting treatment was used. The most commonly recommended foliar thrips insecticides include Orthene or acephate (3-4 oz/a), Bidrin (2-3 oz/a), or Dimethoate 4E (4-8 oz/a). I suggest avoiding pyrethroids because they can flare aphid and spider mite populations.

When are supplemental foliar applications justified? Cotton is most susceptible to thrips injury early in its development, before the 3rd true leaf stage. So if needed, the best time for application is during the 1st to 2nd true leaf stage. A rule of thumb -- if cotton has been planted for 14 or more days and the 2nd true leaf is not yet visible, consider making an application in the next 7 days. In other words, make the application early when environmental conditions have resulted in slow emergence and growth. More than one foliar thrips application is rarely needed. Repeated applications seldom increase yields and are more likely to create other pest problems (again potentially flaring aphid and mites).”

Of course high numbers of thrips, even during good growing conditions, can overwhelm plants. But about the only time you should spray 4th or 5th leaf cotton is when you have allowed thrips populations to run rampant. So what about much of our cotton that is in the 1st to 2nd leaf stage? These plants are in a sensitive stage, and now is a good time to make a thrips application in that regards. However, the weather is finally cooperating, and plants are growing quickly. In the scenario, use UT’s threshold of treating an average of 1 or more thrips per plant (but especially if any immatures are present). I would argue that this threshold does really apply to cotton past the second leaf stage.

Why should I use an at-planting/seed treatment insecticide if I am going to have to spray anyway? I hear this question frequently. All I can say is ... come look at my test plots that are now in the first true leaf stage. You can pick the untreated cotton out from the field edge. Once this occurs, some potential yield loss has already occurred.



Thrips damaged cotton (left) and healthy cotton (right). With current temperatures and the lack of thrips injury on the right, a foliar insecticide treatment is unnecessary. Look closely at emerging leaves. If the second or third true leaf looks good, it is highly unlikely that you will benefit from a thrips application given the current weather conditions. If seedlings resemble the picture on the left, you are late but a spray is justified. The picture on the left is early planted cotton (almost 4 weeks after planting). On the right is late planted cotton (2 weeks after planting). Both had the same insecticide seed treatment. The difference was weather related.

Area Cotton Report for Northwest Tennessee (Gene Miles, Area Crop Specialist). Cotton growth has gotten off to a slow start in the area due to cool wet weather. Some fields are still being replanted while others are being monitored through the U.T. Extension Service county IPM programs range from the cotyledon to the 2nd node stage of growth. Larger plants in the delta area being observed this week are in the 4th node growth stage.

County IPM scouts in the area are reporting thrips counts of 0.3 to 0.5 per plant in susceptible cotton. In fields surrounded by wheat, private consultants are reporting thrips counts which range from 3 to 5 per plant. Checking cotton for thrips can be accomplished by checking 1 plant per acre or checking a minimum of 10 plants in fields less than ten acres. Thrips (adults and immature) can be dislodged into ice cream buckets, cigar boxes and other types of containers where thrips can be seen by vigorously shaking the entire leaf area of cotton plants into the container. Thrips samples should be taken by taking a random sample by walking an M or zigzag pattern throughout the field.

Thrips in soybean can also be a potential problem. In a test last year, we documented a 5 bushel response from a Cruiser seed treatment or repeated applications of acephate. This is not typical, but the point is that thrips can cause stunting and economic damage to soybeans. Like cotton, this is most likely to occur when populations are high and seedlings are facing adverse growing conditions. UT does not have a treatment threshold for thrips in soybean, but soybeans are much more tolerant than cotton. I do not have a big problem with automatic insecticide applications for thrips control in soybean, at least for early plantings, but I doubt thrips are going to have much impact on beans that have emerged in the last two weeks. If you intend to spray for thrips it should be done early (within 7-10 days after emergence). You will lose most the potential benefit if thrips applications are piggybacked with later of glyphosate. I would not treat for thrips in soybean if a Cruiser or Gaucho seed treatment was used at planting. Orthene 90S (or acephate) is labeled for soybean and can be used at similar rates as recommended in cotton. Dimethoate 4E at 6 oz/acre will also work, although the soybean label does not mention thrips. Bidrin is not labeled for soybeans. Relatively low rates of several pyrethroid insecticides will also work pretty well, and unlike cotton, you are less likely to flare other pest problems.

Pheromone traps are indicating we are having our first generation moth flight from overwintering southwestern corn borer larvae (see appended table). Larvae usually show up a week or so after moths appear. This is a fair sized flight in some areas, especially in the northern corn counties. One trap in Weakley County caught 250 moths in the last five days. This is a sure sign that there was a nearby source of overwintering larvae in non-Bt corn last year. Our corn planting dates are unusually spread out, and this generation will target the bigger corn. Of course, Bt corn is safe from attack. At least a few non-Bt fields will reach the treatment threshold during the first generation (20% of plants infested with larvae).



SWCB larvae will be found in the whorls and should be sprayed before they begin tunneling into stalks. Scout by pulling the whorls from plants and unrolling the leaves while looking for larvae. The presence of window-pane feeding lesions (pictured right) on emerging leaves is often a tip-off to an infestation. Pyrethroid insecticides tend to work best in whorl stage corn. Be careful to correctly distinguish SWCB from corn earworms which may also be found in the whorl but cause little damage. I've also been finding a few true armyworms in whorls. Insecticide choices and rates can be found in the 2008 Insect Control Recommendations for corn at http://www.utextension.utk.edu/fieldCrops/cotton/cotton_insects/pubs/PB1768-Corn.pdf. Pictures of eggs, larvae and injury cause by SWCB can be found on the web (including UTCrops.com).

Aphids in Sorghum. There have been reports of the yellow sugarcane aphid in sorghum (Haywood Co.). Johnsongrass and dallisgrass are alternate hosts and it appears these aphids are primarily present where burndown applications left some grassy weeds in the field. According to "the book" this aphid causes similar damage as greenbugs (both inject a toxin while feeding). The yellow sugarcane aphid, as the name implies, are lemon yellow in color. They are slightly larger than other aphids found in sorghum. Their bodies are covered with setae (hairs) and two double rows of tubercles (small raised spots bearing setae) down each side of the back (*picture courtesy of Texas A&M Extension*). Pay extra attention to fields if Poncho or another insecticidal seed treatment was not used. Treat for greenbugs or yellow sugarcane aphids using the same thresholds which are:



- Seedling sorghum: 1-2 aphids on most plants during the seedling stage
- Larger plants: when 1-2 leaves, usually lower leaves, are dying on the majority of plants

Crawdads, crawfish or mud bugs, oh my. Larry Steckel took this picture in Lauderdale County. I've seen this before but some of you may not have. Crawdads can cause significant stand loss in cotton or soybean on rare occasions. They cut plants and pull them underground to feed. They have burrows that run several feet deep. Keep in mind that the mud huts visible on the right are not always present, and crawdads can be a surprising distance from water. In fact, this field was on



the bluff. Dr. Angus Catchot (MSU) suggests that pyrethroid insecticides work well if applied just before or just after a rain (which forces them out of the ground).

Weed Control (Larry Steckel, Weed Specialist). We have a number of fields that are painted into a corner on crop planting options. These include fields that have had atrazine or diuron, etc. applied prior to flooding or extended wet field conditions that have delayed planting until now. At this time, some producers would rather plant soybeans in these fields. The problem is that a year must pass before soybeans can be planted after one of these herbicides is applied. Of course hindsight is 20/20, but some thought must be given to flood prone fields about using herbicides in early burndown that allow some flexibility on crops that can be planted. Herbicides like Dual Magnum (in cotton/corn) and Spartan (in corn) would be two good options that allow a field crop change to soybeans. Another good option for these fields is to apply the residual components over the top of the crop after emergence.

Horseweed Control: The overall report on managing glyphosate-resistant horseweed this spring is mixed. Early applied burndowns in February and March provided very good control. Unfortunately there was a very small window of opportunity to apply early burndowns. In general, the closer to planting folks tried to control horseweed the more inconsistent the outcome tended to be. The question of the week was how to control horseweed that escaped the burndown in soybean and cotton fields. The answer in soybeans is FirstRate at 0.3 to 0.6 oz/A. Use the higher rate on tall horseweed. In cotton one has to wait until the cotton is at 5th leaf and then apply Envoke which has provided some control and will stunt the horseweed and allow some height separation for post direct applications to be effective. The drawback to this approach is all the early season competition that occurs until the 5th cotton leaf. Staple would be another option mixed with glyphosate prior to the 5th leaf. In general Envoke has provided better control than Staple on large horseweed.

Horseweed Control in Double Crop: Green patches of glyphosate-resistant horseweed are noticeable in many wheat fields that are drying down. This weed is hard enough to control when undisturbed let alone when they have been cut off by a grain table. Unfortunately, there are no complete options to control these weeds after wheat harvest. One recommendation that can provide about 70 to 80% control is 40 to 48 oz/A of Gramoxone Inteon + 4 oz/A of Sencor + 0.25% NIS. With these really warm temperatures another good option is Ignite at 29 oz/A. Apply at 15 gal/A of water to obtain best results with either of these options.

Giant Ragweed: How do I control my glyphosate-resistant giant ragweed has also been a common phone call the last 10 days. We have discovered two things about the giant ragweed that has become a big problem in our row crops. One is that it now has shown good tolerance to glyphosate and two that it can emerge from February into June. The giant ragweed that still resides in the fence rows has little tolerance to glyphosate and emerges in about a 10 day window in late February. These biotype differences between the giant ragweed that resides in the fence rows and that in our fields points out that we must use herbicides other than glyphosate to control the field biotype. Moreover, we must also include a herbicide that can provide some residual control to be successful.

So how do we control it? In research the past two years prior to planting soybeans in 90 degree days Ignite has provided a very good burndown of giant ragweed. Reflex at 16 oz/A tank mixed with the Ignite has improved the level of burndown and provided good residual control. Post emergence in soybean the only option that has shown some success is 0.6 oz/A of FirstRate. In corn 4 oz/a of Status or 3 oz/A of Callisto mixed with glyphosate has provided good control. In cotton post emergence the

options are few. Envoke or Staple will provide some control (40 to 50%) and suppress the ones that live. Then a post direct application of Ignite can clean up the row middles.

Reminder: With so much work in so little time, spray tank contamination and drift problems have been more common than what we have seen in the past. Please do not cut corners and take the time to thoroughly clean sprayers and watch wind speed and particularly wind direction when spraying.

Farm Management (Chuck Danehower, Area Specialist - Farm Management), The National Cotton Council will be conducting informational farm bill meetings throughout the Mid-South and Southeast. In Tennessee, these meetings will be Tuesday, June 17, 10:30 a.m. at the West Tennessee Research & Education Center (Experiment Station) and on Wednesday, June 18, 10 a.m. at the Agricenter International auditorium in Memphis. These meetings are open to all producers and will be of interest to all producers, not just cotton producers. There will also be a question and answer portion of the program. Although this is a busy time, I would encourage someone from your operation to attend. It should be a very informational meeting.

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 5, Ending 6-03-08)

Trap Location	Tobacco Budworm	Corn Earworm (Bollworm)	Beet Armyworm	Trap Location	Southwestern Corn Borer
Hardeman (Bolivar)	0	0	0	Fayette (Whiteville)	0
Fayette (Whiteville)	0	0	---	Tipton (Covington)	2
Fayette (Somerville)	0	3	0	Madison (Exp. Stn.)	0
Shelby (Millington)	0	4	0	Gibson (Exp. Stn.)	*
Tipton (Covington)	2	8	---	Dyer (Newbern)	0
Tipton (North)	4	0	0	Dyer (Samaria Rd)	45
Haywood (West)	5	0	0	Dyer (Fuller Rd)	2
Haywood (Brownsville)	0	0		Dyer (Welch Rd)	0
Madison (North)	1	21	0	Obion (Central)	1
Madison (Exp. Stn.)	5	7	---	Obion (Northeast)	13
Crockett (Alamo)	0	2	0	Gibson (Sims north)	20
Crockett (Maury City)	0	0	---	Gibson (Sims south)	7
Dyer (Bogota)	0	0	0	Gibson (Idlewild)	46
Dyer (Newbern)	0	0	---	Gibson (Mlian)	60
Lake (Ridgley)	0	9	0	Lake (Hoecke)	27
Gibson (Kenton)	3	11	0	Lake (Isom)	4
Gibson (Exp. Stn.)	3	5	*	Weakley (South)	250
Carroll (West)	2	3	0	Weakley (North)	23
Lauderdale (Goldust)	0	4	0		

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

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