

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 20% of the crop is setting bolls compared to 16% last year, ahead of the 5 year average of 18%. 94% of the crop is squaring compared to 88% last week and 90% last year, ahead of the 5 year average of 82%. Cotton condition is rated as 2% very poor, 13% poor, 35% fair, 42% good and 8% excellent with continued good square and small boll retention. The National Agricultural Statistics Service release of planted acres did not surprise us too much. Across the belt acreage fell from 15,275,000 acres to 11,058,000, a reduction of 28%. Tennessee cotton acreage fell from 700,000 planted acres last year to reported 480,000 acres planted this year, a 31% reduction. Other states with notable reduction were Texas (-22%), Louisiana (-47%), Mississippi (-45%), and Georgia (-25%).

PGR's. The recent rain has many cotton fields showing rapid growth. The three most important things to remember about using PGR's are 1) make sure you have adequate fruiting branches to achieve your yield goals, 2) make some measurements to determine how much rank growth is occurring, and 3) remember that PGR's will NOT shrink existing cotton nodes. I prefer using plant height to node ratios to aid in determining my PGR applications. Most of our cotton is in the early bloom to full bloom stage, if the height to node ratio is 2.5 or greater you need to apply a PGR. Now comes the tricky part, figuring what rate to use. I do not like to make more than 2 PGR applications per year. First remember that we are limited to 1.5 pints of mepiquat products per acre per year. If you have already used 8 oz and have a history of excessive growth consider use 12-16 oz when the height to node ratio exceeds 2.5. If you have not yet used a PGR go with at least 16 oz (provided that you have an adequate number of fruiting branches) to slow vegetative growth. For justification, we have excellent square retention so far this year so we need to slow down vegetative growth to help assure we set those early bolls. Also, most places did not have enough rain prior to July 1st to get side-dress nitrogen into the root zone. As a consequence we are beginning to see rank growth as plants begin to take up the available nitrogen.

Height to node ratios for cotton PGR decisions (Jost et al. 2005).

Growth Stage	Normal HNR (inches/node)	Stressed	Vegetative
Seedling	0.5-0.75	-	-
Early Squaring	0.75-1.2	0.7	>1.3
Large Square - First Flower	1.2-1.7	<1.2	>1.9
Early Bloom	1.7-2.0	<1.6	>2.5
Early Bloom + 2 weeks	2.0-2.2	<1.8	>2.5

Jost, P., S. M. Brown, S. Culpepper, G. Harris, B Kermerait, P. Roberts, D. Shurley, and J. Williams. 2005. 2005 Georgia Cotton production guide p 37-39.

Rapid or Early Cutout. Some cotton is beginning to bloom with only 6 or 7 nodes above white flower (NAWF). We typically see (and want) 9 to 10 nodes above white flower. While this can prove to be tough for PGR application decisions, it should not be of great concern. I have seen this mainly with early planted cotton that was beginning to bloom prior to our recent rainfall. Having been in South Carolina on sandy coastal plain soil we would often see cotton near get near and stay close to cutout (NAWF=5) for a majority of the flowering period. Cutout occurs as a plant responds to increasing carbohydrate needs in developing bolls. Resources are diverted to large bolls and we typically see shedding of small squares and small bolls as the plant tries to stay in harmony with its indeterminate growth habit. In dry situations plants will continue vegetative growth (adding new fruiting sites) as carbohydrate relations equilibrate. One consequence of this is having mature bolls on the lower fruiting branches while still waiting for smaller bolls at the top of to finish out. In this situation make a REASONABLE determination of the highest harvestable boll and base your defoliation decisions on the maturity of that fruiting site. The addition of extra fertility to attempt to ‘push’ cotton out of cutout is not a good idea. Forcing the plant to become vegetative will result in fruit loss, rank growth, need for more PGR applications, and delayed maturity.

Cotton Fungicides. Currently there are NO FUNGICIDES LABELLED for postemergence use on cotton. Applying a fungicide to cotton as a postemergence spray is off label and in violation of federal law.

DD 60 Accumulation (TASS and NWS data).

Location	4/20-7/12	4/27-7/12	5/4-7/12	5/11-7/12	5/18-7/12	5/25-7/12
Brownsville	1195	1147	1095	1024	922	877
Dyersburg	1255	1206	1150	1045	970	911
Fayetteville	1305	1258	1195	1106	1028	959
Memphis	1511	1471	1375	1254	1164	1079
Milan	1144	1097	1045	943	873	831

Insect Issues (Scott Stewart, IPM Specialist)

Cotton. Spider mites remain the number one call this week. There have been reports that Kelthane (or dicofol) is not performing well in all cases. There have also been reports that bifenthrin (e.g., Brigade, Capture, Discipline) is now providing some control. It is not uncommon to see bifenthrin and dimethoate to start providing some control of mites at this time of year, and they are worth a try in situations where mite populations are not rampant (especially in areas where plant bugs and stink bugs may also be present).

Bollworm moth catches have increased, and I’ve had a couple of people mention finding a few eggs on bloom tags. I think we are 7-14 days away from any major bollworm activity, but it is time to start checking more closely for this pest. Tobacco budworm will be a part of the worm complex in some non-Bt fields. Definitely expect tobacco budworm in the southern counties of West Tennessee.

Plant bug and stink bug numbers are on the rise, although relatively few fields are currently at threshold level. The highest populations tend to be in more mature fields. It has been a relatively quiet bug year thus far, but I still expect many fields will need treatment in the next three weeks as populations continue to build. Next week, I’ll go into some detail about insecticide options for dealing with plant bugs and other pests.

Soybean. There are still few bug calls. There is some irritation about the presence of Japanese beetles in many fields (pictured right.). I'm also getting calls about this insect in cotton. I consider this a good sign because our really serious pests must not be causing too much problems. I would not consider treating soybean or cotton unless defoliation from Japanese beetles exceeded 20%, and frankly, this is pretty unlikely. Japanese beetles should begin to disappear in the next couple of weeks. My only suggestion - keep an eye on stink bug numbers and treat fields as needed. However, there have been few fields with treatment level populations of stink bugs thus far.



Corn. Southwestern corn borer (SWCB) populations, has predicted, are at treatable levels in many non-Bt fields. I took awhile, but eggs and small larvae (pictured below) are showing up. SWCB eggs are quite small and are usually laid like fish-scales in clusters of 2-8 eggs (2-5 eggs are most common). Once corn is tasseling, almost all eggs are laid on the upper or lower surfaces of leaves in the middle part of the plant (leaves near the ear). The eggs are solid cream colored when first laid. Within a couple of days, red stripes appear on the eggs. Eggs that are about to hatch are dark red in color with a black spot. The larvae will travel down the leaf and feed behind leaf collars or between the ear husks until they begin tunneling into the stalk. They may also feed in ears or ear shanks.



Egg Masses (left and center) and Small Larvae of SWCB

Area Report for Northwest Tennessee (Gene Miles, Area Crop Specialist, Week of July 9th).

Recent showers occurring over the area continue to benefit crops. Current rainfall is benefiting certain early planted somewhat droughty cotton fields in the delta preventing them from reaching early physiological cutout which would decrease yields. Natural shedding is being noted in early planted droughty fields pointing out the plants inability to hold all of its fruit. Selected plants being monitored in more mature fields this week average 16 nodes, 31 total fruiting positions with 98 percent total fruit retention.

Growth stages of cotton fields being monitored through Dyer and Lauderdale county IPM associations this week range from 12th node to mid-bloom. Square retention in non-blooming cotton fields ranged from 89 to 100 percent. Plant bug numbers being reported from private consultants and county IPM association scouts range up to 0.9 per six row feet and/or 16/100 sweeps. Stink bug numbers are increasing this week with the high count 0.4 per 6 row feet. Stink bug thresholds are 1 or more per 6 row feet or when 20 percent or more thumb-sized bolls are injured. Stink bug eggs are also being

noted this week. Stink bug eggs vary in color, are usually laid in clusters and can be recognized by their barrel shape. Lady bug (beneficial) egg clusters which are yellow to orange have also been noted this week. Bollworm/budworm activity may be picking up some with IPM scouts reporting 2 worms greater than 1/4 inch per 100 plants (terminals) in Bt cotton. The threshold is considered to be when four or more surviving larvae greater than 1/4 inch long are found per 100 plants (terminals). Beneficial counts this week range up to 10.2 per 6 row feet.

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

The 6th Annual Mid-South Agricultural Finance Conference will be Wednesday, August 8 at the UT Martin University Center. It starts with registration at 8:00 a.m. and will end around 3:00 p.m. Registration fee for producers is \$75.00. Check with your lender about sponsoring your registration. It is sponsored by UT Martin, Farm Bureau, CoBank, and the local banking community. The morning session will be conducted by Dr. Dave Kohl who will present information designed for producers concerned about future trends that will impact their business and lifestyles of agriculture. Dr. Kohl will also provide benchmarks of key ratios and financial performance, personal financial and investment strategies, and the 72 signs of a business headed south. Dr. Kohl is a very dynamic speaker who keeps it interesting and brings pertinent issues to the table. Dr Kohl is a Professor Emeritus from Virginia Tech and writes for Farm Journal, Top Producer, Ag Lender, and Soybean Digest.

After lunch, the speaker will be Dr. Matthew Roberts who is The Ohio State University Extension State Specialist in Grain Marketing. Dr. Roberts will outline the economic forces behind the growth of the ethanol industry and help producers assess the economic and political forces that can make or break their operation. Dr. Roberts brings a down-to-earth practical approach useful to producers and lenders as they work together to manage risk.

Seating is limited so please register as soon as possible. Registration fees include all sessions, continental breakfast, refreshments throughout the day, and lunch. This has been an excellent conference in the past and well worth the registration fee. I would encourage producers as well as ag lenders to attend. For registration information, please contact Dr. Tom Payne with UT Martin at (731) 881-7324 or check their website at <http://www.utm.edu/staff/banking/agconference/>.

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 10, Ending 7-10-07)

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	0	---	0
Shelby (Millington)	56	*	0	---
Tipton (Covington)	30	0	0	---
Tipton (North)	0	20	---	0
Haywood (West)	7	0	0	---
Haywood (Brownsville)	0	0	---	---
Madison (North)	0	6	---	---
Madison (Exp. Stn.)	0	2	0	30
Crockett (Alamo)	0	0	0	0
Crockett (Maury City)	42	0	---	---
Dyer (Bogota)	7	6	0	---
Dyer (Newbern)	0	0	---	0
Lake (Ridgley)	0	26	0	---
Gibson (Kenton)	0	0	---	---
Gibson (Milan Exp Stn.)	3	0	0	56
Carroll (West)	0	0	0	---
Lauderdale (Goldust)	18	6	0	---

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

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