

IPM NEWSLETTER

Update for Field Crops and Their Pests

No. 6

May 11, 2006

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Bookmarks: [Cotton update](#) [Cotton planting forecast](#) [Cotton weeds](#) [Insects issues](#) [Corn/Soybean update](#) [Moth traps](#)

Cotton Scout School - West Tennessee Research and Education Center (Jackson), May 26th Registration begins at 8:30 AM. No pre-registration or fee is required. Topics covered will include plant growth and development, insect ID and scouting, weed ID, pesticides and safety, and more. A box lunch will be provided, and after lunch, there will be a go-to-the-field session for those interested. CCA and recertification points will be awarded.

Cotton Crop Update (Larry Steckel, Assistant Professor)

The Tennessee Ag-statistics Agency reports that about 17% of the crop is planted as of May 8th. This is on par with the springs of 2003 and 2004 but behind the 5 year average of 33%. I think we may be a little further along based on conversations with some county extension agents and producers this week. The long term forecast does not look overly warm, but it does appear a dry window to plant may be here. Chism always suggested that full season varieties like ST 5599BR and DP 555 BG/RR should not be planted beyond May 10 in Tennessee. We have been blessed with late frosts the last several years and these varieties planted after May 10 have performed well. The question is -- are we due for an early frost this year? Who knows, but it is sound advice to not take the risk on many acres when there are good medium to early varieties available. As we move into next week it would be best to wrap up planting medium-maturity varieties and finish out with early-maturing varieties.

The cotton that was planted in April has not progressed rapidly as it has been struggling with the cold weather (see DD60 accumulation below) seedling diseases and thrips injury. Cotton planted last week is trying to emerge into this same environment. Over the next several days we will all be assessing the stand establishment of the earlier planted cotton. Hopefully, we will not have to worry about replant decisions. However, if the stand establishment is in doubt, go to at least 10 places in the field and make stand counts. Mark 1/1000 of row (17.5 feet for 30" rows, 13.9 feet for 38" rows and 13.1 feet for 40" rows) and count the number of plants. Multiply the number of plants X 1000 to determine your plant population per acre. Remember, go to several places and count not only the number of plants but also observe your stand uniformity. Once this has been done, you then have to make the decision about those plants that will live and those that will die. If the plant has severe lesions on the stem and the plant is brittle it will probably die. If the roots are discolored but remain white or green when the brown tissue is scraped away, it will probably live. Also, examine the plant terminal. How do the new leaves look? If there appears to be new growth emerging, the plant may live. If the plant looks sick and you can't make a decision, assume it will die. Keep in mind, cotton has a tremendous ability to survive if conditions favor growth. For further information on replant decisions please refer the publication below.

Making Cotton Replant Decisions

<http://www.utextension.utk.edu/fieldCrops/cotton/Variety%20Testing%20Data/W073.pdf>

DD-60 Accumulation (TASS and NWS data)

| <u>Location</u> | <u>4/17/06—5/13/06</u> | <u>4/23/06—5/13/06</u> |
|-----------------|------------------------|------------------------|
| Ames Plantation | 291 | 175 |
| Brownsville | 296 | 180 |
| Covington | 255 | 156 |
| Dyersburg | 309 | 183 |
| Jackson | 280 | 167 |
| Memphis | 308 | 195 |
| Milan | 256 | 150 |

Five Day Cotton Planting Forecast (Larry Steckel and Scott Stewart)

There is good news and bad news in the forecast over the next 5 days. The good news is that the forecast calls for just scattered showers (20-30%) over the weekend so we may get a chance to dry out some. The bad news is that DD60 accumulation will be very limited for all of Tennessee. We are in the middle of May, so we have little choice; we need to get some seed in the ground when it is dry enough to plant.

North Tennessee (Dyersburg)

Predicted DD60 accumulation over the next 5 days – 8 (Very Poor)

Weather outlook – Friday and Saturday will be cold with essentially no DD60 accumulation. The air temperature starts to warm up toward the middle of next week with highs in the low 70s and lows in the low 50s.

Central Tennessee (Jackson)

Predicted DD60 accumulation over the next 5 days – 5 (Very Poor)

Weather outlook – Friday and Saturday will be cold with essentially no DD60 accumulation. The air temperature starts to warm up toward the middle of next week with highs in the low 70s and lows in the high 40s.

South Tennessee (Memphis)

Predicted DD60 accumulation over the next 5 days – 13 (Poor)

Weather outlook – Friday and Saturday expect highs in the low 70s and lows in the low 50s. Monday will be the coldest of the next 5 days with highs just in the high 60s and lows in the high 40s. Temperatures warm up toward the middle of the week with highs in the low 70s and lows in the mid 50s.

| Forecast DD60s after planting | Estimated Planting Conditions |
|--------------------------------------|--------------------------------------|
| <10 | Very Poor |
| 11-15 | Poor |
| 16-25 | Marginal |
| 25-50 | Good |
| >50 | Very Good |

Cotton Weed Control (Larry Steckel)

With the rush to plant over the next week or so, it can become difficult to remember what variety was planted in which field. Over the past several years, that was not a big deal as most fields were a Roundup Ready cotton variety. Now with many folks trying a few acres of Roundup Ready Flex as well as Liberty Link cotton, forgetting what variety was planted in a field is a problem. It is fairly quick and easy to determine if an unknown variety is Roundup Ready or Liberty Link. Simply spray a few plants at the end of a row and come back 5 days later and see if the plants are still alive. It is not so easy to distinguish Roundup Ready cotton from Roundup Ready Flex cotton. Therefore good record keeping up front will be even more critical when managing both Roundup Ready and Roundup Ready Flex cotton. In research where we simulated the Roundup Ready Flex system by spraying after

the 4th true leaf on Roundup Ready cotton, we have lost up to 400 lbs of lint.

The discovery in 2005 of glyphosate-tolerant (2x) Palmer pigweed in Lauderdale and Crockett counties along with full blown glyphosate-resistant (12x) Palmer in Georgia points out the need for a resistance management plan with this weed in mind. Roughly 90% of our cotton acres will get some kind of PRE emergence herbicide application that will have some activity on pigweed. That is a good start but typically, those will last somewhere around 3 to 5 weeks after application. I really feel it is very important to have something mixed in with one of the glyphosate applications prior to the 5th true leaf that has good activity on pigweed. This is particularly true if no PRE was used. There are only two labeled herbicides that can be mixed with glyphosate over the top of cotton, Staple and Dual Magnum. Roughly 40 to 60% of the Palmer pigweed in Tennessee is already resistant to ALS inhibiting herbicides like Staple. Therefore by default Dual Magnum is the best choice. This leads to the question of generic Duals.

Several generic metolachlor (Dual) products are on the market and some are labeled for over the top applications in cotton. In general, generic products perform similarly to brand names. However, this may not be the case where metolachlor is concerned. The herbicide metalochlor is a 50/50 mixture of two isomers, referred to as R and S. Isomers are compounds that have the same chemical formula but the elements of the molecules are arranged slightly different. This arrangement can have an impact on herbicidal activity. Research first conducted by Ciba and later by several universities, including most recently at Colorado State, has shown that the *S*-isomer has more herbicidal activity than the *R*-isomer. Dual Magnum contains approximately 88% of the more herbicidally active *S*-isomer (thus the designation *S*) and 12% of the less active *R*-isomer. When Dual Magnum was introduced the rates were lowered about 30% from the old Dual rates to account for the increase of the *S*-isomer. The generic Stalwart and Me-Too-Lachlor, like the original Dual, contain equal parts of the *S*- and *R*-isomers of metalochlor. The concern stems from the fact that the rates labeled for Stalwart and Me-Too-Lachlor are the same as the rates for Dual Magnum. However, Stalwart and Me-Too-Lachlor contain less herbicidally active molecules pound for pound.

The question is -- will equal rates of the generic metalochlor products provide similar weed control as the *s*-metalochlor brand names? In some fields where weed pressure is not intense or where the environment is favorable it is likely that no difference could be detected between the two. However, in fields with a history of pigweed or signalgrass that can emerge well into July, or under environmental conditions that favor rapid herbicide breakdown the reduced activity of metalochlor compared to *s*-metalochlor may be evident.

Insect Issues (Scott Stewart and Russ Patrick, IPM Specialists)

Cotton: It is hard to have many big issues when most of the crop is not out of the ground. However, we have had some short planting windows since mid April. Some cotton has been planted for three or more weeks, and it is still small (1-2 leaf or less). In tests that we evaluated this week, 21 days after planting, all the plots with an at-planting thrips treatment have much lower thrips numbers than do the untreated plots. On the down side, we are also seeing immature thrips beginning to show up and evidence of thrips injury (even with the best treatments). This is expected. First, in slow growing cotton, even low numbers of migrating adults will cause some feeding injury before they pick up a lethal dose of insecticide. Second, the best seed treatments, such as Cruiser and Gaucho Grande, will begin to slip after about three weeks. Temik will normally give you an additional week of control. The appearance of immature thrips is a sign that at-planting treatments are failing. The good news --

there is often a benefit of treatment for 30-40 days after planting because it takes time for thrips populations rebound after insecticide efficacy begins to fade.

What does this mean? Considering the cool and wet conditions, this is a situation where any April planted cotton has a good chance of benefiting from a foliar application for thrips. Recommended insecticides and rates are below. It is important that treatments go on early rather than late, preferably no later than the second true leaf. The need to spray May planted cotton will depend upon thrips pressure and how quickly it grows. UT recommends treatment when 1⁺ thrips are found per plant, but I don't get too excited about a few adults unless I'm also seeing immatures. The best way to sample is to pick a bouquet of 2-3 plants and shake them vigorously over a white surface. Of course you do this at 5-10 places in each field. An empty Cool Whip container or cigar box works well and even better if you have some hardware cloth covering the top. The immatures are usually the small, slender and yellowish critters moving about. Some adults may be the same color, but they are usually darker.



Recommended Foliar Thrips Treatments

| Insecticide | Rate (product per acre) |
|------------------------------|-------------------------|
| acephate 90 (Orthene 90S) | 3.2 oz |
| diclotophos (Bidrin 8E) | 1.6 - 3.2 oz |
| dimethoate 4E | 4 - 8 oz |
| methamidophos 4 (Monitor 4E) | 3.2 - 6.4 oz |

Relatively low rates of pyrethroid insecticides also have decent activity on thrips. A potential advantage is that they will control cutworms. The disadvantage is they are better at creating early-season aphid and spider mite infestations. In the past, virtually every field I've seen in Tennessee that required an early-season treatment for aphids had previously received a pyrethroid application. Avoid them unless you actually have cutworms.

Corn, Soybeans and Wheat: There are no indications that we have any widespread problems. I've not heard any recent complaints about cutworms, and we are just about out of the woods for true armyworms in wheat. This does not mean to quit looking. Birds in your fields can be an indication of armyworms in wheat (they like to eat them). Cutworms are a potential problem in almost any seedling crop. Continue to scout.

I'm still getting a smattering of calls about thrips in soybeans. I am passing along some pictures of thrips and thrips injury on soybeans from my counterpart in Mississippi (Angus Catchot). You may have seen these in their newsletter from last week. They have been treating some fields for thrips, and as you can



tell from his pictures, they had some big infestations. Thrips are not usually considered a threat to soybeans. Older research shows that treating thrips in soybeans rarely pays. However, in extreme cases such as high thrips numbers in slow growing beans, there may be a benefit of treatment.

It is normal for there to be thrips on most plants. As I indicated in last week's newsletter, there is not an established threshold for thrips in soybean. It is a judgment call. One criterion for treatment would be obvious thrips injury to most plants. Unlike cotton, soybeans leaves do not "cup" as readily from thrips injury. If you see cupping like pictured on the right and thrips are causing the injury, there should be many thrips present per plant (best guess, 10^+ per plant). Otherwise, think dicamba injury. Orthene and several other acephate products would be my first choice for thrips control at a rate of 0.25 lbs product per acre. If you are also targeting bean leaf beetle or three-cornered alfalfa hoppers, a higher rate can be used (0.5 lb).



You can definitely improve the looks of seedling soybeans by spraying thrips, but don't routinely expect a yield response. That is why there is not an established threshold. Again, if you have to look hard to find thrips or thrips injury in soybeans, you don't have a problem (or you need glasses).

Corn and Soybean Production (Angela Thompson, Extension Corn and Soybean Specialist)

Crop Update: Our corn crop is in pretty good shape, even if we have no March planted corn to speak of this year. Growers got a good bit planted in April and we currently have over 90% of acres planted statewide. With generally good April planting conditions, I have not found many fields with uneven emergence or stand. That was not the case last year, when soils turned wet and cold in mid April. Switch to a Bt hybrid if you are still planting corn at this time. As soil temperatures continue to increase and with adequate moisture, there is little need to plant seed more than 1.5 inches deep. Plant the same population you would have in April.

Will we run out of nitrogen in corn this spring?? Probably not, even though some areas have received fairly frequent rains. Fields that received some nitrogen as a lay-by generally lose less N compared to fields that had everything put out at planting, and wet bottom fields or fields that flooded will be more prone to excess N loss.

I have the feeling that our soybean crop is going to be a little difficult this year. Some growers took advantage of warm April weather and got some Maturity Group 3's and 4's planted. With generally mild April weather, I have not heard of any replanting needed. We have planted a few acres in May-but the bulk will go in the next few weeks. According to the latest report from Tennessee Agricultural Statistics we are actually on track (about 13%) compared to our five year average. It just doesn't seem that way to me, but that may be because the state soybean specialist was not able to get her plots in by May 10th as in previous years!!

Time wise, we are still in good shape to plant either a Maturity Group 3, 4 or 5 soybean. I would suggest getting those 3's and 4's in as soon as practical since a Group 5 bean can be planted into June

if necessary. Most fields that I have scouted look pretty good - leaf feeding and some thrips but in good shape for the most part. The most unusual damage so far has been suspected crawfish damage (cut plants) in one field in Dyer county. With predicted lower temperatures in the forecast and wet conditions, monitor the bean crop for disease, particularly where no fungicide seed treatment was used. Drier weather is hopefully right around the corner and we can continue on with the business of planting soybeans.

Asian Soybean Rust and Sentinel Plots: Pathologists across the southeast continue to monitor new growth kudzu (green emergence this spring) and emerged soybean sentinel plots. There was a report today from Florida with suspected rust on new growth kudzu in Gadsden county (Florida panhandle). Up to now, no other southeastern state has found any rust on new kudzu growth or sentinel soybeans. There are unconfirmed reports of rust in Mexico in an area that had it last year, so we are keenly interested in scouting reports from Texas. Texas continues to monitor sentinel soybean and kudzu as well as their production soybeans and have not found anything to report at this time.

Tennessee has eight soybean sentinel plots planted and growing nicely in west TN, four planted and up in Middle TN, with more to come. Our goal is to monitor 16 plots across the state in addition to kudzu and report our PCR testing results in this newsletter by the end of each week. Spore traps will be installed later this month and will be checked weekly.

Attention Grain Handlers: We are approaching the final deadline for recordkeeping requirements imposed by the Public Health Security and Bioterrorism Preparedness and Response Act of 2002, which was part of Homeland Security legislation. This legislation is intended to provide a database of raw agricultural commodities once they leave a grower's field so that in the event of a possible bioterrorism event, the source of the commodity can be traced. Some bullet points to be aware of:

- Deadline to have recordkeeping system in place is June 9, 2006
- Farmers are exempt but should keep up with varieties/hybrids planted
- Applies to all commercial grain handlers and feed mill operations regardless of size
- Required to register any facility with the FDA that handles, stores, cleans, ships corn, soybeans or other raw agricultural commodities
- Facility is required to have a recordkeeping system in place that documents all grain received with brand/variety of seed handled. Records must be kept for at least one year.
- More details can be found at www.iowagrains.org.

Tennessee Pheromone Moth Trapping Summary - Trapping efforts are funded in large part by the Tennessee Cotton Incorporated State Support Program.

Numbers of Moths per Week (Week 2, ending 5-11-06)

| Trap location | Tobacco Budworm | Corn Earworm (Bollworm) | Beet Armyworm | Southwest. Corn Borer |
|-------------------------|-----------------|-------------------------|---------------|-----------------------|
| Hardeman (Bolivar) | 2 | 0 | 0 | --- |
| Fayette (Whiteville) | 0 | 0 | 0 | --- |
| Fayette (Somerville) | 0 | 0 | --- | 0 |
| Shelby (Millington) | 0 | 13 | 0 | --- |
| Tipton (Covington) | 0 | 9 | --- | 4 |
| Tipton (West) | 0 | 0 | 0 | --- |
| Haywood (West) | 0 | 2 | 1 | --- |
| Haywood (Brownsville) | 5 | 0 | --- | --- |
| Madison (Exp. Stn.) | 0 | 4 | 0 | 3 |
| Madison (North) | 1 | 0 | 0 | --- |
| Crockett (Alamo) | 0 | 0 | 0 | --- |
| Crockett (Maury City) | 11 | 3 | --- | --- |
| Dyer (Dyersburg) | 1 | 1 | 0 | --- |
| Dyer (Newbern) | 4 | 3 | --- | 1 |
| Lake (Ridgley) | 0 | 0 | 0 | 0 |
| Gibson (Kenton) | 1 | 0 | --- | --- |
| Gibson (Milan Exp Stn.) | 0 | 2 | 0 | 2 |
| Carroll (West) | 1 | 2 | 0 | --- |
| Lauderdale (Goldust) | * | * | * | * |

An asterisk (*) indicates traps was missing, knocked down or not run.

Week 1 Totals -- 4 tobacco budworms and 52 corn earworms across 20 locations; 0 beet armyworms across 12 locations; 3 southwestern corn borers across 6 locations.

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