The University of Tennessee

UT Extension

West TN Research and Education Center
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IPM NEWSLETTER

Update for Field Crops and Their Pests

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Past newsletters and other information can be found at UTcrops.com

Bookmarks: Cotton progress Insect control Weed control Farm management Moth traps

Cotton Situation and Outlook (Chris Main, Extension Cotton and Small Grains Specialist)

The Tennessee Agricultural Statistics Service reports cotton condition as 12% excellent, 66% good, 18% fair, and 4% poor. 82% of the crop is squaring compared to 68% last week, 96% last year and 94% for the five year average. 14% of the crop is setting bolls compared to 0% last week, 33% last year and 29% for the five year average.

Last Effective Bloom Date. August 10-12 is considered our last effective white bloom date, that is the date when a white bloom is still expected to make a harvestable boll. That is to say we have good chance of receiving approximately 850 heat units between those dates and October 1st (using historical weather data). When a square forms, it will take 300 to 350 heat units to produce a bloom (2-3 weeks) plus 850 heat units (5-7 weeks) after the white bloom to develop a harvestable boll. Typically it takes 1200 heat units to get from pinhead square to a harvestable boll. Doing the math backwards from August 12, our last effective square date would be between July 28 and August 1. That gives us 10-14 more days to produce squares that can be harvested. New fruiting branches generally develop every 3-5 days with new fruiting sites developing approximately every 6 days. So, we are looking at under optimal conditions developing 3-5 more fruiting branches and 2-3 more fruiting positions on upper branches.

My ramblings through all these technical specifications of cotton growth and development is to point out that what is on the plant currently will contribute to the bulk of our yield potential. It is important, especially on the later planting cotton, to protect the fruiting positions that we have. Remember that as boll load increases on the plant, we will begin to see physiological square shed.

Nodes Above White Flower (NAWF) and Crop Condition. NAWF is used as a measure of the plant's potential for new growth. NAWF begins to declines after early bloom as terminal growth slows and fruit load on the plant increases. This is a natural process that is a result of the source-sink relationship on plant, with bolls and squares depleting the plant's carbohydrate supply. Under optimal growing conditions cotton plants will usually begin the bloom period with a NAWF of 8-10. NAWF for a 'normal' crop will decline gradually over the bloom period. Cutout can be defined as the point at which vegetative growth slows to the point that very few new fruiting sites will be added to the plant. Once cutout occurs, the boll load on the plant is effectively set. Most cotton physiologists agree that cutout occurs sometime between NAWF of 3-5. Using the preceding definition the crop may be 'cutout', but under good growing conditions it can continue to produce new squares, blooms and bolls while maintaining a NAWF of 3-5.

Management Considerations. Some producers have applied or are considering an application of supplemental N to prolong the bloom period. Do not expect foliar feeding nitrogen to delay cutout and prolong the bloom period of cotton that has a rapidly declining NAWF. Remember to have a realistic expectation of success. Without good moisture, additional N will have little positive effect on the plant. Also, nitrogen may not be truly limiting and can lead to problems with insect pests, boll rot and defoliation. If a cotton crop is at NAWF 6 or less and declining, no mepiquat is warranted. The fruit load on the plant will effectively reduce vegetative growth. If NAWF is greater than 6, mepiquat may be needed if soil moisture is good, and/or fruit retention has declined. Fields with a history of late season rank growth or boll rot can benefit from a late season mepiquat application by reducing 'whips' (reducing trash) and improving air circulation through the canopy.

DD60 Accumulation (TASS and NWS data)

Location	4/20-7/17	4/27-7/17	5/4-7/17	5/11-7/17	5/18-7/17	5/25-7/17	6/1-7/17
Dyersburg	1222	1177	1154	1117	1098	1018	906
Fayetteville	1236	1179	1148	1094	1076	996	890
Jackson	1149	1101	1079	1036	1016	947	843
Memphis	1384	1315	1289	1230	1194	1098	972

Insect Management (Scott Stewart, IPM Specialist).

New Insecticides: I mistakenly indicated that a new insecticide, Brigadier, was labeled for use in soybean. Brigadier is a premix of bifenthrin and imidacloprid but is only labeled for use in cotton, tobacco and certain vegetable crops. The soybean label for Brigadier is pending. Endigo ZC, another premixed product, has just received a supplemental label for soybean at rates ranging from 2.5 - 4.5 oz/acre depending upon the target pest.

Cotton: Most reports I've received indicate that plant bugs and spider mites are the most common pests we are dealing with at this time. We are now entering a critical four week period for insect control. It will be important to scout and make good management decisions for our most common pests including plant bugs, stink bugs and bollworm. Expect our bollworm flight to start kicking off in earnest during the next two weeks. We've generated some great data comparing sampling methods for plant bugs during the past few years. These data are summarized in a publication at the following address: http://www.utextension.utk.edu/fieldCrops/cotton/cotton_insects/pubs/pub2945MultistateLOWRES.pdf. Every crop advisor should review this publication. My preferred sampling method for plant bugs in blooming cotton is the drop cloth, but the above publication also gives alternative treatment thresholds for other sampling methods.

Soybean: Stink bugs are being treated in some fields, and this is the only widespread problem being encountered. Remember, R3-R6 is the critical window for managing stink bugs and insect pests in general. After mid-podfill (R5.5), the stink bug treatment threshold increases from 12 stink bugs per 100 sweeps to 36 stink bugs per 100 sweeps. As I have suggested previously with the higher than normal commodity prices, you might consider treating for stink bugs after R5 once population reach 28-32 stink bugs per 100 sweeps.

Corn: The southwestern corn borer (SWCB) has reached its peak, and this past week or early next week would be a good time to consider making an insecticide application for SWCB in non-Bt corn. Remember that corn that is already at or near the dent stage is going to be less sensitive to injury. In other words, the later maturing corn is most likely to benefit from treatment in areas where moth traps are indicating a lot of moths are in the area.

Area Cotton Report for Northwest Tennessee (Gene Miles, Area Crop Specialist). Much needed rainfall was received in the area this week. Rainfall being reported ranges from 0.2 to 3 inches. Growth stages of cotton fields monitored through the Dyer and Lauderdale County IPM programs range from the 11th node to the bloom stage. Larger more mature plants monitored this week average 35 inches in height, have 16 nodes with 11 visible 1st position fruiting (squares, blooms, bolls) positions and are averaging 90 percent 1st position fruit retention. Some shedding of small bolls has been observed in droughty areas of cotton fields. PGR (mepiquat product) is being used on vigorous growing cotton primarily at the 16 oz. rate. Square retention ranges from 81-97% this week in non-blooming cotton. One non-blooming cotton field having square retention of 75% last week was reported to have increased square retention to 81 percent after being treated with the recommended insecticide (Centric). Plant bug numbers this week range up to 1.4 per 6 row feet and/or 23/100 sweeps. Stink bug numbers range up to 0.2 per 6 row feet. The threshold is considered to be 1 or more per 6 row feet or when 20% or more thumb sized bolls are injured. Immature and adult clouded plant bugs are being noted in the area this week. Clouded plant bugs can cause damage to larger squares and cotton bolls. Clouded plant bug nymphs (pictured above right) may be distinguished from tarnished plant bugs by the black and white (or maroon and white) stripes around their antennae. Light spider mites and aphids are being reported in the area this week. 2% square damage from bollworm/budworm this week is being reported by private consultants in conventional cotton. The economic threshold is considered to be 5% damage in conventional cotton and 2% damage in Bt cotton. Beneficial counts range up to 6.6 per 6 row feet.

Weed Control Update (Larry Steckel, Weed Specialist)

From phone calls this week it looks like the last of the FirstRate in West Tennessee is exhausted. Unfortunately, the problem with the lack of FirstRate is there is not a real good option to control glyphosate-resistant (GR) horseweed and giant ragweed in double crop soybeans. The best runner up for control of large (>4" tall) GR horseweed and giant ragweed is Synchrony. Synchrony at 0.375 ozs/A tank mixed with a high rate of glyphosate will provide some control in regular soybeans. In STS soybean varieties one can use 1 oz/A of Synchrony. In cases where the giant ragweed are still small (< 4" tall) Flexstar at 1 pt/A tank mixed with glyphosate has provided fair control in our research.

There also has been a big run on the PPO herbicides (Flexstar, Ultra Blazer and Cobra) in Arkansas and Tennessee to control GR Palmer amaranth. It looks like the supply of these herbicides, particularly Flexstar, may also become tight. The chemical companies who manufacture these herbicides were as surprised as the rest of us on how widespread GR Palmer amaranth is this year. They just did not foresee the demand. Hopefully, this is a wakeup call for them and they will be geared up for next year when demand for these herbicides will likely be much greater.

Farm Management (Chuck Danehower, Area Specialist - Farm Management). On Friday, July 25 at 7:30 a.m. a special cotton meeting will be held online and by teleconference. This program will include a panel of cotton experts to discuss today's cotton market including crop conditions, domestic demand, exports and farm policy. The panel will include Dr. O.A. Cleveland, Professor Emeritus, Mississippi State; Dr. Carl Anderson, Professor Emeritus, Texas A & M; Jarral Neeper, Vice President Marketing, Calcot Ltd.; Mike Stevens, Swiss Financial Services; Pat McClatchy, Executive Director, Ag Market Network; and Joe Nicosia, CEO, Allenberg Cotton.

Listening options are: 1) Call 1-888-889-5345 to listen over the telephone. Conference ID is Ag Market Network. 2) Listen live over the internet at http://www.agmarketnetwork.net/. 3) Listen to a recording around noon at http://www.agmarketnetwork.net/.

Reminder: *Decisions 2008* put on by Brock Associates. A copy of the brochure can be found online at http://www.brockreport.com/brockreport/seminars.asp. Speakers include Drew Lerner on weather patterns, Barry Knight on biotechnology and germplasm adoption, Richard Brock on market outlook & strategies. Other speakers will also address farmland values and rents, global factors affecting agriculture, and how to make better decisions. This seminar will be **July 22** in Memphis at the Peabody Hotel and has a registration fee of $110. It starts at 8 a.m. and will adjourn at 3:45 p.m. Register by calling 1-800-558-3431.

Reminder: 7th Annual Mid-South Agricultural Finance Conference on **August 6**. It will be held at the University Center, UT Martin, starting at 8 a.m. and adjourning at 3 p.m. Featured speakers are Dr. David Kohl, Dr. Matt Roberts, and Robert Egerton. Dr. Kohl will be addressing effective management practices, risk factors to look for, and how to protect, strengthen your balance sheet and reduce risk. Dr. Roberts, who also spoke at this year's Grain Conference, will look at the future of commodity prices and land values. Matt will focus on the opportunities and threats for crop and livestock producers and lenders. Mr. Egerton, who is president of the Eastern Region Commercial Agribusiness Division for Cobank, will address the availability and cost of agricultural loans in 2009. More information on this very educational conference can be found at http://www.utm.edu/staff/banking/agconference/ or by calling 731-881-7324 or emailing Dr. Tom Payne at tpayne@utm.edu. The registration fee for producers is $75.

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 11, Ending 7/17/08)

Trap Location	Tobacco Budworm	Corn Earworm (Bollworm)	Beet Armyworm	Trap Location	Southwestern Corn Borer
Hardeman (Bolivar)	6	0	0	Fayette (Whiteville)	0
Fayette (Whiteville)	0	0	---	Tipton (Covington)	0
Fayette (Somerville)	0	0	0	Madison (Exp. Stn.)	0
Shelby (Millington)	0	0	0	Gibson (Exp. Stn.)	68
Tipton (Covington)	0	6	---	Dyer (Newbern)	0
Tipton (North)	0	0	0	Dyer (Samaria Rd)	287
Haywood (West)	4	2	0	Dyer (Fuller Rd)	187
Haywood (Brownsville)	5	3	0	Dyer (Welch Rd)	71
Madison (North)	0	0	---	Obion (Central)	375
Madison (Exp. Stn.)	2	4	4	Obion (Northeast)	625
Crockett (Alamo)	3	0	0	Gibson (Sims north)	95
Crockett (Maury City)	10	5	2	Gibson (Sims south)	110
Dyer (Bogota)	3	5	0	Gibson (King)	122
Dyer (Newbern)	0	1	---	Gibson (Idlewild)	22
Lake (Ridgley)	8	39	6	Gibson (Race Track)	125
Gibson (Kenton)	6	30	0	Gibson (Gibson)	175
Gibson (Exp. Stn.)	4	4	2	Lake (Hoecke)	180
Carroll (West)	1	2	10	Lake (Isom)	35
Lauderdale (Goldust)	0	32	6	Weakley (South)	593
				Weakley (North)	742
				Haywood (Hwy 19)	20

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

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