



Arkansas Cotton Update



April 13, 2010

Tom Barber - Editor

Number 1

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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.

Five-Day Heat Unit

Accumulations (DD60) and Rainfall Outlook (April 14 – April 18)

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

Northeast Arkansas

Historic DD60s – 7.5

Predicted DD60s – 32.5

Precipitation – 30% chance Saturday

Planting Forecast – Good*

Central Arkansas

Historic DD60s – 15

Predicted DD60s – 39

Precipitation – 30% chance Saturday.

Planting Forecast – Good*

Southeast Arkansas

Historic DD60s – 28

Predicted DD60s – 44

Precipitation – 30% Saturday, 30% Sunday, 40% Monday

Planting Forecast – Good*

The unseasonably warm weather forecast over the next five days predicts temperatures which provide adequate heat unit accumulation for cotton seed to germinate well. However, cooler temperatures are forecast for the weekend and into the first of next week with 30 to 40 percent chances of precipitation. Temperatures predicted over the next three days remain above normal with highs in the mid 80's. However, high temperatures will fall into the lower 70's, thus providing little to no heat unit accumulation for rapid germination and emergence. Producers in Southeast Arkansas should have no trouble getting a stand even considering the lower temperatures. However, cotton planted over the weekend in central and especially northeast Arkansas may struggle to germinate and produce a stand. With this in mind producers in these areas may be best to wait until next week before planting large acreage.

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Cotton Update (Tom Barber - Extension Agronomist, Cotton)

The USDA prospective plantings report indicates that Arkansas cotton acreage may remain flat in 2010 at 520,000 acres. Weather conditions this spring and current prices for corn may push cotton acreage up in many portions of Arkansas. During the last month I have heard more producers say that they will be growing more cotton than last year. I believe it may be possible that Arkansas cotton acreage will be closer to 600,000 acres than 520,000. Rainfall has been sporadic around the state and soil conditions range from saturated to chasing moisture. Several producers began planting cotton this week in central and southeastern portions of the state. Many will finish planting early group IV soybeans and begin planting cotton the first of next week.

Final Checklist before Planting Cotton:

- 1) Do you have a resistant weed management plan?
- 2) Cotton Seed Quality: Minimum 80% warm germ and 60% cool germ
- 3) Seeding rate and planter calibration: 35,000 - 48,000
- 4) Check soil temperature and moisture – 65 F
- 5) Seed protection: Fungicide and Insecticide
- 6) Five day weather forecast: Minimum of 25 DD60's in 5 days with no cool fronts in sight.



The cotton growers in business today know these fundamentals well, but there may still be a few that are overlooked, or not concentrated on enough. The resistant weed management plan will be the most important item on this checklist for many producers who are struggling with glyphosate-resistant pigweed. It is imperative that a residual herbicide plan be in place before planting the first seed. Proper planter calibration is one thing that needs to be looked at a little harder. Consistent seed placement depth is crucial for timely even cotton emergence or stand. Operating planters at 8-10 mph will in most cases negate the trouble you took setting the planter in the first place. The planters utilized today should not be operated at more than 5-6 mph. The faster the planter speed the less precision in placement and population. Seeds should be placed in moisture, but not too deep. Deep planted cotton in most cases will struggle more to make a stand, and most of the time will have to be replanted. The planter should also be checked or re-calibrated if varieties are switched due to differences in seed size. Seeding rates continue to be a high point of discussion because it is a fairly easy way to reduce costs on the front end of the season. **Plant enough seed to get a stand.** High yields can be achieved with plant populations as low as 20,000 plants per acre, however in lower populations, long skips are prevalent in most cases. Plant at least 35,000 to 48,000 seed per acre to obtain an even stand of cotton and optimize yields. This is a fairly wide range in seeding from 2.5 seed per row foot to 3.5 seed per row foot. Lower seeding rates (35,000) are not recommended for early plantings due to favorable conditions for disease, emergence issues and seedling death. Early planted fields should be planted to 48,000 seed per acre. As temperatures increase through the first week of May and conditions allow for quick emergence seeding rates can be reduced to 35,000 seed per acre without sacrificing yield potential.

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Table 1 provides the necessary information to determine final live plant population and the necessary seeding rate to obtain that population. For example, if you would like to obtain 3 live plants per foot of row, considering an 80% warm germination test, you would need to plant at least 3.8 seeds per row foot. Yields can be maintained at final plant populations of 2 plants per row foot. If you plant approximately 3 seed per row foot then you can expect an average final population of 2.5 live plants per foot of row. Keep in mind, the lower the seeding rates, the more important to plant when environmental and field conditions are optimal.

Table 2 provides the relationship of hill-drop seed placement to plants per row foot and seeding rate per acre. Once again be sure to double check the planter calibration for each variety.

Table 1. Relationship of plants per row foot to seeding rate per acre and seed per row foot.

Plants per row foot	Seeds per row foot	Row Spacing	
		38-inch	40-inch
		Seeds per Acre	
1	1.3	17,195	16,335
1.5	1.9	25,792	24,503
2	2.5	34,389	32,670
2.25	2.8	38,688	36,754
2.50	3.1	42,987	40,838
2.75	3.4	47,286	44,921
3	3.8	51,584	49,005
3.25	4.1	55,883	53,089
3.5	4.4	60,182	57,173
3.75	4.7	64,480	61,256
4	5.0	68,779	65,340
4.5	5.6	77,376	73,508
5	6.3	85,974	81,675

Plants per row foot assumes 80% emergence

Table 2. Relationship of various hill-drop seed placement to plants per row foot to seeding rate per acre and seed per row foot.

One hill per every	2 seed per hill			3 seed per hill			4 seed per hill		
	Plants per row foot	Seeds per row foot	Seeds per acre	Plants per row foot	Seeds per row foot	Seeds per acre	Plants per row foot	Seeds per row foot	Seeds per acre
6-inches	3.2	4.0	55,023	4.8	6.0	82,535	6.4	8.0	110,046
7-inches	2.7	3.4	47,163	4.1	5.1	70,744	5.5	6.9	94,325
8-inches	2.4	3.0	41,267	3.6	4.5	61,901	4.8	6.0	82,535
9-inches	2.1	2.7	36,682	3.2	4.0	55,023	4.3	5.3	73,364
10-inches	1.9	2.4	33,014	2.9	3.6	49,521	3.8	4.8	66,028
11-inches	1.7	2.2	30,013	2.6	3.3	45,019	3.5	4.4	60,025
12-inches	1.6	2.0	27,512	2.4	3.0	41,267	3.2	4.0	55,023
13-inches	1.5	1.8	25,395	2.2	2.8	38,093	3.0	3.7	50,791
14-inches	1.4	1.7	23,581	2.1	2.6	35,372	2.7	3.4	47,163
15-inches	1.3	1.6	22,009	1.9	2.4	33,014	2.6	3.2	44,019
16-inches	1.2	1.5	20,634	1.8	2.3	30,951	2.4	3.0	41,267
17-inches	1.1	1.4	19,420	1.7	2.1	29,130	2.3	2.8	38,840
18-inches	1.1	1.3	18,341	1.6	2.0	27,512	2.1	2.7	36,682
19-inches	1.0	1.3	17,376	1.5	1.9	26,064	2.0	2.5	34,751
20-inches	1.0	1.2	16,507	1.4	1.8	24,760	1.9	2.4	33,014

Plants per row foot assumes 80% emergence

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Weed Control (Ken Smith – Extension Weed Specialist)

Weed Telephone Line:

If I apply Reflex preplant, do I need a PRE at planting?

Hopefully not. If the Reflex applied in the 14-21 day prior to planting window, it has provided early season pigweed control equal to Cotoran applied PRE. However, if Reflex has been out 30 days before planting, the field will likely be clean at planting, but the Reflex will probably break about the time the cotton is in the cotyledon stage. This creates an almost no manageable situation. So, my suggestion is that if the Reflex has been out greater than 21 days, use a PRE at planting. If it is within the window, I feel the money can be spent better later.

What can be done about horseweed that has either germinated since doing field work this spring or did not die when the field was disked and bedded?

If the horseweed are new seedlings, they will have a small root system and be much easier to control. If they were simply transplanted during the field preparation, they will be much more difficult to kill. Obviously, dicamba would have been our product of choice for horseweed control, but if this weather holds, we probably do not have 21 days prior to planting on many fields in the state. This means we have to switch our herbicide to Ignite. We have been pleased with Ignite when the weather is warm and we have made the application correctly. Remember, when using Ignite, complete coverage is critical. The low-drift spray tips that create large droplets will not be as effective in getting complete coverage. Approved spray tips are listed on the Ignite label. Our data suggests adding ammonium sulfate to the spray solution increases desiccation of horseweed. If possible, spray Ignite when the daytime temperatures have been above 75 for three days in a row.

Can I use Reflex if I have to knock the top of the bed off to plant?

No. And, If Reflex was applied with no intent of disturbing the beds at planting and the dry weather has caused beds to dry out to the point of not being able to get a stand unless they are knocked down, a preemergence herbicide such as Direx or Cotoran must be used behind the planter.

If I do not have glyphosate resistant pigweed, should I spend the money to use a PRE herbicide?

It is a numbers game. The more pigweed that germinate and must be killed postemergence, the more likely a resistant biotype will escape. Also, if only a few pigweed went to seed on the farm last year, were they escapes or late germinators or were they the beginning of resistance? No one will know until their offspring germinate this year. If only one or two were resistant, the infestation will certainly spread this year and there may not be any way to go back. My best answer to this question is to listen to the farmers that are fighting pigweed in a big way. They wish they had the opportunity to go back to clean fields and start over. No doubt, they would be much more willing to use whatever it took to prevent the infestation from developing.

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I plan to plant a few acres of Liberty Link cotton. Should I use a preemergence herbicide or can I just wait and apply Ignite plus Dual over the top?

I think preemergence herbicides are essential in the Liberty Link program. Yes, in our small plot research where we are not bound by label restrictions, I can keep cotton clean with multiple postemergence applications of Ignite. By the label, we are limited to two applications of Ignite per season. If we spray pigweed in 1-2 leaf cotton and then come back at 4-6 leaf with another application of Ignite plus Dual, we have spent our Ignite for the season and it is a long time until layby. When we have used a preemergence herbicide and followed it with Ignite plus Dual at 3-5 leaf cotton, we have much more flexibility and are much more successful in controlling pigweed.

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