

# Mississippi Crop Situation

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## Corn Agronomics

**Dr. Erick Larson**

**Bird Repellent Exemption** - The EPA has granted the Mississippi Department of Agriculture a Section 18 exemption allowing the use of anthraquinone (Avipel™) for the purpose of repelling blackbirds, grackles and crows in newly planted field or sweet corn in the state of Mississippi. Avipel's active ingredient is a natural, non-lethal compound proven to repel birds. Avipel is available for use on corn seed as either a liquid or dry formulation. The liquid formulation has demonstrated very reliable performance on large avian species, such as cranes, and is the preferred formulation for high bird pressure fields, but does require commercial seed treating prior to planting. The dry formulation offers growers the convenience and speediness of hopper-box treatment, but its effectiveness is dependent upon thorough seed coverage and gentle handling. For example, performance of the dry material may not be as good as the liquid form when used in planters with air or vacuum seed metering systems, because the air circulation may remove some of the product from seeds before planting. The use of supplemental dry lubricant on the corn seed may also reduce Avitec seed coverage and/or adherence of the dry formulation, and subsequent repellency.

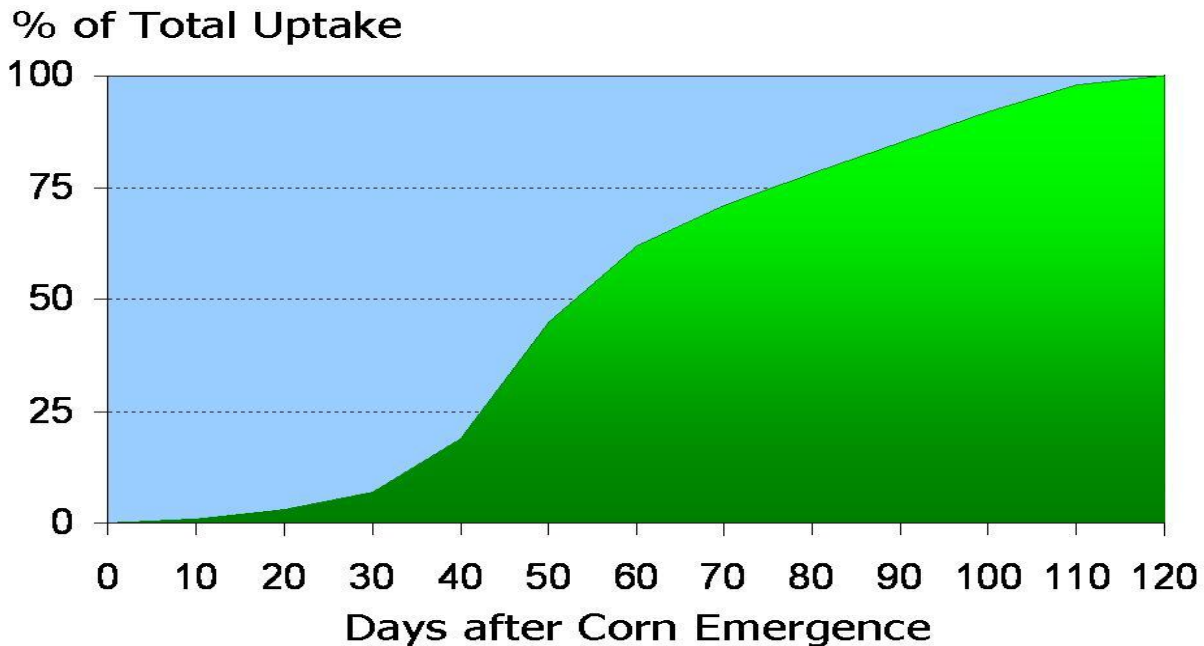
**Figure 1.** Mississippi growers may use Avipel to reduce blackbird depredation in freshly planted corn fields.



**Nitrogen application** – Nitrogen, unlike some other nutrients, is very subject to change forms in the soil, which can substantially affect its availability to plants. The South’s warm, high rainfall climate greatly increases potential nitrogen loss through denitrification and leaching, compared to drier and colder climates. Springtime denitrification losses can be very substantial, particularly in our heavier, clay soils, when soils remain saturated for extended periods. Denitrification happens when microorganisms turn nitrate nitrogen into nitrogen gas. These gases then escape into the air. Warm soil temperatures speed up this process. Research indicates denitrification rates range from 2 to 3 percent per day at soil temperatures from 55 to 65 °F. Denitrification rates increase to about 5 percent per day when soil temperatures are warmer.

Mississippi’s warm, wet climate dictates we take specific management measures, to optimize crop utilization of nitrogen fertilizer. Nitrogen application timing can have considerable effect on potential nitrogen loss. Since corn nitrogen requirement is high, and it is the first crop planted in the spring (when losses can be high), application timing can have tremendous impact on corn productivity and your profitability. Therefore, I strongly encourage you apply nitrogen fertilizer at different times according to corn need -- in other words “spoon feed” your crop using a split application strategy. This split application method reduces the likelihood of considerable nitrogen loss due to wet weather before crop uptake, and increases crop response to nitrogen fertilizer. Corn uses less than 10 percent of its nitrogen before rapid vegetative growth begins. This growth spurt usually happens in late April through mid-May, depending on seasonal temperatures and planting date. Thus, there is no good reason to apply considerable nitrogen in March, when it is not needed until May. You can use nitrogen more efficiently if you apply only a small portion of nitrogen just after plants emerge. This reduces the amount of nitrogen exposed to potential early season loss. Apply the bulk of your nitrogen fertilizer just before the growth spurt, when the plants need it most. Our standard nitrogen recommendation is to apply no more than one-third of the total nitrogen near planting/crop emergence. Apply the remaining nitrogen about 30 days later. Corn should be higher than 12 inches or at V6 growth stage by the second application.

**Figure 2.** Corn seasonal nitrogen uptake illustrated as a percentage of total uptake. Corn nitrogen uptake is very low during the early season. Thus, minimizing nitrogen exposure to potential early season loss should enhance nitrogen efficiency in our warm, wet climate.



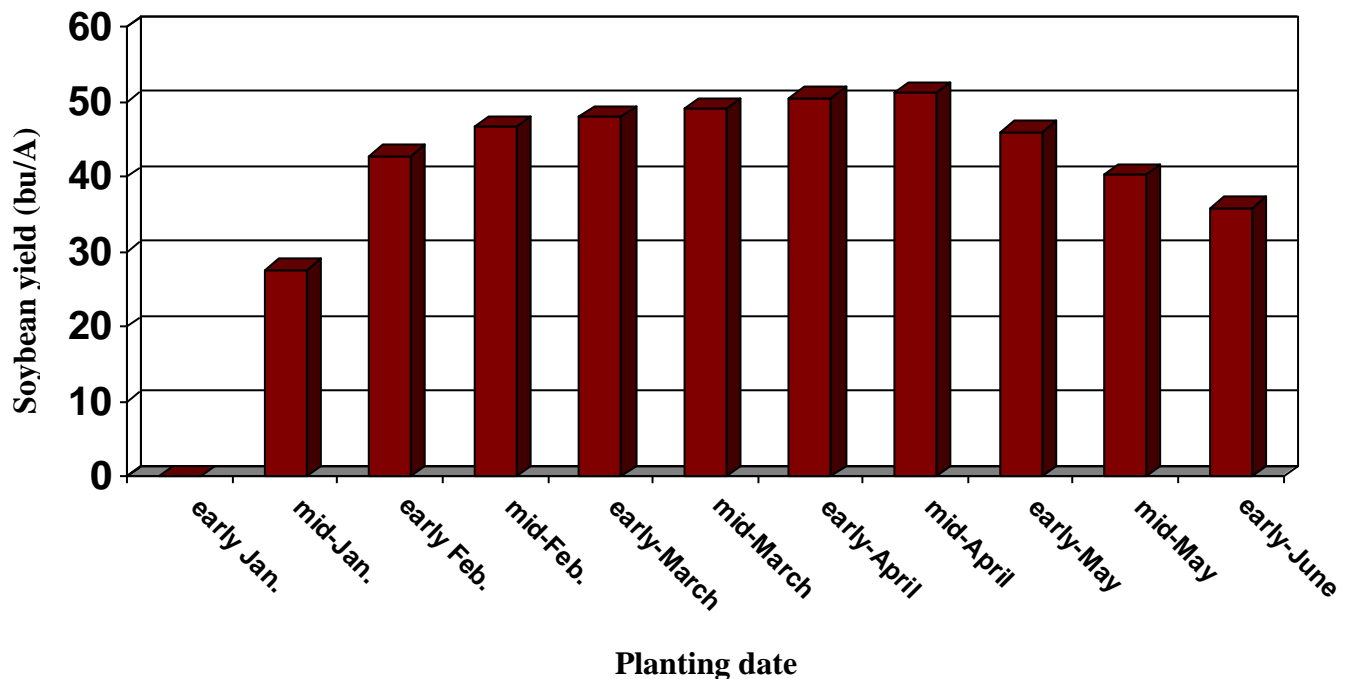
## Soybean Agronomics

**Dr. Trey Koger**

**Effects of planting date on soybean yield:** There are several things to keep in mind when it comes to selecting a planting date for non-irrigated group IV soybean. Long term research conducted by Dr. Larry Heatherly (retired USDA-ARS, Stoneville) as well as work we have conducted in the last three years has the optimal window to plant non-irrigated group IV soybean in MS is between April 1 and April 20<sup>th</sup>. This is not to say planting in mid- to late-March won't result in acceptable to even excellent yields. However, we are more likely to see cold weather in mid- to late-March that can have an adverse effect on soybean plant development and subsequent yields as compared to planting in early to mid April. In years that we don't get cold weather in mid- to late-March we will see comparable yields when compared to planting in early to mid April. Because we can't predict the weather, planting in early to mid April is our optimal planting window, especially if we look at planting date data across many years. See the graph below that shows non-irrigated group IV soybean yields as affected by planting date. Other factors that should be considered when deciding on a planting date for non-irrigated group IV soybean include:

- Planting in mid- to late-March and sometimes into early April (weather dependant) can result in soybean plants that don't grow off well and stunted growth that can result in yield reductions.
- Plant in narrow rows if possible when planting in late-March through early April to help shade row middles quicker.
- Consider harvest capacity and the need to harvest other crops (i.e. corn and rice) when considering a planting date. You don't want all your crops coming off at the same time if you have limited combine capacity.
- Early planting (early to mid April) does help in avoiding some weed pressure (crop is up and going before most weeds emerge). Early planting also helps to avoid some late season insect and disease pressure.

**Non-irrigated group IV soybean yields: effect of planting date**



## Market Briefs

**Dr. John Michael Riley**

**Cotton:** Despite a reduction in domestic demand for cotton, this month's World Agricultural Supply and Demand Estimates report released by USDA today should be considered neutral to bullish. No changes were made to supply this month as compared to the February report (US production for 2008 remains at 13.04 million bales), but domestic use was lowered 150,000 bales to 3.75 million, down from 3.9 million (-3.8%) as demand continues to drag given the current economic state of the US. On the positive side, exports were increased 500,000 bales to 12 million. The net result is a reduction in ending stocks to 7.3 million bales, down about 5% from the previous month's estimates. This is slightly lower than analyst pre-report expectations of 7.48 million bales (pre-report range: 6.8 to 7.7 million bales).

USDA's projected marketing year average price is 46 to 52 cents per pound which is lowered 1 cent on the lower end and 2 cents on the upper end from last month. This is the result of continued downward pressure on cotton prices over the last month. Today's report, along with positive news yesterday and today on Wall Street, should help alleviate some of this pressure.

Globally, world cotton supply is reduced about 1% to 108.65 million bales. China continues to see its supply reduced for a second straight month. This month China's production is projected at 35.8 million bales, down from 36.5 the month before. However, global carryover is increased from last month at 62.55 million bales as compared with 61.71 in February.

**Corn:** This month's WASDE projections included some good news and some bad news from the corn market's perspective. The good news was on the domestic front. USDA projections for total corn use were revised up by 50 million bushels. This reflects a 100 million bushel increase in projected ethanol use of corn, partially offset by a 50 million bushel reduction in exports. The resulting 50 million bushel decline in ending stocks to 1.74 billion bushels was well within the range of pre-report estimates and so was more-or-less neutral in terms of market impact.

The bad news in the report relates to global supply and use figures. Upward revisions in world production estimates and downward revisions in world use figures (pretty much entirely due to lower than expected use in China) increased world ending stocks estimates by about 6% over last month's report. The 144.62 million metric ton (MMT) world carryover estimate signifies the largest corn ending stocks figure since the close of the 2000/01 marketing year. This increase in corn carryover parallels similar increases for wheat. Rising stocks of grain coupled with relatively weak consumer demand represent a real challenge for grain prices moving forward.

Corn market fundamentals have improved some over the past couple of weeks apart from the information summarized in the WASDE report. A run-up in crude oil futures last week supported moderately higher corn futures. The oil market was responding both to threats of production cuts by OPEC and a weakening of the dollar as the US stock market sank to new 12-year lows. Crude oil's rally may be cut short as a crude oil inventory report released this morning by the Department of Energy showed a modest increase in crude oil stocks instead of the modest decrease that most market-watchers had expected.

The corn market is also trying to process the signals being sent by USDA that the administration is making a pretty hard push to get the Environmental Protection Agency to raise ethanol blending requirements for petroleum refiners from the current 10% up to 12-13%. This would

clearly be supportive of corn prices; however, the magnitude and the timing of a blend requirement change remain unknown at this point.

**Soybeans:** Wednesday's WASDE report included a 25 million bushel reduction in projected US soybean carryover for the current marketing year. This decline in stocks was due to an increase of 35 million bushels in soybean export projections. Domestic crush estimates were revised down by 10 million bushels. The 185 million bushel carryover estimate appeared to be in line with market expectations. World supply and use estimates were little changed from last month's figures.

Expectations of very large (probably record large) soybean plantings this spring are already factored into the market. The situation in the corn market seems to be a bit more fluid, with uncertainties related to energy prices and energy policy (e.g., ethanol blending requirements mentioned earlier) having the potential to move the corn market substantially in the near term. For this reason, at least in the short run, the soybean market will most likely take its lead from these outside markets, as has been the case for the past several weeks already.

**Wheat:** Wednesday's WASDE report was very bearish for wheat. Projections of US wheat ending stocks were raised by 8.7% over last month to 712 million bushels. This reflects both lower domestic food use and lower exports of wheat. The global situation is similar to that in the US market. World ending stocks projections were raised by about 4% from last month to 155.85 MMT. The increase mostly reflects lower feed use of wheat in Russia. The WASDE report notes that wheat ending stocks are at their highest level in six years. Wheat prices are likely to remain under pressure as increasingly abundant supplies meet lackluster demand. The most supportive factor in the wheat market for the time being will be the soybean market. Relatively tight soybean stocks will support prices for that key competing crop at least until this year's crop is made. Winter wheat conditions are not looking too good in parts of the Southern Plains (especially in Texas), but so far the market does not appear too concerned.

**Rice:** This month's WASDE report shows no changes to the US rice supply with 2008 production still at 203.7 million cwt. Domestic use of rice is also unchanged at 251.2 million cwt. However, exports did take a hit as projections for the 2008 crop are pegged at 94 million cwt, down 4 million cwt from last month. Both long- and medium-grain rice are lowered 2 million cwt each to account for the reduction. As a result rice ending stocks are raised 4 million cwt to 30.2 million cwt. USDA projects the marketing year average price for long-grain rice to be \$14.50 to \$15.50 (down 50 cents on each end) and medium/short-grain rice is unchanged at \$20.50-\$21.50.

## Announcements

**The 2009 Insect Control Guides are in** see your local extension agent to get a copy

**New Publication on Soybean Insect Identification** is in. To see a web version click on this link <http://msucare.com/pubs/publications/p2543.pdf> or see your local extension agent to get a hard copy.

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