

IPM NEWSLETTER

Update for Field Crops and Their Pests

No. 16

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

The Tennessee Agricultural Statistics Service reports cotton condition as 11% excellent, 67% good, 19% fair, and 3% poor. 68% of the crop is squaring compared to 34% last week, 92% last year and 86% for the five year average.

Several calls over the last week have been about micronutrient deficiencies. Typically, we will see some micronutrient deficiencies around pinhead square but disappear once the plant roots reach the subsoil. Since we have been dry until mid-week (some are still dry) root growth has been limited due to wet conditions at planting and little rainfall since. Hopefully this week's rain will help restore root growth and the symptoms will disappear. The following deficiency descriptions are taken from the cotton e-extension website (<http://www.extension.org/cotton+industry>). Foliar applied fertilizers may help remedy the visual symptoms in some situations, but may not lead to better yields.

Magnesium (Mg)

Magnesium (Mg) is taken into the plant through the root system as the Mg^{2+} ion. It is the central ion in the chlorophyll molecule and is therefore critical to the process of photosynthesis. Magnesium is readily transferred from older tissue to younger tissue under deficiency conditions resulting in deficiency symptoms occurring in the older tissue first. In cotton this is primarily exhibited as an interveinal chlorosis where the main tissue of the leaf begins to turn pale green or purplish red with prominent green veins. The chlorosis begins at the tip and around the margins of the leaf and progresses toward the back of the petiole producing a 'herringbone' appearance. Most soils across the cotton belt provide sufficient quantities of Mg to sustain proper plant growth and development. Magnesium deficiencies are most common on very light texture soils at low soil pH levels. Symptoms can often be confused with late season maturation of cotton leaves. Liming materials, especially dolomitic limestone, may often contain sufficient Mg to supply cotton's need for Mg.

Sulfur (S)

Sulfur(S) is absorbed by the plant as SO_4^- and is not mobile in the plant. Sulfur may also be absorbed from the air and is a by-product of combustion. Deficiencies have increased in recent years primarily due to the use of higher concentrated fertilizers that do not contain S as an impurity and pollution controls that remove S at coal burning power plants. Sulfur deficiency is characterized by chlorosis in the younger tissue near the top of the plant. A general yellowing of the whole plant may occur. General plant growth is stunted and branching is reduced. Fewer and smaller cotton bolls are generally produced. A S deficiency can also be induced in some cases by high rates of nitrogen(N) fertilizer. A N/S ratio of 15:1 in the cotton plant is generally considered optimum. Soil conditions that may lead to sulfur deficiency include low organic matter and acid light textured soils where S has been leached. Reniform nematode damage on cotton roots have also produced S deficiency symptoms.

DD60 Accumulation (TASS and NWS data)

Location	4/20-7/3	4/27-7/3	5/4-7/3	5/11- 7/3	5/18-7/3	5/25-7/3	6/1-7/3
Dyersburg	1089	1044	1021	984	965	885	773
Fayetteville	1098	1041	1011	957	939	859	752
Jackson	1026	978	956	913	893	824	720
Memphis	1234	1165	1139	1080	1044	948	822

Corn and Soybean Updates (Anglea Thompson, Extension Corn and Soybean Specialist)

Some areas across the state received some very welcome rain this week which will help our corn crop that is trying to fill kernels, and maybe encourage our late planted corn to start growing again. Any rain is helpful right now, but unfortunately we still have a lot of “have nots” who have missed any substantial rain up to this point. Hopefully more rain is soon to come. Later planted non-Bt corn that is just tasseling or getting ready to tassel can be more attractive to southwestern corn borer moths. Trap numbers have really picked up this week at a few locations. Other sites may increase next week indicating the second generation may be pretty big this year. Scott has listed the thresholds for corn insects in this week’s newsletter and if possible it is recommended that a field be scouted before an insecticide is included with a fungicide spray. If you can’t scout your field, check trap numbers that are close to your area before deciding to blanket spray any field with a fungicide and insecticide.

Early planted Group 3 and 4 soybeans are filling pods so any rains right now will really help the bean crop. Some fungicides have gone on fields already, although disease pressure has generally been low. Group 3 or 4 soybeans that have 12 to 15 nodes and are at R3 would be the earliest I would spray a bean. Spraying at R1 doesn’t buy you anything. We do not have rust in our area and this timing is generally too early to be as effective in controlling our normally occurring foliar diseases like Frogeye leaf spot. We continue to scout soybean Sentinel plots each Monday and submit leaf samples to the Knoxville lab for PCR testing. Rust is being reported on kudzu and soybeans in Florida and primarily on kudzu in other states but is slow to develop on beans in the Southeast at this time. A strobilurin fungicide (Quadris or Headline) or a premix containing a strobilurin is our preferred product for disease protection from standard diseases like Frogeye. Triazole only products should be saved in case we need to make a rust control spray. A complete list of fungicides that are cleared for use in soybean, along with their active ingredients are located at utcropl.com.

Insect Management (Scott Stewart, IPM Specialist). Because I’m out of town, I thought this would be a good time to put in some reminders about UT recommended treatment thresholds. The information below can be also found on-line at www.utcropl.com. Insecticide recommendations for cotton, corn, soybean and sorghum are also available at http://www.utextension.utk.edu/fieldCrops/cotton/cotton_insects/InsectBook.htm.

Recommended Insecticide Treatment Thresholds for Cotton

- **Plant Bugs** - The treatment threshold after first bloom is four or more tarnished plant bugs per 6 row feet (0.67 per foot or an average of 3.33 on the smaller drop cloths that many are using). An alternative threshold is 16⁺ bugs per 100 sweeps. Count clouded plant bugs as equivalent to 1.5 tarnished plant bugs.
- **Stink Bugs** - The treatment threshold after first bloom is one or more stink bugs per 6 row feet (drop cloth), or 20% or more of 12-16 day old (thumb sized) bolls with internal signs of feeding (warts, stained lint).

- Bug Complex - If finding a mixture of plant bugs and stink bugs, you can count stink bugs as equivalent to 3 tarnished plant bugs and use the above plant bug threshold.
- Bollworm/Tobacco Budworm - On non-Bt cotton that can be treated in accordance with Bt refuge guidelines, treat after first bloom when four or more larvae are found per 100 plants. On Bt cotton including, Bollgard II and WideStrike, use the same threshold but do not count freshly hatched (neonate) larvae. Treatment is also recommended in Bt cotton if larvae are present and 2% or more boll damage is found.

Area Cotton Report for Northwest Tennessee (Gene Miles, Area Crop Specialist)

Dry weather continues to plague row crop production in the area. Cotton plants observed in droughty areas of the field have already reached 2 to 4 nodes above white flower. Cotton fields being monitored through the Dyer and Lauderdale County IPM programs range from the 9th to the 13th node. More mature plants in the area are averaging 32 inches in height, have 15 nodes, 9 visible 1st position squares and are averaging 86% 1st position square retention. Plant bug numbers being reported from county IPM scouts and private consultants this week are below threshold and range up to 0.6 per 6 row feet and/or 10/100 sweeps. Square retention in non-blooming fields range from 94 to 98 percent. Bollworm/budworm have been reported at 0.5 worms per 100 plants in conventional cotton. The threshold is considered to be 8 or more larvae per 100 plants in pre-bloom cotton. Light aphids are being reported this week by private consultants. Beneficial counts this week range up to 6.8 per 6 row feet.

Recommended Insecticide Treatment Thresholds for Corn

- Southwestern Corn Borer - Treat when 20-30% or more of plants are infested with larvae or eggs. Time applications before larvae begin to tunnel into stalks. Now is probably a good time to consider making an insecticide application to non-Bt corn in areas where moth catches are relatively high.
- European Corn Borer - Treat when 50% or more of plants are infested with larvae or when one egg mass is found per plant. We don't commonly have many problems with ECB in West Tennessee.

Recommended Insecticide Treatment Thresholds for Soybean

- Stink Bugs - Prior to mid pod fill, treat when an average of 12 or more bugs are found per 100 sweeps.
- Defoliation Threshold - Treat anytime during R1 - R7 when 20% or more defoliation has occurred.
- Corn Earworm - Treat when an average of 10-15 larvae per 25 sweeps is found. I'd use the bottom end of this threshold considering the higher than normal price for soybean.

Weed Control Update (Larry Steckel, Weed Specialist)

Yellow Flash in Soybeans: This is the time of year when yellow soybeans start to show up in areas of soybean fields. There are many potential causes for yellowing of soybean leaves including diseases like cyst nematode and nutrient deficiencies like potassium. However, if the yellow soybeans are concentrated on field ends where it is very evident they were overlapped with the herbicide pass it could be from a concentrated application of glyphosate. Yellow flash in soybean caused by glyphosate typically happens after a second application on larger soybeans and is most noticeable on the ends of field or near terraces where it was double or in some cases triple applied. This yellow flash after a glyphosate application is hard to predict as many factors come into play including soybean maturity, weather conditions, surfactant system in the glyphosate product and even soybean variety. There has

been a lot of speculation as to why this yellowing occurs. The most widely accepted theory is that the glyphosate temporarily ties up calcium or some other nutrient in the plant. The next question is does this yellow flash cause yield loss? The answer to this is probably not, because the yellowing typically last only a week or so. If the yellowing lasts more than a couple of weeks then the answer to potential loss of yield is less certain, particularly if the soybeans are in a period of prolonged dry conditions.



Farm Management (Chuck Danehower, Area Specialist - Farm Management).

Seminars/conference that will address pertinent issues in agriculture are coming up soon. The first is *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.

The second conference coming up is the 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 10, Ending 7/11/08)

Trap Location	Tobacco Budworm	Corn Earworm (Bollworm)	Beet Armyworm	Trap Location	Southwestern Corn Borer
Hardeman (Bolivar)	2	0	0	Fayette (Whiteville)	0
Fayette (Whiteville)	0	4	---	Tipton (Covington)	0
Fayette (Somerville)	3	6	0	Madison (Exp. Stn.)	12
Shelby (Millington)	0	8	0	Gibson (Exp. Stn.)	30
Tipton (Covington)	5	7	---	Dyer (Newbern)	0
Tipton (North)	12	4	0	Dyer (Samaria Rd)	400
Haywood (West)	0	4	0	Dyer (Fuller Rd)	55
Haywood (Brownsville)	6	2	0	Dyer (Welch Rd)	2
Madison (North)	2	11	0	Obion (Central)	36
Madison (Exp. Stn.)	5	7	---	Obion (Northeast)	55
Crockett (Alamo)	2	0	1	Gibson (Sims north)	20
Crockett (Maury City)	4	2	---	Gibson (Sims south)	85
Dyer (Bogota)	0	4	0	Gibson (King)	9
Dyer (Newbern)	0	0	---	Gibson (Idlewild)	6
Lake (Ridgley)	8	98	0	Gibson (Race Track)	120
Gibson (Kenton)	6	39	0	Gibson (Gibson)	217
Gibson (Exp. Stn.)	16	6	0	Lake (Hoecke)	66
Carroll (West)	*	13	0	Lake (Isom)	17
Lauderdale (Goldust)	5	11	6	Weakley (South)	402
				Weakley (North)	284
				Haywood (Hwy 19)	7

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

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