

IPM NEWSLETTER

Update for Field Crops and Their Pests

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

The Tennessee agricultural statistics agency reports that 92% of the cotton crop was planted as of May 20 this is about 33% ahead of 2006 and about 30% ahead of the five-year average of 62%. From driving around this week I would say we are essentially done planting cotton. A few areas are seeing some replants from herbicide damage, isolated packing rains last week, and even some replants due to poor germination from a lack of adequate soil moisture. Overall the crop is in good condition since most producers have an adequate stand. Cool to cold night time lows last weekend have slowed progression, but growth has resumed with warmer temperatures. The cold snap stressed the crop enough that some chilling injury has been observed, *Rhizoctonia* is present in most fields, and an influx of thrips have some to many fields looking rough.

Most calls this week will be remedied by the warmer temperatures we are now experiencing. Rainfall is need in most areas and would also help improve crop conditions. After some investigation of long term weather prediction I provide the following for insightful thought. The Climate Prediction Center (NOAA/National Weather Service) issues a monthly report on the status of the El Nino/Southern Oscillation (ENSO) in the Pacific Ocean. This months report states that the waters of the equatorial pacific are cooling setting the stage for a possible transition to La Nina conditions. Typically El Nino and La Nina impact our winter weather more than summer conditions. See related information at: <http://www.pmel.noaa.gov/tao/elnino/nino-home.html>. I include this discussion because the last La Nina event produced the warm, dry condition of 1999 and 2000. These events usually span multiple years and have the potential to set us up for dry conditions this year and next year.

DD60 Accumulation (TASS and NWS data)

Location	4/20-5/24	4/27-5/24	5/4-5/24	5/11- 5/24	5/18-5/24
Brownsville	318	270	218	147	45
Dyersburg	344	295	239	134	59
Fayetteville	346	299	236	147	69
Memphis	432	372	296	175	85
Milan	313	266	214	112	42

Weed Control (Larry Steckel, Extension Weed Specialist)

The cool nights and now very dry conditions have caused quite a bit of stress on the corn and cotton crops not to mention the farmers. The May planted cotton particularly looks rough throughout the state as the dry cooler conditions coupled with the occasional surfactant burn from over-the-top herbicide/insecticide application, some herbicide drift in places, some sprayer tank contamination

issues in a place or two, plus seedling diseases and thrips have combined to give this cotton crop a very rough start. Though all our row crops are stressed it is nothing that a good rain would not help.

Cotton Weed Control. I am going to think on the positive side and assume we will get some much needed rain the first part of next week. This of course should cure a lot of ills the cotton is currently suffering and also initiate the first big flush of weeds during this growing season. For the non-Roundup Ready Flex cotton varieties, the time crunch will be on to spray glyphosate prior to the 5th leaf reaching the size of a quarter. Logistically, this often can not be done. Following are some considerations when trying to make the decision on weather to spray glyphosate or not on corn that is past the 5th true leaf:

1. In order to make the best decision it is helpful to be able to distinguish between two pigweed species Palmer amaranth (Palmer pigweed) and smooth pigweed. The reason for this is that much of the Palmer pigweed population in Tennessee is resistant to the ALS inhibiting herbicides like Envoke and Staple while smooth pigweed is not. Therefore the only option post over-the-top to control Palmer is glyphosate. Palmer pigweed can best be identified from smooth pigweed by observing the stem. If the stem and leaves have no hair or spines then it is Palmer. If the stem and leaves have very fine hairs then it is smooth pigweed and can be controlled with Envoke.



2. If the weeds, particularly Palmer pigweed, are in large numbers and it is borderline 5th leaf cotton it is safe to say that much more yield will be lost to the Palmer competition than to a glyphosate application. There is a salvage label that will cover this type of application, but please realize that those first fruits on node 5 and 6 may be lost. However, many more squares will be lost if the Palmer is allowed to compete into the growing season.
3. If the weeds in the field are primarily smooth pigweed and morningglories, then I would hold off on that borderline glyphosate application. The reason for this is that herbicides like Envoke and Staple can effectively control many broadleaf weeds when sprayed over-the-top of cotton and not cause square loss.
4. Of course if the weed pressure is minimal then I would recommend waiting and applying glyphosate later as a post direct or hooded application.

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

Thrips numbers in cotton are high in many areas. Things have turned from pretty good to bad in the span of a week. I've had reports of several to dozens of thrips per plant on cotyledon and 1-3 leaf cotton -- mostly adults but sometimes with significant numbers of immatures already present. There have been many phone calls and a lot of spraying going on. The cold snap last week hurt, and the dry weather is aggravating the problem. I often say "if it is wet enough for cotton to grow, it is wet enough for plants to take-up the at-planting, if-furrow insecticides and seed treatments." However, it is now dry enough in some areas that at-planting treatments appear to be failing. The prematurely drying or dying wheat, along with the same thing happening to alternate weed hosts, is pushing thrips onto emerging cotton. I'll repeat myself from last week (below).

- Consider spraying thrips at the 1-2 leaf stage if cotton has emerged poorly and is growing slowly. As a rule of thumb, if cotton was planted over 18-20 days ago and it is still not past the second leaf stage, a spray may be needed. The presence of immature thrips is a tip-off that treatment is necessary. This is a must if the only at-planting treatment was acephate.
- Use Bidrin (2.5 - 3.2 oz/acre) or acephate (0.2 - 0.25 lb/acre). A pyrethroid in combination with the current dry weather is too likely to flare spider mites.

Of course, thrips numbers play a role in the decision. UT's current treatment threshold is 1⁺ thrips per plant. However, I seldom recommend spraying thrips in cotton at this level or below unless a portion (20% or more) of this population is immature thrips (indicating the seed treatments are failing). Also, I usually only apply the threshold to cotton with three or fewer leaves. It would take higher numbers before I would normally spray cotton past the third leaf stage. Keep in mind that thrips injury can result even when at-planting treatments are working. Adults need to feed and ingest the systemic insecticides before they will die, so some feeding is inevitable. When migration into the field is high, significant injury can occur just from the presence of adults. *We have enough pressure in some areas, that spraying thrips will be justified on 1-2 leaf cotton even if Temik, Gaucho or Cruiser were used.* I am concerned that, without a good rain, we may be back in the same situation in 4-5 days after treatment if the thrips invasion continues. Below are a few more situations where treatment is definitely warranted.

- Spray any cotton that has less than three leaves if it is averaging 1 or more immatures thrips per plant.
- Spray if thrips numbers average 3 or more per plant (adults or immatures) if plants have less than four true leaves.

I reported on **false chinch bugs** last week, which can kill seedling plants quickly when present in large numbers. The problem appears to be isolated to one area in Haywood County. I've included a better picture of the nymphs on cotton (right), but these can potentially affect other crops as well. This cotton was putting out the first true leaf, and the seed was treated with Gaucho Grande. It was clear that the Gaucho was killing some nymphs, but it was not sufficient or fast enough to keep the insects from killing plants. One application of Bidrin at 6 oz/acre did not provide complete control.



White margined burrowing bugs are hanging around this year. We've seen this insect in the past. The immatures are sometimes confused with immature stink bugs. We often see these critters in no-till fields of all crops. I have not been able to document that even large numbers of these bugs cause any economic damage to our crops. My recommendation is to ignore them.

White Margined Burrowing Bugs (adults left, nymphs right)



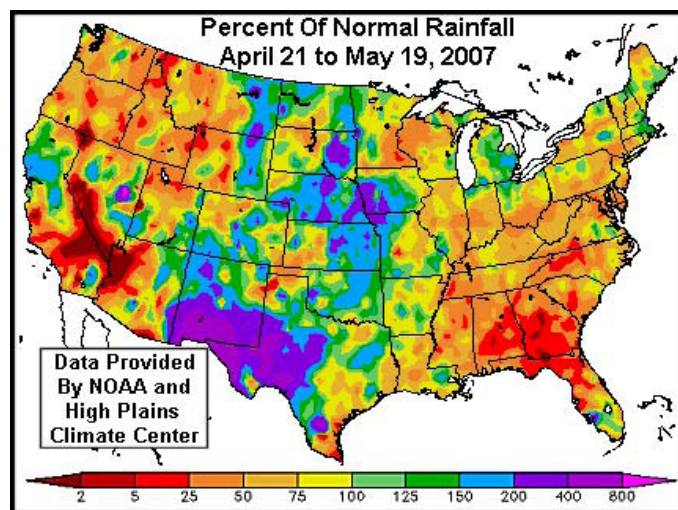
Spraying corn with insecticide, etc. The first southwestern corn borer flight is off to a slow start. This moth flight has been running late across the Midsouth, but I am starting to think it may be a much smaller flight than last year. In a few weeks, I'll talk about the need for spraying field corn with insecticide. There has been a lot of talk about including an insecticide with fungicide when spraying at first tassel. Here are a few points to consider.

- European and southwestern corn borers would likely be the primary target of insecticides sprayed on corn during early tasseling. However, Bt corn provide essentially complete control of corn borers.
- It is possible for stink bugs to damage the very small, developing ears present during early tasseling, but this rarely happens in our neck of the woods. Otherwise, I have a hard time thinking of a pest that could cause economic damage at first tassel.
- Corn earworms and silk clipping insects are NOT the target of applications at first tassel. It is just too early in plant development to expect control -- ears or silks are not visibly present at first tassel. Besides, attempting to control earworm feeding in ears has a long history of being economically unfeasible in field corn.

Farm Management Update (Chuck Danehower, Area Specialist – Farm Management)

The excellent planting weather we have had so far in May has quickly turned to concern over lack of moisture. The chart below shows that for the last month, West Tennessee on the average has had 25% - 50 % of normal rainfall.

As we know from previous years, a timely shower can overcome a general lack of moisture. Unfortunately, projections from Drew Lerner of World Weather Inc. (former Tennessee Grain & Soybean Conference speaker) indicate a bias for



above temperature and below precipitation for West & Middle Tennessee and the eastern Midwest. We shouldn't necessarily expect relief from tropical storms. Based on weather patterns, World Weather, Inc. sees the potential for tropical storms to run up the Texas coast and the Atlantic coast. The central Gulf of Mexico region is not projected to see as much tropical storm action this summer.

How will this affect your marketing plan? At this time, I would take a conservative approach. Using realistic average yields for corn and soybeans, price no more than 40% - 50% of your crop using forward contracts. I would look at this pricing strategy from the standpoint if the current weather projections hold; there may be a shortfall in individual producer's production. We can look at the recent problems with wheat to realize over booking is not a pleasant situation. Prices will remain volatile over the summer. If you want to have some type of price floor set, then put options, although expensive will allow you to lock in a floor and still maintain the upside. If you have concerns about having a production shortfall, the use of put options rather than forward contracts is worth exploring. Options can be purchased through a broker or sometimes tied to an existing forward contract through your grain elevator. Check with these two sources for the strategies they have available. The weather, like commodity markets is difficult to accurately project. Information may change as we go through the growing season. If you are not doing so already, review on at least a weekly basis marketing & weather information. Some of the websites I review are Dr. Gerloff's at <http://web.utk.edu/~quince/> and one from Virginia Tech at <http://www.ext.vt.edu/news/periodicals/roberts/>. The daily comments at <http://www.farmfutures.com/> are also useful as well as subscriptions to weekly publications. If you would like information on options, contact your UT Extension office.

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 3, Ending 5-23-07)

Trap Location	Tobacco Budworm	Corn Earworm (Bollworm)	Beet Armyworm	Southwestern Corn Borer
Hardeman (Bolivar)	1	0	0	---
Fayette (Whiteville)	0	0	0	---
Fayette (Somerville)	0	0	---	0
Shelby (Millington)	16	*	0	---
Tipton (Covington)	24	0	0	---
Tipton (North)	0	3	---	0
Haywood (West)	*	*	0	---
Haywood (Brownsville)	0	0	---	---
Madison (Exp. Stn.)	14	0	0	1
Madison (North)	1	20	---	---
Crockett (Alamo)	3	0	0	---
Crockett (Maury City)	12	0	---	---
Dyer (Bogota)	0	1	0	---
Dyer (Newbern)	0	5	---	0
Lake (Ridgley)	0	7	0	---
Gibson (Kenton)	4	0	---	---
Gibson (Milan Exp Stn.)	3	0	1	1
Carroll (West)	6	0	0	---
Lauderdale (Goldust)	8	4	0	---

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

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Scott D. Stewart (editor)
Extension Cotton IPM Specialist

