Mississippi Crop Situation

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Past Newsletters Archive

This Weeks Planting Report

National Agricultures Statistics Services (Mississippi) Crop Progress for Week Ending 5/25/08

Crop	This Week % Planted	Last Week % Planted	Last Year % Planted	5- Year Average % Planted
Corn Planted	100	99	100	100
Corn Emerged	99	98	100	100
Cotton Planted	77	37	97	94
Cotton Emerged	40	23	84	84
Peanuts Planted	80	70	69	--
Rice Planted	92	83	99	98
Rice Emerged	82	75	96	94
Sorghum Planted	79	61	97	93
Sorghum Emerged	63	48	88	95
Soybeans Planted	85	74	97	93
Soybeans Emerged	72	64	91	89
Winter Wheat Mature	67	2	68	49
Winter Wheat Harvested	2	--	11	5

Corn Agronomics

Dr. Erick Larson

Rainfall and/or other limitations compounded by wet weather during this spring, have delayed nitrogen fertilizer application for some corn growers, making side-dressing no longer possible, because the crop is now too tall to permit ground equipment passage. Thus, these growers must generally apply their remaining nitrogen by airplane or high clearance applicator.

Proper timing for emergency nitrogen applications depend primarily upon crop health and growth stage. If the crop is lime green or lower leaves are turning yellow and firing up (nitrogen deficient), then nitrogen fertilizer application should proceed as quickly as possible. We do not suggest applying nitrogen fertilizer when soils are completely saturated, flooded or ponded, because anaerobic conditions stunt crop growth/response and promote nitrogen loss. However, **you do not have to wait for the soil surface to completely dry or crust before application, if the crop is nitrogen deficient,** particularly if there is a high likelihood of subsequent rainfall (to incorporate the nitrogen) and the soil is well-drained. Prolonged nitrogen deficiency during rapid vegetative stages, which is when nitrogen demand is highest, is going to reduce corn grain yield potential considerably. If the crop is dark green, then you have slightly more latitude to wait for "ideal" application conditions. Fertilizer application should generally commence well before tassel stage, so rainfall can incorporate the nitrogen into the soil and plants can use it and improve their health, before kernel development begins.

Figure 1. Wet weather and other complications will force some growers to apply nitrogen by airplane, rather than ground equipment, to their corn crop.

The primary limitation with applying granular nitrogen fertilizer during mid-season is leaf burn resulting from fertilizer granules falling into leaf whorls. Thus, **broadcast application should be limited to 100 to 150 pounds of granular nitrogen fertilizer material per acre on corn more than 3 feet tall.** Avoid fertilizer application when leaves are wet with dew or rain, because moisture encourages fertilizer granules to stick to leaves and promote burn. Many will likely need to make two applications to attain the nitrogen needed for the crop, rather than applying one large application (200 to 300+ pounds of fertilizer material/a. – or about 70 to 150 lbs./a. of N). Delaying the second application a week or more will spread a reasonable amount of burn on different leaves, rather than causing severe burn on concentrated leaves.

Figure 2. Leaf burn caused by broadcast application of granular nitrogen fertilizer initially appears bad, but the relatively small loss of leaf area is far less troublesome than mid-season nitrogen deficiency to a corn crop.

When topdressing nitrogen later than normal, you should be able to use more conservative fertilizer rates than normal (about 1 pound or less of actual N per bushel of corn grain yield goal). Plants should use the nitrogen very efficiently, since they are already rapidly using

nitrogen during late vegetative stages. Furthermore, if the crop has been deficient for long, normal yields are no longer likely, so full rates are not necessary.

Two sources of granular nitrogen fertilizer are generally most feasible for mid-season topdress application on corn – ammonium nitrate and urea. Ammonium nitrate is generally the preferred nitrogen source because it is not subject to volatilize, compared to urea. When urea is broadcast on the soil, it reacts with the enzyme urease converting it to ammonia. If this process occurs on the soil surface, particularly if crop residue is present, ammonia is lost in the air as a gas in the air (volatilization). Rainfall or tillage is needed to incorporate urea into the soil where ammonia becomes ammonium and binds to the soil. Volatility can be a more important problem during the early summer, compared to early spring applications on wheat, because warm temperatures and rapid evaporation encourage nitrogen loss. You can reduce volatility by adding urease inhibitors, such as Agrotain, to granular urea. Urease inhibitors temporarily slow the activity of the urease enzyme. But you'll still need timely rainfall or overhead irrigation to get urea-based N into the soil so the plants can use it.

Foliar nitrogen fertilizers and lower analysis nitrogen sources are not feasible for these situations because they cannot economically supply sufficient nitrogen to meet crop demand.

Figure 3. Typical leaf burn caused by broadcast application of granular nitrogen fertilizer after the crop becomes too tall to sidedress.

Corn Growth Stages

Dr. Erick Larson

Corn growth stage identification during vegetative stages is typically classified according the number of fully emerged leaves with visible leaf collars. However, after plants exceed V6 stage, stalk elongation and natural lower leaf degeneration occur, causing the lower (eventually three to four) leaves to fall off or be torn from the stalk. This makes growth stage identification more difficult during the later vegetative stages approaching tassel. However, absolute accuracy of specific advanced vegetative stages is not normally critical for many management decisions.

In order to help judge approximate timing until tassel emergence, I would generally recommend using plant height, movement of the tassel to the upper whorl and the emergence of upper ear shoots as clues that pollination is rapidly approaching. Corn about six feet tall or more is generally two weeks or less from tasseling. You can likely begin finding upper ear shoots tips starting to emerge and swell about 7-10 days prior to silking. Tasseling (VT) is defined as when all tassels and leaves have completely emerged, but ear silks are not yet visible. Silk emergence closely follows VT (within 2 to 3 days), so that tassels shed pollen when receptive silks are present. Silks generally remain receptive to pollen for about 10 days, then dry and turn brown as pollinated kernels develop into the blister stage (R2).

Soybean Insects

Angus Catchot

Stink Bugs: We are beginning to have a portion of the crop move into reproductive stages on soybeans. Stink bugs are seed feeders by nature. They would prefer to be in a soybean field when beans are filling pods and we see our highest numbers reached around R6. This is why it is not uncommon to plant several maturity groups next to each other and see the highest numbers in the first beans that start filling pods first with very few in the beans that are not filling pods. We see this every year in our research plots where we have mixed maturities planted in the same area. This is also why the idea of "trap crop" with early group 3 or 4 beans seems somewhat plausible for stink bug control. My research associate, John Smith, worked on this in AR for his masters thesis. His results indicated that there could be potential benefits in areas where there is little outside influence from other crops and wild hosts but in delta environments where stink bugs are moving in from many sources and often long distances that it became difficult to show economic benefits on a large scale. This was also due to the fact that there were so many soybeans planted early to early maturity groups masking the effects of the trap crop.

This week I have had several calls on above threshold numbers in beans that are at R2. We see this occasionally in soybeans that are not filling pods but there is likely little damage associated with stink bugs in soybeans during this window. However, very shortly these beans will begin putting pods and will become very susceptible to stink bugs. I mentioned the idea of a trap crop earlier because this is a very late and spread out crop this year with a lot fewer acres planted during our "normal" early window traditional for Mississippi's Early Planted Soybean System. For example we are only 63% emerged this year compared to our 5-year average of 95%, according to MS Ag Statistical Service. With the non-uniform structure of our soybean crop this year coupled with already high stink bug numbers that we have seen in Wheat and Corn, I would expect to see high numbers of stink bugs moving in to our earliest beans which are much fewer acres that may essentially act like a trap crop without being diluted out from a normal uniform early planting that we generally have in MS.

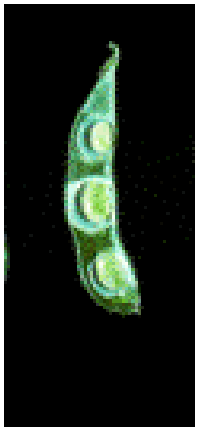
If you are in one of the areas (seems to be more central delta) that are sweeping above threshold numbers of stink bugs in flowering beans, I would consider waiting until your fungicide application goes out at R3 before treating for stink bugs. This will be on average 10 days from R2 until you get to R3 but can range from 5-15 days. This scenario does not fit every acre, and I am only talking about acres that are above threshold during the R3 stage. There is no substitute for sampling the crop. On most acres there will not be anywhere near threshold numbers of stink bugs at R3 and there will be no need for adding an insecticide in with a fungicide application.

Below are Mississippi's thresholds for stink bugs in soybeans. We are one of the few states with a threshold that changes from 3 to 9 at mid-pod fill. Most every other state in the south has a constant threshold of 9/25 sweeps from R3-R8. The most recent data from AR supports the one threshold of 9/25 sweeps from R3-R8. This is another reason that I would be hesitant to jump out early with an insecticide application prior to R3 and even at low numbers at R3. As always, please call with any questions.

Thresholds

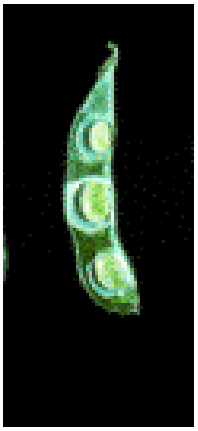
Bloom – Mid pod fill

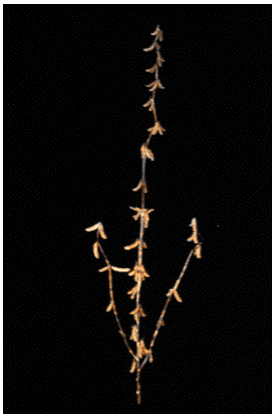
- **Ground Cloth – 1 per 3' row**
- **Sweep net - 3 per 25 sweeps**



Mid pod fill – Maturity

- **Ground Cloth – 1 per 1' of row**
- **Sweep net - 9 per 25 sweeps**





2008 Budworm/Bollworm Trap Captures

Ryan Jackson USDA Trap line

May 27, 2008

County	This Week last Year Bollworm	Bollworm	This Week last Year Budworm	Budworm	BAW
Washington	21	26	0	4	-
Sharkey	54	120	0	6	-
Humphreys	5	98	1	18	-
Yazoo	16	15	0	29	-
Holmes	3	50	0	5	-
Leflore	27	167	0	9	-
Tallahatchie	5	167	0	0	-
Coahoma	13	77	2	0	-
Bolivar	18	28	0	2	-
Sunflower	43	55	0	24	-

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