Arkansas Cotton Update

UNIVERSITY OF ARKANSAS DIVISION OF AGRICULTURE

April 30, 2008 | Tom Barber - Editor | Number 3

Planting Forecast (Tom Barber - Extension Agronomist, Cotton)

The comments in this planting forecast are meant to be used as a guide. Weather forecasts are subject to change and errors. The comments included below provide no guarantee and are meant only as a guide.

Predicted DD60 accumulation for five days following planting	Outlook for planting
< 10	Very Poor
11-15	Poor
16-25	Marginal
25-50	Good
>50	Very Good

Five-Day Heat Unit Accumulations (DD60) and Rainfall Outlook (May 1 – May 5)

Northeast Arkansas

Historic DD60s – 36
Predicted DD60s – 20
Precipitation – 80% Chance of rain Friday, 20-30% for the rest of the 5 day forecast.
Planting Forecast – **MARGINAL**- A cool front will move through the state Thursday night into Friday. The amount of rainfall we receive will depend on whether or not the front will stall out over Eastern Arkansas. If it does we could possibly see 1 to 2 inches. The temperatures will also decrease with lows into the 40's over the weekend. Planting before the front would be risky.

Central Arkansas

Historic DD60s – 46.5
Predicted DD60s – 23
Precipitation – 80% Chance of rain Friday, 20-30% for the rest of the 5 day forecast.
Planting Forecast – **MARGINAL** – The safest bet would be to wait until this cool front passes.

Southeast Arkansas

Historic DD60s – 56.5
Predicted DD60s – 37.5
Precipitation – 60% % Chance of rain Friday, 20-30% for the rest of the 5 day forecast.
Planting Forecast – **GOOD** – Temperatures will be warmer in the Southeast but conditions for rapid cotton emergence are not favorable with the cooler temperatures and heavy rain in the forecast.

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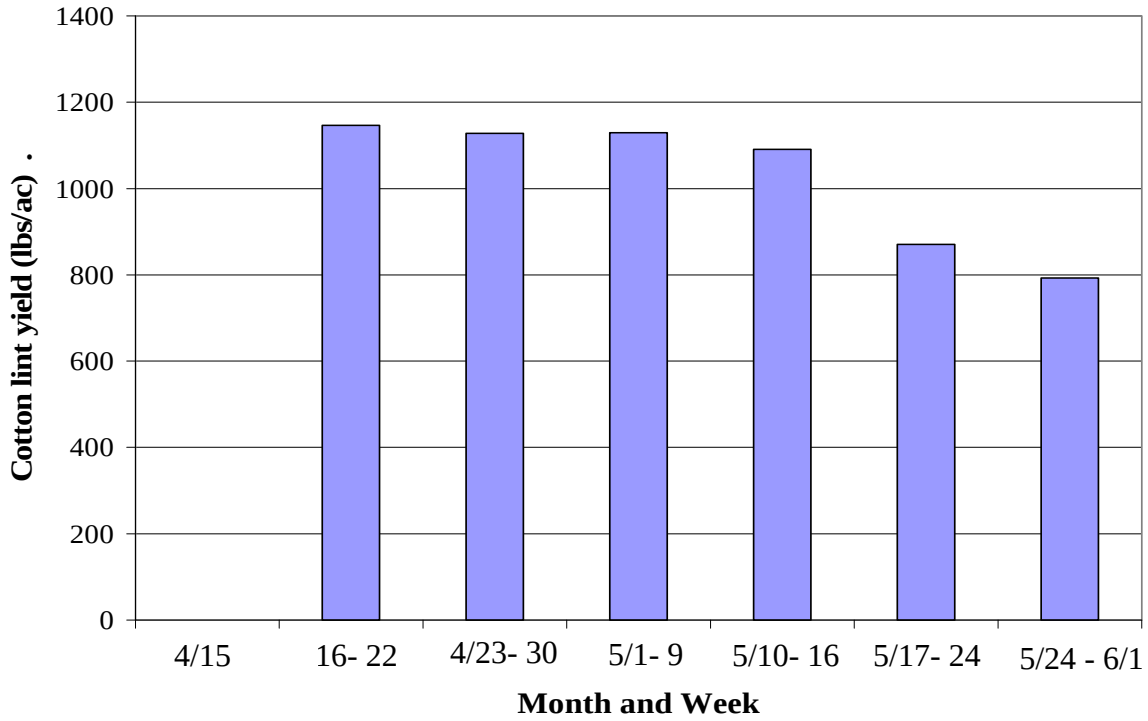
Special Interest Articles: Planting Forecasts -Cotton Update - Cotton Fertility - Extension Contacts

Cotton Update (Tom Barber - Extension Agronomist, Cotton)

The Arkansas Agricultural Statistics service reported that 10 out of 36 weather stations across the state recorded more than 2 inches of rain last week, with some areas receiving close to 5 inches of rain. As of last Monday 8 percent of the cotton was reported planted, which compares to 13 percent this time last year and 17 percent planted to date on a 15 year average. Frequent rainfall and cooler than normal temperatures are frustrating to those attempting to plant cotton and other crops. One thing is for sure, one day the rain will stop, temperatures will rise and we will once again be looking for some relief. Planters have been rolling in some of the dryer fields of Northeast Arkansas and a few other localized areas. It looks like we will get more rain on Friday. How much, is anybodies guess, but I have delayed all cotton plot planting until next week. Cotton that I planted in Desha County last week (before the 4 in. rain) has that old yellow "Cotoran" look today. I expect that most of the cotton that is planted to date will have a very similar look the next couple of days.

We still have plenty of time to plant the 2008 cotton crop. The chart below developed by Terry Griffin (Extension Economist) shows the effect of planting date on Cotton yield in the last 20 years of the Cotton Verification Program. In the last 20 years there were no fields in the verification program planted before the 15th of April. The data provides an excellent picture of our planting window for cotton in Arkansas. Higher yield potential was maintained in the verification program when fields were planted between April 16th and May 16th. However fields that were planted past the third week of May tended to have a lower lint yield on average. **Don't panic**! We still have plenty of time to get this crop in the ground. Take your time, plant when conditions are right. Re-plants will be more costly and most of the time result in reduced yield, especially when planted towards the end of May or first of June.



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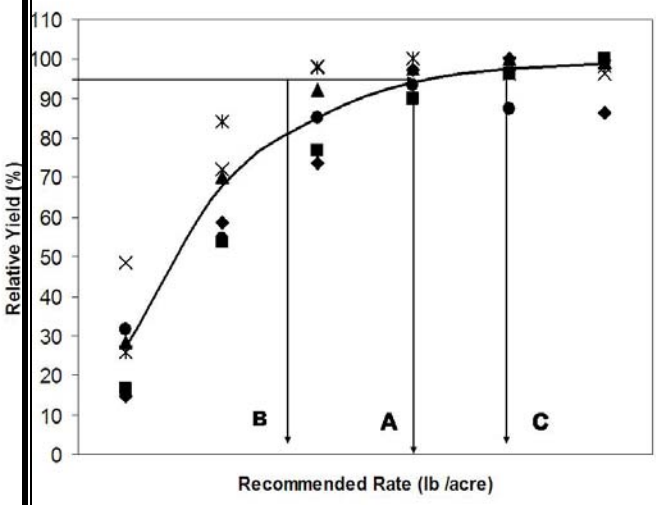
Cotton Fertility (Leo Espinoza – Extension Agronomist, Soils)

What do our fertilizer recommendations for P and K really mean?

With the high cost of fertilizer many farmers wonder if there is room to cut on fertilizer without affecting yields. Each farmer's situation is different: yield potential, land ownership, line of credit will all affect how much fertilizer can be purchased. But if there was a time when the soil test had value… it is now. During the last years, I have noticed that 9 out of 10 samples have tested "optimum" or "above optimum" for both K and P, that is typically 5,400 out of 6,000 samples!

Fertilizer recommendations are derived from tests conducted under varying soil, weather and cropping practices, **so they are average in nature**. That means that there are situations where the recommendations would need to be adjusted. The figure bellow shows a typical yield response curve. Line A represents the recommended rate. This rate is defined as the point (fertilizer rate) at which a 95% relative yield crosses the curve. Results of this test show that there are some locations where 95% relative yield was obtained at rates lower than the recommendation (Line B). There were also locations where applications, higher than the recommended, were necessary to reach 95% (Line C). It is really up to the farmer or consultant to modify such recommendation for his particular conditions.



But even knowing that, I would say that if a soil test shows K levels higher than 350 lb/acre, and this sample represents the levels in the field, the chances of getting a yield response to fertilizer applications are very low. When it comes to P, we don't recommend any applications for levels larger than 70 lb/acre, which is still a conservative level.

In 2006, we revised the fertilizer recommendations for cotton to include the amount of nutrients removed by a yield of approx 1000 lb of lint per acre. The removal rate was selected from published research. We also included a build up rate for P and K, for those samples testing "low" or "very low" and a maintenance rate for those samples in the "optimum" range. We assumed it takes 15 lbs of P_2O_5 to raise the soil test by 2 lb/acre, and 8 lbs of K_2O to raise the soil test by 2 lb/acre because some of the P and K fertilizer is fixed by the soil. Since the amount of P and K to be recommended would be very high, we divide that rate by 8 (in theory it would take 8 years to build a field testing very low or low on P and K).

The quality of the soil sample is very important, and by now we have learned how variable the nutrient levels can be in some of our fields, so more than one sample may be needed. Supplemental applications are not included in our recommendations as their need depends on the yield potential for a particular season.

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