

# IPM NEWSLETTER

## Update for Field Crops and Their Pests

No. 14

July 2, 2009

Past newsletters and other information can be found at [UTCrops.com](http://UTCrops.com)

Bookmarks: [Cotton update](#) [Weed control](#) [Insect stuff](#) [Farm management](#) [Moth traps](#)

### Soybean Scout Schools in Middle Tennessee

- July 14<sup>th</sup> (Tuesday) 9:00 AM Cannon Co. (Location TBA)
- July 14<sup>th</sup> (Tuesday) 1:30 PM Lincoln Co. (63 Benson School Rd., Kelso, TN)

[Click here for Directions to the Soybean Scout Schools.](#) 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 5% excellent, 60% good, 29% fair, 5% poor, and 1% very poor. 40% of the crop is squaring compared to 26% last week, 32% last year and 68% for the five year average.

This week's big topic has been the USDA acreage report. Tennessee was listed as having planted 340,000 acres of cotton. I believe that this represents intended plantings and fields that were replanted to soybeans. Tennessee Boll Weevil Eradication Program (TNBWEPE) has currently mapped 130,000 acres in northwest TN, 136,000 acres in southwest TN, and 16,000 in middle TN totaling 282,000 acres down only 3,000 acres from 2008. While this is well below our intended cotton acres due to April and May rains, we rank 5<sup>th</sup> out of 17 states in the United States for cotton acres this year. Please see the two paragraphs below from the USDA acreage report for procedures used to estimate acreage.

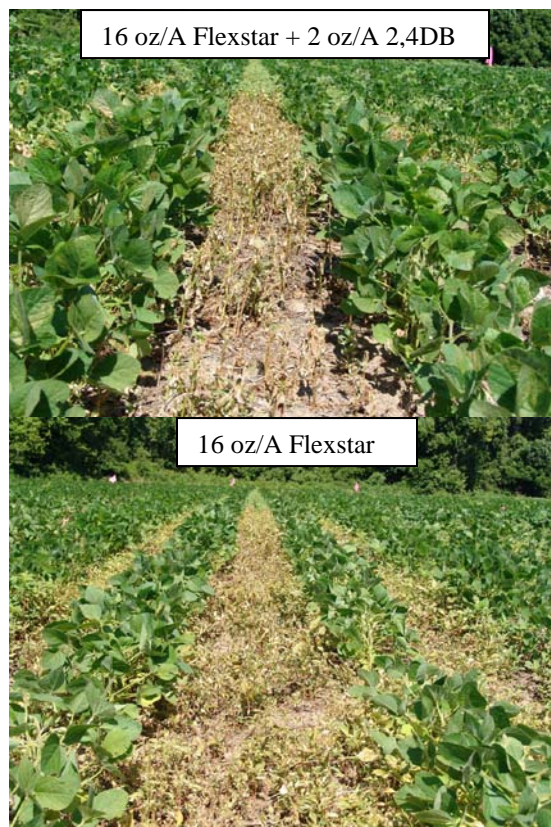
**Survey Procedures:** The estimates of planted and harvested acreages in this report are based primarily on surveys conducted the first 2 weeks of June. These surveys are based on a probability area frame survey with a sample of approximately 11,000 segments or parcels of land (average approximately 1 square mile) and a probability sample of over 87,000 farm operators. Enumerators conducting the area survey contact all farmers having operations within the sampled segments of land and account for their operations. From these data, estimates can be calculated. The list survey sample is contacted by mail, internet, telephone, or personal interviews to obtain information on these operations. Responses from the list sample plus data from the area operations that were not on the list to be sampled are combined to provide another estimate of planted and harvested acreages.

**Reliability:** The survey used to make acreage estimates is subject to sampling and non-sampling type errors that are common to all surveys. Both types of errors for major crops generally are between 1.0 and 6.0 percent. Sampling errors represent the variability between estimates that would result if many different samples were surveyed at the same time. Sampling errors cannot be applied directly to the

acreage published in this report to determine confidence intervals since the official estimates represent a composite of information from more than a single source. The relative standard errors from the 2009 area frame survey for U.S. planted acres were: barley 7.6 percent, corn 1.1 percent, upland cotton 3.5 percent, sorghum 5.5 percent, soybeans 1.1 percent, winter wheat 1.9 percent, and other spring wheat 3.9 percent.

### Weed Control (Larry Steckel, Weed Specialist)

**Glyphosate-Resistant Palmer Amaranth Rescue Treatments in Soybean.** The calls have been coming in on what to do with Palmer amaranth that has survived high rates of glyphosate or glyphosate plus a PPO herbicide (Flexstar, Cadet, etc). This Palmer amaranth is typically 8 to 12 inches tall. Unfortunately, I do not have any silver bullets! I have tried several rescue treatments which include 16 oz/A Flexstar, 8 oz/A Flexstar, 0.6 oz/A Cadet, or 2 oz/A 2,4-DB. None of these treatments alone provided a satisfactory level of control of escaped Palmer amaranth. However, when I tankmixed 16 oz/A Flexstar with either 0.6 oz/A Cadet or 2 oz/A 2,4-DB it appeared 5 days after application that we were able to improve control from 50% to 70% of escaped larger Palmer. We will continue to monitor regrowth of these treatments next week. I know that having 30% surviving GR Palmer amaranth is way too many in most cases but when GR Palmer amaranth gets some size, we are in a rescue mode. The goal is having some soybeans to harvest this fall. It is way too late to stop yield loss from competition.



**Glyphosate-Resistant Palmer Amaranth Rescue Treatments in Cotton.** Questions on good hooded or post direct treatments for Palmer amaranth have been common this week. When glyphosate will no longer provide Palmer control the only option is to use some of the very hot hooded applications that were common 10 years ago. The best GR Palmer amaranth hooded application I know of is 32 oz/A of Gramoxone Inteon + 1 oz of Valor + 0.25% crop oil (Picture Right). This is obviously a very hot mixture. Some other options that have worked well on GR Palmer amaranth are listed below:

**Direx 32 oz/A + Valor 1.5 to 2 oz/A + MSMA 2.67 pt/A or Glyphosate 0.75 lbs ae/A – Cotton should have 4” of bark to reduce chances of cotton stem injury.**

- Advantages: Good burndown and residual pigweed control. Direx + Valor tankmix can burndown large GR Palmer as well.
- Considerations: MSMA should be the tank-mix of choice with Valor in fields where GR Palmer is present. Sloppy post-direct of Valor will burn cotton leaves.

**Layby Pro 1 qt/A** – Equivalent to 16 oz/A of Direx + 16 oz/A of Linex. Add one percent crop oil for better control.

- Advantages: Good control of many grasses and broadleaves including pigweeds and morningglories. This premix will provide some residual pigweed control.
- Considerations: This premix can be weak on grasses. The addition of MSMA 2.67 pt/A of 6L formulation or glyphosate at 0.75 lb ae/A will control grasses. Sloppy post-direct of Linex will burn cotton leaves.

**Ignite 280 29 oz/A** – Cotton must be at least 6” tall.

- Advantages: Will cause little crop injury if cotton is a WideStrike variety. Ignite can control tall horseweed and giant ragweed. It provides good control of many broadleaf weeds including morningglories and GR Palmer up to 8” tall.
- Considerations: Some regrowth of large Palmer pigweeds can happen. Aim may be tankmixed with Ignite to improve burndown of large pigweeds. Ignite will offer no residual control. Caparol may be tankmixed with Ignite to provide residual pigweed control.

**Caparol 32 oz/A + MSMA 2.67 pt/A or Glyphosate 0.75 lbs ae/A** – Cotton must be at least 6” tall.

- Advantages: Causes less injury than some other tankmixes and is also economical. The Caparol + MSMA mixture has taken out some GR Palmer in past years if they were smaller than 6”. Caparol will provide good residual control of pigweed and horseweed.
- Considerations: Caparol and MSMA or glyphosate tankmixtures need good agitation to stay in suspension.

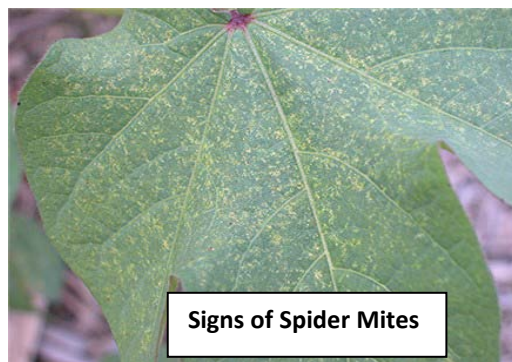
### Insect Considerations (Scott Stewart, IPM Specialist)

**Current Problems.** Tarnished plant bug populations in cotton are starting to increase across a wider area. Use a threshold of 8 plant bugs per 100 sweeps during the first two weeks of squaring. Increase the threshold to 15 bugs per 100 sweeps after this point. I’ve had a report of 50-100 bugs per 100 sweeps in several fields in Gibson County. This is a situation where rapid action is needed. Treat with insecticide immediately. Because you don’t know how long this migration will continue, sample 3-4 days after treatment and plan on spraying at a 4-5 day interval until the pressure subsides. Use high rates such as Centric at 2.0 oz/a, Trimax Pro at 1.8 oz/a, or Carbine at 2.8 oz/a. I have not seen value in tank mixing with other insecticides even under these high pressure situations -- efficacy is not the issue -- rather just whether the pressure continues. Reminder: pay attention to ditches, roadways, waste areas and other sources of plant bugs. There is a lot of daisy fleabane around this year, one of the many great hosts for tarnished plant bugs. Some poorly timed mowing, and boom, you got an instant problem.

Avoid pigweeds when sweeping for plant bugs. This is becoming more important with the increasing occurrence of resistant Palmer pigweed in some areas. Pigweeds are another great host for tarnished plant bugs. There can be ‘tons’ of plant bugs on flowering pigweeds plants, and sweeping pigweeds in a cotton field can inflate your counts even though the bugs are not on the cotton. A consultant recently

gave me a good suggestion. He relies more on square retention when he finds himself in this situation. Tarnished plant bugs are not particularly finicky. Other favorite hosts include horseweed, alfalfa, among others; but they prefer these plants flowering.

I'm also seeing and getting more calls about spider mites in cotton, but only a few applications are currently being made. For spider mites, use a threshold of 30-50% infested (or affected) plants. No other insect problems are being reported with the exception of stink bugs showing up in some early soybean fields and even a few early cotton fields.



**Sampling – When Have You Done Enough?** This is going to get a little philosophical and preachy. I will use plant bugs in cotton as an example. Just how many sweeps is enough to make a confident spray decision? [Recent research](#) in the Midsouth indicated that it took 4-6 sets of 25 sweeps to confidently make a spray decision. 100 sweeps per field is typically the minimum sample size for plant bugs in cotton. You may need to take 150 sweeps when infestations levels are close to the treatment threshold. The answer also is influenced by infestation levels. Sometimes you can get away with a smaller sample. For example, you may catch 15 tarnished plant bugs after just 50 sweeps, so you are already over threshold. Or you may have caught just 1 stink bug in 75 sweeps of a soybean field. Thus, you are fairly confident you will not break the treatment threshold in the next set of 25 sweeps. But I repeat, 100 sweeps per field is typically the minimum sample size.

Are you cheating? In the scenario below, I will use UT's threshold of 8 plant bugs per 100 sweeps during the first two weeks of squaring. A friend half jokingly gave this example. "If you make 4 sets of 25 sweeps and catch 2, 2, 2 and 0 plant bugs in each set, then 75% of the field is at threshold, so let's spray this part of the field ... and we might as well spray the other part while we are there." Of course this is "shaving" the threshold. You certainly haven't sampled enough to conclude that one part of the field has more bugs than another. If I reversed the scenario (0, 0, 0, 2) would you treat 25% of the field? Would you quit sampling after just 25 sweeps if you only found one plant bug? How about if you found 1, 8, 7 and 5 bugs per 25 sweeps; would you only spray 75% of the field?

Why do we shave thresholds? First is the belief that two insecticide applications must be better than one. However, applying insecticide is like taking prescription medication, putting oil in your car, or how much you eat for dinner. There is a right amount. Too little is not good. Too much costs more and can hurt in the long run. The biggest reason we cheat is just good ole' human nature. We get nervous if we don't spray. We want to spray. It makes us feel more secure. *But don't ignore your own numbers. The reason we sample (and use standardized methods) is to get unbiased information. In the above scenario, the best conclusion is that the field is **not** at threshold. The correct decision is to either not spray or take another 50 sweeps to improve the confidence in your number. You could use square retention to reassure yourself. Rest assured that most treatment thresholds already have a built in safety margin and shaving is unnecessary.*

**Quit Calling About Japanese Beetles.** I'm only half joking. It would be unusual to treat for Japanese beetles in corn, soybean or cotton. The adults (pictured below) are primarily defoliators although they do feed on flowers and on the silks of corn ears. I've never seen a field with enough injury that I would consider treating. There are reports that silk clipping in corn can affect pollination when it happens during very early silking. However, published treatment thresholds are quite high, ranging

from 3-10 per ear. In previous years I've been concerned about seeing many beetles in emerging seedling soybeans, but I've not observed serious defoliation (> 20%) even in this circumstance.

Never say never. I expect increasing problems with Japanese beetles as they become more established across West Tennessee. This insect was accidentally introduced into the Northeast decades ago and has been slowly expanding its range. The biggest issue with Japanese beetles is their habit of eating ornamental plants and flowers, and the grubs are a significant turfgrass pest. You can read up on their biology in this online publication - <http://www.utextension.utk.edu/publications/pbfiles/PB946.pdf>.



**Southwestern corn borer (SWCB)** moth catches in pheromone traps (see attached) are just starting to rebound as we kick off the second generation. We will catch many more moths over the next few weeks. Mid July will be the early peak of this moth flight in most areas, and this would be a good time to consider spraying non-Bt corn, especially in areas where first generation moth catches were relatively high. There are folks spraying fungicide right now and some will even throw in an insecticide. Unfortunately it is at least 10-14 days too early in most areas to really help control SWCB in non-Bt corn. I had a test last year where one insecticide application (on July 16) increased yields 21-41 bushels/acre in non-Bt corn. This kind of yield response certainly justifies taking SWCB seriously. Point #1: a properly timed insecticide application in non-Bt corn may be more important than applying a fungicide, or you may have to make two separate applications to do things right. Intrepid (4-6 oz/acre) is my first choice for controlling SWCB in tasseling corn because it provides good residual control. Pyrethroid insecticides such as Hero, Karate, Baythroid, Prolex/Declare, Asana XL, etc. also can provide good control. Remember, the later the corn, the more attractive and susceptible it will be as the season progresses. It is very possible that relatively late non-Bt corn could justify two insecticide applications in high pressure situations. Point #2: You can not know if you are in a “high pressure” situation unless you are running moth traps and/or scouting. Run pheromone traps!

**Regional Report (Hayden E. “Gene” Miles, Area Extension Specialist, Northwest Tennessee).**

This week signs of dry weather are being noted particularly in droughty areas of fields (cotton wilting, corn leaves twisting). Irrigation is being used where possible to correct dry conditions. Other parts of the area have received as much as 4 inches of rain last week which caused some field to be planted or replanted for the fourth time. Growth stages being reported from county IPM programs and private consultants range from 7<sup>th</sup> to 11<sup>th</sup> node. All cotton fields being reported this week are squaring except for some replanted areas. Blooms (white and pink) were noted on June 29 in more mature 14<sup>th</sup> node cotton in the Delta planted on April 18<sup>th</sup>. Plant bug numbers are increasing this week with numbers reported from IPM scouts and private consultants ranging up to 50/100 sweeps and/or 0.6 per row feet. The threshold for plant bugs in the 3<sup>rd</sup> week squaring cotton up to first bloom is considered to be 15 or more per 100 sweeps or 2 or more per 6 row feet. Square retention reported this week by our IPM program and private consultants is ranging from 90-100 percent. Clouded plant bugs are being observed this week. Immature clouded plant bugs can be distinguished by either black and white or maroon and white stripes around the antennae. Stink bug numbers being reported from county IPM programs range up to 0.8 per 6 row feet. Private consultants are reporting light infestations of spider mites. The threshold is considered to be when 30-50 percent of plants are affected and mites are still present. Beneficial insect counts this week range up to 10/6 row feet.

**Farm Management (Chuck Danhower, Area Specialist - Farm Management)**. USDA released a surprising Acreage Report on June 30. Comments on this report can be found at <http://economics.ag.utk.edu/outlook.html>.

Make plans to attend the 8<sup>th</sup> Annual Mid-South Agricultural Finance Conference on Wednesday, August 5, 2009 at the UT Martin University Center in Martin, TN . Producers and agri-business looking for up to date agricultural and farm financial information that can be applied directly to their operation or business should plan to attend. This is one of those conferences that by picking up just one idea or principle can make all the difference in your operation. The conference starts with registration and continental breakfast at 8 a.m. and will adjourn at 3 p.m. The registration fee is \$75 for producers.

Speakers for this year's conference include Dr. Tom Payne, UT Martin; Dr. David Kohl, Virginia Tech; and Carl Babler, First Capital Ag, and author of the Six Step Grain Hedge Plan. The conference will be broken into four informative segments:

***Around the Corner and Down the Road: A Practical Guide for Interpreting Economic Change.*** This session will discuss specific opportunities and pitfalls to watch for and how they will affect your operation.

***Credit and Risk Management for the Producer/Lender Team.*** A strong producer/lender partnership working together to maximize profits and control risks is critical to success. Dr. Kohl will focus on the latest benchmarks and key financial indicators for success.

***Commodity Prices, Government Policies and Global Forces: Preparing for the (Un)Perfect Storm.*** The effects of global commodity demand and changing government regulations, including cap and trade and other options for carbon policy will be discussed. Information on who may gain additional profits and who may see their costs increase will be explored.

***Best Practices in Risk Management for the Producer/Lender Team.*** This session is designed to help producers and lenders actively manage risk. Specific focus will be given to effective hedging opportunities for producers.

For additional information, please contact: Dr. Tom Payne at UT Martin, phone: 731-881-7324, email [tpayne@utm.edu](mailto:tpayne@utm.edu) or register on-line at [www.utm.edu/agconference](http://www.utm.edu/agconference) . Hope to see you there.

**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 9, Ending 7-1-09)**

Trap Location	Tobacco Budworm	Corn Earworm (Bollworm)	Beet Armyworm	Trap Location	Southwestern Corn Borer
Hardeman (Bolivar)	3	0	0	Fayette (Whiteville)	0
Fayette (Whiteville)	0	4	---	Tipton (Covington)	2
Fayette (Somerville)	0	0	1	Madison (WTREC)	5
Shelby (Millington)	1	7	0	Crockett (Maury C.)	0
Tipton (Covington)	2	0	---	Obion (Midway)	3
Tipton (North)	5	0	0	Obion (Crockett)	6
Lauderdale (Goldust)	4	53	0	Obion (Union City)	0
Haywood (West)	0	2	0	Obion (Obion)	1
Haywood (Brownsville)	*	6	---	Lake (Owl Hoot)	0
Madison (WTREC)	0	7	3	Lake (Croanville)	0
Madison (North)	0	3	0	Lake (New Markham)	2
Crockett (Alamo)	0	4	0	Haywood (B'ville)	*
Crockett (Maury City)	0	7	1	Haywood (Hwy 19)	*
Dyer (Dyersburg)	5	3	0	Dyer (Newbern)	9
Dyer (Newbern)	0	29	1	Dyer (Craig Rd)	5
Lake (Ridgley)	*	*	2	Dyer (Hwy 104 E)	19
Gibson (Kenton)	1	0	0	Dyer (Parker Rd)	15
Gibson (Milan REC)	0	0	0	Weakley (Ore Sprg.)	1
Carroll (Coleman Farm)	0	5	0	Weakley (Greenfield)	2
				Weakley (Bean's S.)	10
				Gibson (MREC)	15
				Gibson (Rutherford)	18
				Gibson (Strawberry)	*
				Giles (Tarpley Shop)	3
				Giles (Agnew)	1
				Henry (Tosh Farms)	150
				Lincoln (Molino)	62
				Lincoln (Camargo)	28
				Lincoln (Meridianvil.)	0

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

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**DISCLAIMER STATEMENT**

This publication contains pesticide recommendations that are subject to change at any time. The recommendations in this publication are provided only as a guide. It is always the pesticide applicator's responsibility, by law, to read and follow all current label directions for the specific pesticide being used. The label takes precedence over the recommendations found in this publication. Use of trade or brand names in this publication is for clarity and information; it does not imply approval of the product to the exclusion of others which may be of similar, suitable composition, nor does it guarantee or warrant the standard of the product. The author(s), The University of Tennessee, The Institute of Agriculture and the University of Tennessee Extension assume no liability resulting from the use of these recommendations.

Scott D. Stewart (editor)  
Extension IPM Specialist

