

Mississippi Crop Situation

June 20, 2008

Mississippi State University Extension Service

Number 13

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This Weeks Planting Report

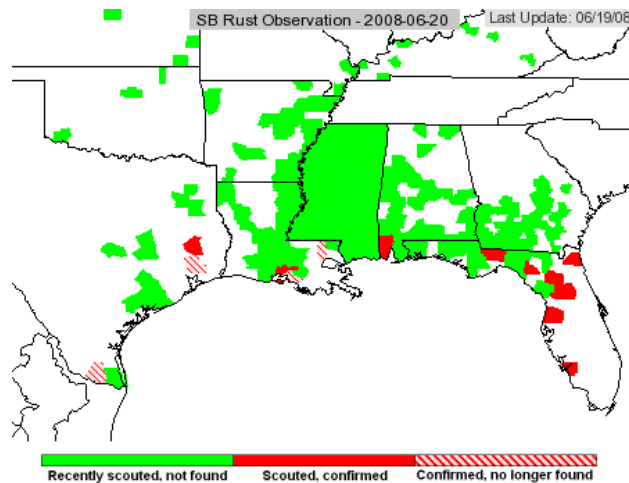
National Agriculture Statistics Services (Mississippi) Crop Progress for Week Ending 6/15/08

Crop	This Week % Planted	Last Week % Planted	Last Year % Planted	5- Year Average % Planted
Corn Silked	61	28	81	63
Corn Dough	5	3	16	4
Cotton Emerged	98	92	100	100
Cotton Squaring	14	5	47	40
Peanuts Planted	100	96	100	--
Rice Planted	99	98	100	100
Rice Emerged	95	95	100	100
Sorghum Planted	99	98	100	100
Sorghum Emerged	95	90	100	100
Soybeans Planted	99	96	100	99
Soybeans Emerged	95	92	99	97
Soybeans Blooming	38	24	48	45
Sweet Potatoes Planted	56	40	76	59
Winter Wheat Mature	99	97	100	99
Winter Wheat Harvested	84	48	88	82

Soybean Rust Update

Dr. Tom Allen

MS Soybean rust update – NO rust in Mississippi



I have had several questions over the past week regarding the location of soybean rust in the United States. As of Wednesday afternoon Florida had reported a single soybean leaf infected with soybean rust in a research plot at the R2 growth stage. This was a very light infection, with only 1% of the leaf infected. Until this find, soybean rust had only been reported on kudzu. Currently, soybean rust can be found in one county in Texas, one parish in Louisiana, one county in Alabama, and 10 counties in Florida all on kudzu in these counties/parishes. The rust on kudzu at each of these locations has not moved to adjacent kudzu but remains active at low levels within the canopy. This is most likely attributed to the dry, warm conditions in FL, LA, and TX. However, over the past 10 days, spotty thunderstorms have occurred over some of the locations near the Gulf.

So far this year we have **not** found soybean rust in Mississippi. We continue to scout the 19 sentinel plots on a weekly basis. Since the Mississippi River has receded we will move our Warren County sentinel plot into a commercial soybean field in the vicinity of the sentinel plot that we lost during the flood. We have also moved into a commercial field in Stone County since we lost our sentinel plot to deer feeding. As a general update regarding the scouting situation, we have scouted all 82 counties in Mississippi. We don't scout all of these counties on a weekly basis, but will return to counties that may only contain a kudzu patch at least once a month to monitor the situation.

As a whole we have some outstanding sentinel plot locations this year. Currently, our sentinel plots are into the reproductive stages, with most between R1 and R5 depending on the location. We are additionally scouting commercial soybean fields and kudzu. To date we have scouted approximately 300 unique locations across the state at least one time. Last week we made a long loop around the southern counties to look at sentinel plots and check on the status of commercial soybeans. Nothing to report from any of the locations we scouted. However, we did see some really great soybeans in several of the sentinel locations. I have attached a photo of the soybean sentinel plot at Anna, MS near Church Hill. Andy Milling is our scout in that area of the state. He's standing next to a Maturity Group VI soybean with the Early Group IV, Late Group IV, Group V, and Group VI soybeans as you look from left to right, two rows of each soybean variety. The soybean rust hotline (sponsored in part by BASF and the Mississippi Soybean Promotion Board) is being updated as needed at present time and can be accessed by dialing 1-866-641-1847. If you have any specific questions that I can help address, don't hesitate to give me a call (662-402-9995).

We take many variables into consideration throughout the season. At present time we watch several models that consider wind patterns over positively identified soybean rust locations and we also consider weather. With the dry weather we have had over the past few weeks our current risk of infection is low.



Cotton Insects

Angus Catchot

Cotton/Corn Interface:

We are beginning to treat cotton in many areas for plant bugs now and one of the main concerns is where we have cotton/corn interfaces. Last year it was very common to have several hundred pounds less cotton immediately adjacent to corn fields (see picture at right). The picture at right was provided by Dr. Chism Craig. The cotton was treated 16 times last year for plant bugs. Although plant bugs have reached treatable levels in many



areas, to date, we have not seen the extremely high numbers we saw last year. However, we are having some of the same concerns in a few spots next to corn. Yesterday, we began to pick off nymphs in Leflore County next to corn that has been treated twice 5 days apart next to corn. Numbers still averaged 28/100 sweeps adjacent to the corn. As we moved away from the edges (approximately 100 yards) numbers dropped substantially. As we move forward this season it will be extremely important to monitor these edges closely. It is very likely that we will need to make border sprays adjacent to the corn edges more frequently than whole fields with tighter intervals when numbers are high. We are also evaluating side-dress Temik applications 32 rows out from corn edges in the mid-south states this year to determine if we can hang more fruit on these interfaces. Keep in mind that Soybean/Cotton interfaces are also a concern with the high number of plant bugs we are finding in flowering soybeans. Again, I can't stress enough how important it is to be timely with plant bug applications. It does not take but a couple of days for retention to drop substantially when high numbers move into a field. For example, our plant bug trials at Stoneville last Friday were averaging 5/100 sweeps with about 91% square retention. On Monday numbers jumped to 18/100 sweeps and retention dropped to 80% in three days. Make every effort to not delay applications.

Spider Mites: Beginning to get more reports of isolated spider mites showing up in delta fields. To my knowledge we have only treated 1 or 2 fields so far this year. Yesterday, we found mites spotting in several fields in Leflore County. Also, we checked one corn field that had mites beginning to show up in it that will make their way to cotton when it begins to dry down. From what we have seen and heard from consultants so far, most of the spots where mites have shown up are not quite at treatable levels yet. The picture to the right is generally the symptomology that you will first see when walking fields. If we miss this rain tonight and tomorrow in



the delta, conditions will be very favorable for these populations to increase rapidly moving into next week. The threshold is when 40-50% of the fields have mites and conditions are favorable for increase. Check leaves randomly when walking fields for presence of mites.

Soybean Insects

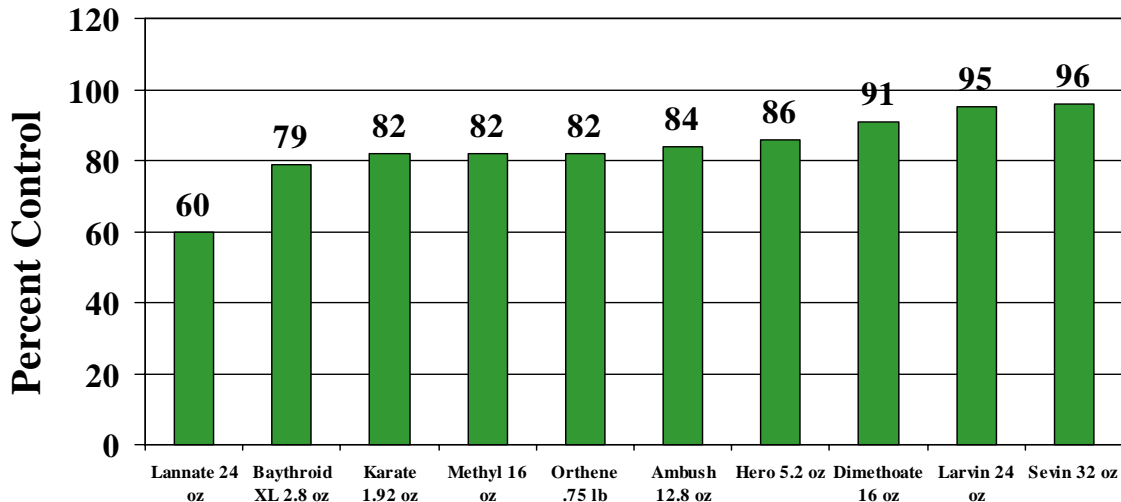
Angus Catchot

Bean Leaf Beetle: As many of you are aware, we have had significant issues controlling bean leaf beetles with pyrethroids the last several years, to the point that I no longer have confidence recommending pyrethroids in the delta areas of the state for control of this pest. This week we are beginning to see a surge in bean leaf beetle activity. I have already had a couple of reports of bean leaf beetles coming through pyrethroid applications targeted at stink bugs. Dr. Fred Musser had been assaying bean leaf beetles for the last 2 years since this problem has began to surface. For the most part, hill regions in the state look susceptible for now, but in the delta, tolerance ranges from 6-43 fold resistant compared to susceptible colonies collected in Starkville. We collected beetles on Wednesday from a field that was treated with a pyrethroid near Rosedale, MS that tested out 10-fold resistant compared to susceptible colonies. In our field testing of resistant bean leaf beetles last year we found that Sevin and Larvin provided superior control although the tank mixes such as Leverage and Endigo increased control substantially compared to straight pyrethroids. We will continue to monitor these populations as the season progress and keep you up to date on any new findings. We plan to evaluate more tank mix options this year and chemistry specifically targeted at bean leaf beetles. In the Shelby locations below, notice the differences in control from 2 to 6 days after treatment with the pyrethroids.

Bean Leaf Beetle Efficacy Test

Shelby, MS 2007 - 2 DAT

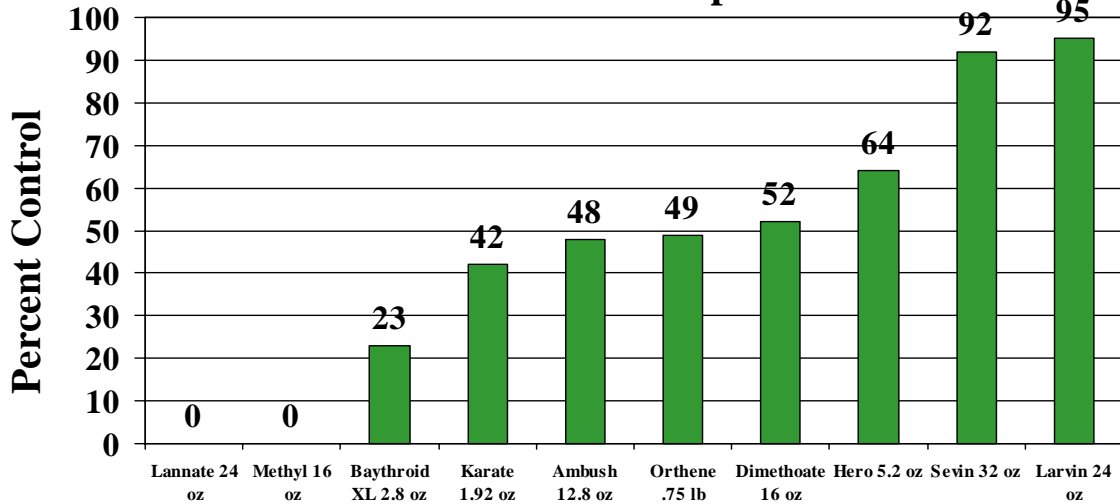
Check = 146/25 Sweeps



Bean Leaf Beetle Efficacy Test

Shelby, MS 2007 - 6 DAT

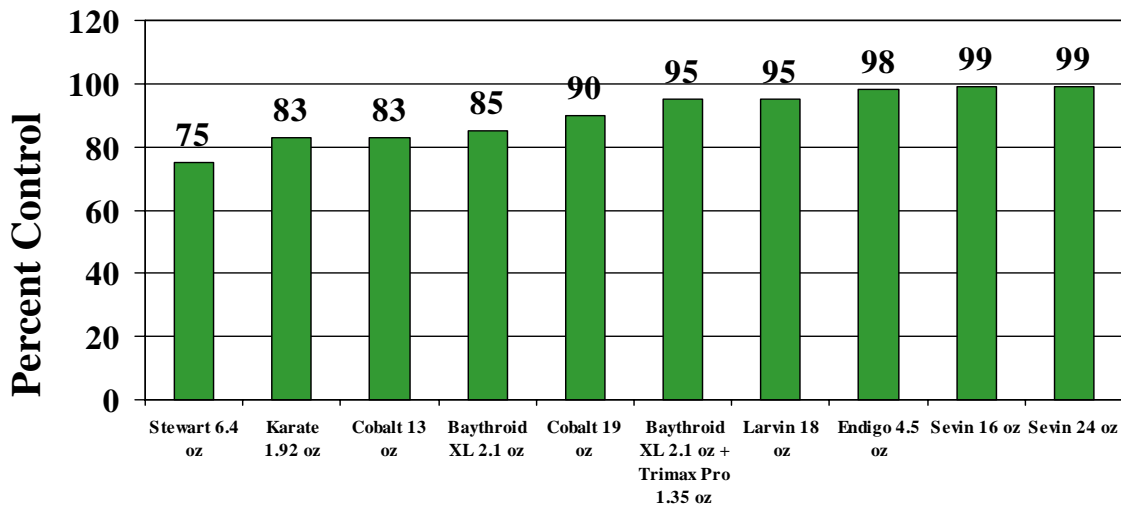
Check = 43/25 Sweeps



Bean Leaf Beetle Efficacy Test

Tchula, MS 2007 - 2 DAT

Check = 43.8/25 Sweeps



Cotton Agronomics

Dr. Darrin Dodds

Crop Progress: As of this week, all of the cotton is finally in the ground and essentially all is emerged. As of June 16, 14% of the cotton was squaring compared to 47% at this time last year and a five-year average of 40%. 96% of the crop is rated as being fair to excellent. It is amazing how quickly things can turn, we have gone from being too wet for much of the spring to too dry in many areas, especially in the Delta. Several cases of sandblasted cotton have been reported over the last couple of weeks. Had the calendar date not been June 12, there would likely have been some spot replanting at the very least.

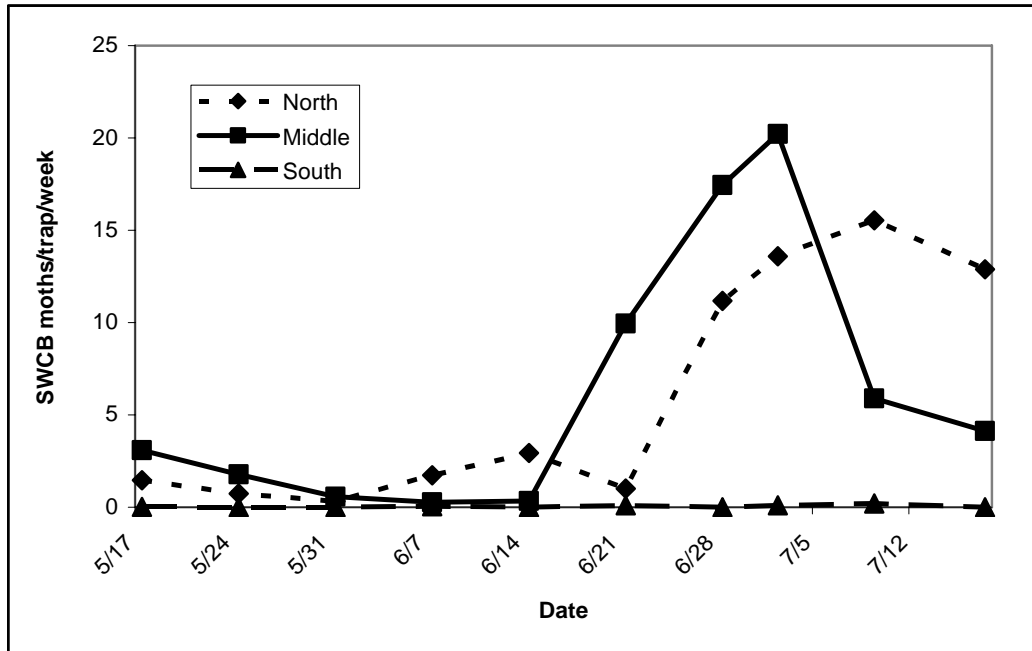
Glyphosate-Resistant Pigweed Species: Speaking with university and industry colleagues from Mississippi and surrounding states, there is a fear that we are on the verge of a glyphosate-resistant pigweed explosion. Calls have been coming in from several areas reporting pigweeds surviving a glyphosate application. However, carefully examine the weed species before labeling it as a “pigweed”. There are many different species within the *Amaranthus* genus. Drs. Dan Poston and Vijay Nandula at the Delta Research and Extension Center have worked with Palmer amaranth to confirm resistance in this species; and it does appear as if we have resistance issues. However, on many of the heavier Delta soils, waterhemp species appear to be surviving applications of glyphosate. Waterhemp is in the genus *Amaranthus*; however, waterhemp will generally have long, linear leaves and that appear glossy. Additionally, the stems and leaves of waterhemp generally have no hairs. In contrast, pigweed leaves are lance to egg-shaped. Palmer amaranth leaves will be glabrous (without hair) whereas smooth or redroot pigweeds tend to have small hairs on the leaves and stems. If you suspect resistance may be an issue in your field, please call myself (662-418-1024) or any MSU or MSU-ES employee immediately so we can further examine your weed populations.



Corn Insects

Dr. Chris Daves

SWCB Traps: Trap captures from around the state are beginning to increase. This week in Yazoo County my traps averaged 75 moths per trap. We were seeing a few bored stalks in some of these fields. Below is a summary of all the trap captures from 2007. Each line represents a different portion of the state. In 2007, trap captures peaked the last week of June.



Sugarcane borers: Sugarcane borers are causing some damage to corn and milo across river in Louisiana. We typically don't hear about this pest in Mississippi, but the potential for infestations by this pest is certainly a concern. The damage caused is very similar to that of southwestern corn borer. Scouting can be very difficult and there is no pheromone available to aid in monitoring for this pest. I would encourage keeping a close eye on late planted corn and milo, especially in the south delta and along the Mississippi river. Bt corn is very effective in controlling sugarcane borers. In conventional corn and milo this pest can be extremely destructive. Timing of the insecticide application is critical. Like the southwestern corn borer, once it enters the stalk we can't control it with insecticides. If you suspect an infestation of sugarcane borers please let me know 662-418-1492.



Stink bugs: are still a concern in some areas around the state. Corn maturity across the state varies greatly. Several fields have been treated for stink bugs to prevent damage to the developing ears. The threshold during ear development or approximately prior to silking is when 5% of the plants have one or more stink bugs present. This is the most susceptible period for injury to occur. Damage at this time could result in the loss of the entire ear. Once the silking stage is reached, stink bugs are less of a concern. While they may be found in corn at silking or beyond, research studies have shown as many six stink bugs per ear did not cause detectable damage.

Northeast Mississippi Pests Update

Dr. Don Cook:

I have not seen or heard of many insect problems on cotton in the area. However, we found a treatable infestation of plant bugs on some of the bigger cotton on the station at Verona. This cotton has three to four squares and is next to blooming soybeans. It has not been hard to find plant bugs in older soybeans that are blooming. The numbers have ranged from a few to many depending on the field. In the fields that we have looked at, plant bugs are fairly abundant in corn with exposed ears and silks.

Three-cornered alfalfaoppers numbers in soybeans are variable, but seem to be increasing in some area. I have looked at a couple of fields that have hopper injury. In both cases the injury was not new and hopper numbers were fairly low when I looked at the fields. The main stem of the injured plants had been girdled and the damaged plants would break over when you hit them with a sweep net. We have seen very few stink bugs in soybeans.

In corn, we have seen fairly low numbers of stink bugs. But most fields have some and I have heard of one field that has been treated for stink bugs.

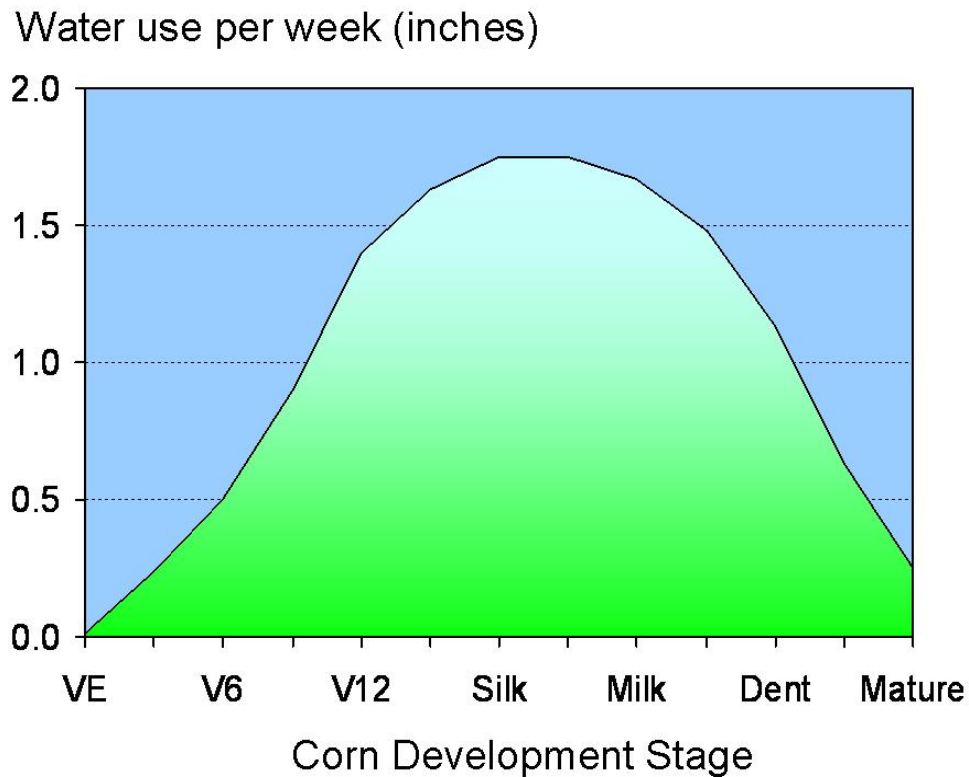
Corn Agronomics

Dr. Erick Larson

Corn's most critical and largest moisture requirement occurs during a four week period following tasseling, which will occur during June through mid-July for most of Mississippi's crop. Thus, since most of our crop has recently tasseled or will tassel relatively soon, this season's crop will be extremely dependent upon rainfall or supplemental irrigation during the upcoming weeks. Potential corn yield can be reduced up to 4 - 8 percent per day due to water deficit during this period. Thus, insufficient irrigation water and/or slight delays can quickly reduce yield potential and evaporate profitability. Corn plants use about 1.50-1.75 inches of water per week during peak water use, so producers nearly always must supplement rainfall with

irrigation to meet crop demand during this extremely critical period. In order to effectively irrigate, enough water must be supplied to meet crop demand throughout the season, especially during peak water use at critical growth stages. We are sometimes tempted to delay irrigation because of forecast rainfall, plant stress is not visible or other reasons, and this gamble often fails miserably. The cumulative effects of several irrigation delays during a dry season normally cause considerable grain yield reduction. Last season's July rainfall alleviated this problem in many areas, tremendously contributing to the record irrigated yields.

Figure 1. Normal corn water use during the growing season.



This figure shows relative corn water demand throughout the season, but the actual magnitudes represented may significantly vary depending environmental conditions, particularly temperature, humidity, wind and sunshine. For instance, water use would be much higher on a hot, sunny day with low humidity and high winds because evapotranspiration (combination of evaporation and crop transpiration) rates would be considerably higher than normal. Keep in mind that supplemental irrigation amount needs to exceed crop water demand to compensate for evaporation, runoff and other sources of loss. This is particularly important for center-pivots, since loss averages about 15-20% and there is little margin for error to begin with.

Two primary types of systems are utilized to irrigate corn in Mississippi, furrow irrigation and center-pivots. Center-pivot systems received are often criticized after extremely droughty years, regarding their perceived inadequacy for corn irrigation, compared to furrow irrigation. While many of our center-pivots will struggle supplying sufficient water to meet crop demand, center-pivots would not be by far the most prevalent system throughout the irrigation belt from the panhandles of Texas and Oklahoma, western Kansas, eastern Colorado, and Nebraska, if they were not the most efficient irrigation system currently available for corn production. Therefore, we might improve our crop productivity in the Delta, by incorporating new technology or design, and alleviate other limiting factors, such as soil-water infiltration.

Most of the center-pivots in our state are somewhat handicapped because they are not designed to fully meet crop demand without some help from rainfall. However, we need to do our part by operating our center-pivots seven days a week, 24 hours a day (as they are designed), especially during peak water use. This is critically important when stored soil water is limited, because there is little moisture to compensate when crop water use exceeds system capacity. A center-pivot must make about three revolutions to supply a comparable amount of water to the crop, as one furrow-irrigation, further confirming the need to keep pivots running. Center-pivots can be rested slightly after the dough stage, when water use begins declining, to prevent systems getting stuck late in the season.

Furrow-irrigation can supply enough water to meet corn water demand, if appropriate scheduling is utilized. However, furrow-irrigation systems lose some efficiency because soil moisture levels fluctuate widely between irrigation events and may not be consistent across the field. The large flush of irrigation water pushed through the field saturates soils for a brief time following the irrigation event, particularly close to the pipe. This soil saturation reduces aeration, temporarily stunting the crop, and promoting nutrient loss. Then soils gradually dry until the next irrigation event, producing some level of water-deficit at the end of the schedule. This inconsistent fluctuation in soil moisture from one extreme to the other, which is inherent with furrow-irrigation limits crop productivity and is somewhat difficult to schedule. Furrow-irrigating large fields or irrigation sets greatly increases these problems. Thus producers can improve furrow irrigation efficiency substantially by maintaining small to medium-sized irrigation sets, which take less than 24 hours to water. Given the plentiful rainfall earlier this season, soil moisture reserves should be monitored closely to avoid extended saturation (over-watering), resulting from more frequent than necessary irrigation timing. Soil moisture can be sampled in the field using a soil probe or a spade or sharpshooter-type shovel, or tensiometers.

2008 Budworm/Bollworm Trap Captures

Pheromone Traps Captures – Don Cook, Chris Daves, and Fred Musser. Week of June 19, 2008.

County	This week last year Bollworm	Bollworm	This week last year Budworm	Budworm	Beet Armyworm
Calhoun	--	0	--	4	97
Chickasaw	7	6	125	0	83
Hinds	5	0	54	6	8
Lafayette	--	2	--	0	1
Lee	14	31	27	32	21
Lowndes	23	4	58	14	22
Madison	1	1	22	35	30
Monroe	--	1	--	24	--
Noxubee	6	8	31	101	16
Oktibbeha	--	2	--	2	--
Pontotoc	--	4	--	4	7
Prentiss	1	6	12	6	15
Rankin	--	3	--	93	26
Scott	--	0	--	30	5
Union	3	5	23	4	4
Webster	--	1	--	1	11

Ryan Jackson USDA Trap line

June 16, 2008

County	This Week last Year Bollworm	Bollworm	This Week last Year Budworm	Budworm	BAW
Washington	11	5	15	10	-
Sharkey	20	37	9	0	-
Humphreys	7	14	79	21	-
Yazoo	15	6	23	29	-
Holmes	25	3	45	10	-
Leflore	75	15	28	18	-
Tallahatchie	30	30	78	31	-
Coahoma	5	32	13	0	-
Bolivar	19	35	39	0	-
Sunflower	20	6	24	2	-

2008 Southwestern Corn Borer**Southwestern Corn Borer - Chris Daves - June 18, 2008**

County	Avg/Trap	County	Avg/Trap
Adams	0	Monroe	2
Attala	-	Montgomery	-
Calhoun	0	Noxubee	1
Carroll	13	Panola	2
Chickasaw	0	Pearl River	0
Clay	1	Perry	0
Coahoma	1	Pontotoc	3
Covington	0	Quitman	1
DeSoto	2	Rankin	1
Forrest	0	Scott	3
George	0	Sharkey	0
Grenada	1	Simpson	0
Hinds	0	Sunflower	3
Holmes	-	Tate	2
Humphreys	4	Tunica	0
Issaquena	-	Union	2
Leake	-	Warren	1
Lee	2	Washington	7
Leflore	6	Yalobusha	-
Madison	1	Yazoo	75

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