

IPM NEWSLETTER

Update for Field Crops and Their Pests

No. 12

June 1, 2007

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Mark Your Calendar: In-field Soybean Scout Schools will be held in Weakley (9 AM) and Gibson (1:30 PM) counties on June 19 and in Lauderdale (9 AM) and Dyer (1:30 PM) counties on June 20. More details will be next week (also see <http://www.utextension.utk.edu/fieldCrops/upcomingevents.html>).

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

The Tennessee agricultural statistics agency reports that 98% of the cotton crop was planted as of May 29 this is about 12% ahead of 2006 and about 17% ahead of the five-year average of 81%. The crop situation is in fairly good shape considering the lack of rainfall. Thrips pressure is beginning to ease up, or at least most cotton is getting to the stage that it can out grow the damage. There have been some questions about irrigating pre-square cotton this week. Generally there is no benefit to irrigate small cotton unless you are trying to get enough moisture to get the crop up. Typically irrigation should be timed to provide water to the plant during reproductive stages.

The figure below is a generalized schedule for crop development based on heat unit accumulation. Remember that environmental and varietal differences can cause delays in this schedule. With a variety like DP 555 BG/RR we should expect squaring to begin slightly later due to the first fruiting branches being higher on the plant.

Growth Stage	Heat Units	Days
Emergence	50	5-7
First Square	550	40-45
First Flower	950	60
Open Boll	2100	120
Harvest	2300	140

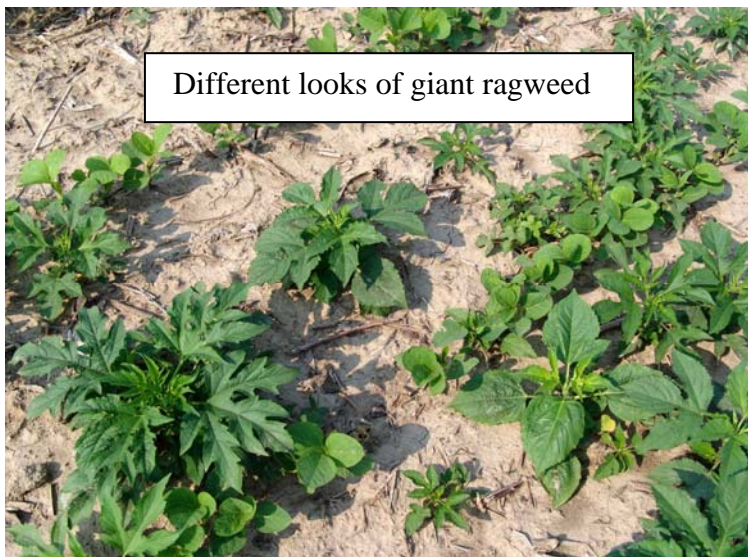
The final numbers are in from the 2006 crop. Tennessee producers averaged 945 pounds of lint per acre, a new state record by 45 pounds per acre, and produced a record 1.368 million bales on 695,000 acres. This was the highest number of harvested acres since 1951. The 2006 yield was nearly 100 pounds per acre better than 2005.

DD60 Accumulation (TASS and NWS data)

Location	4/20-5/31	4/27-5/31	5/4-5/31	5/11- 5/31	5/18-5/31	5/25-5/31
Brownsville	418	370	318	247	145	100
Dyersburg	454	405	349	244	169	110
Fayetteville	455	408	345	256	178	109
Memphis	559	519	423	302	212	127
Milan	411	364	312	210	140	98

Weed Control (Larry Steckel, Extension Weed Specialist)

Giant ragweed is once again showing up in a number of fields in counties along the Mississippi River. In observing this weed it has a few different appearances as some have leaves that are three lobed, five lobed or with no lobes at all. This weed that we tended to think of as mostly residing along field edges and drainage ditches is progressively moving into row crop fields. The trouble is that there is no herbicide that is “lights out” on this pest. Glyphosate will only provide about 60% control at a very high rate applied to 2” to 4” giant ragweed. We are currently looking at different tank-mix options for control in cotton and soybeans. Currently in soybeans, it looks like 0.45 ozs/A of FirstRate plus 32 oz/A of glyphosate may be the most consistent option. In cotton, we are looking at pre applied herbicides and some post herbicides to go along with glyphosate. The best management option is to try to confine giant ragweed to field edges if possible.



Some of the folks who lost their corn stand to the Easter freeze have replanted to cotton. They are reporting poor control of their old Roundup Ready corn with many of the graminicides (Fusilade, Select Max, Arrow, Poast, etc.). It appears that the earlier cold and continuing very dry conditions have impaired the ability of the corn to take up these herbicides. We have seen this in research as well. The answer, judging by our research, is to use the higher labeled rates of these products.



Insect Issues (Scott Stewart, IPM Specialist)

Thrips. If misery loves company, then feel better that most of the Midsouth has been struggling with thrips in cotton. Problems are starting to subside, in part because the cotton is getting larger, in part because thrips numbers are beginning to decline in some places, and finally because we sprayed a lot. Most the thrips are the traditional species, the tobacco thrips (with dark colored adults). There are

flower thrips present in some fields, and I am suspicious that some of these are western flower thrips. The western and eastern flower thrips often have pale colored adults. These two species are difficult to tell apart. Knowing the difference can be helpful because western flower thrips are difficult to control, and the seed treatments are not as effective. MSU had good pictures and some tips for distinguishing between thrips species in their last newsletter (<http://msucares.com/newsletters/pests/cis/2007/mcs707.pdf>).

Because of the high thrips numbers and the presence of thrips 3-5 days after application, some folks are assuming they have western flower thrips. However, in most cases, western flower thrips are not present in high numbers. It has just been a case of high pressure and continued migration into fields. Nevertheless, there are a couple of things to consider if western flower thrips are suspected.

- 1) Use higher rates of acephate (minimum 0.33 lb/a) or Monitor (minimum 5 oz/a). Bidrin and dimethoate are relatively weak on western flower thrips.
- 2) Improve coverage. When insecticides are less effective, good coverage is even more important. This is more than just increasing volume. Avoid low-drift nozzles that put out large droplets. There is always a balance between coverage and drift. You want droplets that waft around plants without drifting from the field.



Spider mites are showing up on cotton in their traditional early-season spots of Carroll and Lake Counties. I've also seen treatable infestations in Gibson County. We are certainly set up for potential problems considering the hot, dry weather and all the spraying for thrips. Infestations are seedling plants can devastate



at least parts of fields. Unfortunately, effective miticides are relatively expensive and don't control much of anything else. The presence of mites is often first tipped-off by stippling on the leaves. This stippling may just be in small patches on a few leaves when mites first show up. Of course, the mites are on the undersides of leaves, and a hand lens comes in handy for confirmation. A good rain would go along way in helping our cotton tolerate both thrips and mites. Below is a list of recommended miticides. Kelthane (dicofol), including the generics, has been fairly consistent and is the cheapest of the true miticides. The performance of all products varies from one field to the next. I do not recommend bifenthrin (Brigade, Discipline, etc.) or dimethoate because these products tend to perform poorly on mites during the early season, and Comite II may cause injury to small cotton. However, dimethoate (8 oz/acre) may be worth a try in situations where both mites and thrips are present. You may see some leaf burn with dimethoate.

Recommended Products for Control of Spider Mites	Minimum Amount of Product per Acre
abamectin (Zephyr 0.15)	4 oz
bifenazate (Acramite 4)	16 oz
dicofol (Kelthane 4)	32 oz
emamectin benzoate (Denim 0.16)*	10 oz
etoxazole (Zeal 72WSP)	0.67 - 0.75 oz
propargite (Comite II 6)	20 oz
spiromesifen (Oberon 4)	4 oz

* May only suppress populations.

Moth Traps and Southwestern Corn Borer. Although it is late, I was premature in my hopes that the southwestern corn borer (SWCB) flight would start off small this year. Recent catches indicate a decent sized flight is occurring in some places. This has not been reflected in my trap line (see appended table), but independent moth catches in Obion, Weakley, and Haywood (Stanton area) counties have caught 20-120 moths per trap. This is certainly enough “seed” to assure SWCB will pose a threat to non-Bt corn in some areas. Moths of the current generation tend to pick on the biggest corn. So, concentrate current scouting in early planted non-Bt fields. Usually, populations are dilute enough in the first generation that infestations are not too severe or widespread. However, early-planted fields next to a big emergence of moths can be hit pretty hard. Treatable infestations will be more likely and widespread during the second generation (typically beginning in earnest during mid July). At this time, late-planted non-Bt fields will be at the greatest risk.

With corn prices high, there are more people looking at corn for insect pests. Scouting for first generation SWCB requires looking in whorls for larvae and feeding signs. The larvae make characteristic, elongate lesions (leaving window-paned feeding scars on the leaves emerging from whorls - pictured below). European corn borers leave similar feeding sign. Corn earworm and fall armyworm may also be present, but their leaf feeding tends to be more ragged, without the window-paned effect. Small SWCB larvae have a brown head capsule and a white or cream colored body with rows of black spots. Treatment is recommended when 20-25% of plants are infested with SWCB (or 50% infested plants for the less damaging and less common European corn borer). It is important to spray before larvae begin tunneling into stalks. The pyrethroid insecticides generally perform best on first generation infestations. You’ll get best control if the spray is directed into the whorls.



SWCB feeding sign (left) and larva (right)



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

There has been some interest in West Tennessee on the use of grain bags as storage for corn this fall. This is particularly true among cotton producers who have rotated some of their ground to corn and are undecided on the extent of staying in grain production for the long term. Corn acreage has increased in West Tennessee as well as the Mid-South and there are concerns that long lines for delivery at harvest could make for a slower harvest than normal. Along with longer lines is a higher basis for harvest time delivery. Corn delivered in December currently has around a \$.20 better basis than September delivered corn. Many producers are looking at grain bins as an option to alleviate harvest pressure and

capture basis improvement. Grain bins are a long term investment and more suited for the committed grain producer.

Producers who may switch back to cotton may be interested in exploring the Grain Bag Storage System. There was a recent article in the Delta Farm Press with a local contact in Monette, Arkansas. Their name is Delta Grain Bag System with a website at www.deltagrainbag.com and phone # 1-870-926-6238. They are cotton producers who are raising corn. This is their first experience with this product. This information is from their website - *The Grain Bag is a laminated mix of three layers of polyethylene, with the first two layers acting as a UV filter. The third layer is black and is designed to keep out the sunlight. The bags are designed to stretch to a maximum of 10% measured during the filling process to prevent overfilling. The unique, specialized-design of Grain Bags allow for storage versatility, whether in the field where harvesting is taking place or a grain storage site, as long as the bags are placed on clean ground with good drainage and free of sharp objects. The Grain Bags are filled by a specially designed bag-filling machine that can be filled from the combine, grain cart or similar types of machinery. The loading capacity of the filling machine is about 7,000 bushels per hour depending on the grain type. The Grain Bag is emptied by a machine that rolls the bag up as it augers the grain out at up to 7,000 bushels per hour.*

A 200 ft. long by 9 ft diameter grain bags cost \$595 + tax and will hold 8,000 bushels of corn. Dry grain can be stored in it for up to 18 months. The moisture for grain coming out of bag will be the same as it is going in. Higher moisture grain could probably be stored for a short period to help a producer get through the harvest rush. I don't know if the company has any data to support how long higher moisture grain can be stored. The grain bag can be probed anywhere on the bag for a sample to check moisture and condition and then be resealed. A **bagger** and **unloader** are required to fill and remove the grain. Those two pieces of equipment together cost \$41,000 and will require a tractor to operate. It takes 2 men to put the bag on after which 1 man can operate the bagger or unloader.

Assuming the grain bags work as they should, the feasibility of purchasing them and the equipment will depend on the bushels of grain stored as well as the length of use on the equipment. The bags maybe will last more than one harvest, but I doubt I would count on it. I would guess that the equipment would need to be used for 3 – 5 years to justify purchasing it, but again that depends on the number of bushels stored. With a wider basis at harvest, I think it is worth exploring as a storage alternative. Hopefully, we will be able to see a demonstration of these grain bags this summer or fall and get a better look. Please call your local UT Extension office or Area Farm Management Specialist to assist you in determining the feasibility of this alternative storage method.



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 4, Ending 5-30-07)

Trap Location	Tobacco Budworm	Corn Earworm (Bollworm)	Beet Armyworm	Southwestern Corn Borer
Hardeman (Bolivar)	0	0	0	---
Fayette (Whiteville)	0	0	0	---
Fayette (Somerville)	0	4	---	0
Shelby (Millington)	21	1	0	---
Tipton (Covington)	0	0	0	---
Tipton (North)	0	0	---	0
Haywood (West)	0	0	0	---
Haywood (Brownsville)	0	0	---	---
Madison (Exp. Stn.)	0	0	0	0
Madison (North)	0	0	---	---
Crockett (Alamo)	0	0	0	---
Crockett (Maury City)	5	1	---	---
Dyer (Bogota)	0	0	0	---
Dyer (Newbern)	0	0	---	0
Lake (Ridgley)	0	0	0	---
Gibson (Kenton)	0	0	---	---
Gibson (Milan Exp Stn.)	0	0	0	5
Carroll (West)	4	0	0	---
Lauderdale (Goldust)	5	0	0	---

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

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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.

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