Cotton

How late is too late to plant cotton?

This week is critical for cotton farmers to get their cotton planted. Our yield potential for cotton drops 2% a day after May 20th. Driving around the county this week I won't be surprised to see everybody in the field planting cotton as fast as they can get it in the ground. In Arkansas we really don't plant June cotton. Sometimes we plant cotton on May 35th or 36th but a good rule of thumb is to not plant June Cotton. Sometimes it will do alright, but most of the time it doesn't. For this area you will only get about 65% Yield Potential after June 1st.

What about what has already been planted and up?

Driving around the county some fields look a little sick and that might raise some concern for farmers. What I like to do is go out to the field and dig up the plant without pulling out any new roots that might have just developed. Most cotton should have new leaves in the terminals and have newly formed white roots coming out. This is a good sign and after some sunny weather the cotton should take off and start looking healthier.

Some fields also appear to have some thrip damage. In our area some farmers have already reached threshold and have treated for thrips. Just be aware that this colder weather we have had can cause cotton to appear to have thrip damage but will come out of it as soon it can accumulate some heat units. Threshold for thrips is 2-5 thrips per plant if damage is present. If your cotton is slow growing right now it doesn't take many thrips to damage it. However on the other side of things 5 leaf cotton will outgrow thrips and treatment isn't needed.

What about replanting

Some fields that have already been planted could look to have a poor stand but what should my plant population be to justify replanting? If you're evaluating your field a uniform stand of 1 plant per foot of row on 38" beds is okay to keep. When skips become larger than 3 foot apart you will start losing yield potential. If you start getting big skips and plant populations are below 1 plant per row foot replanting might need to be discussed.

Where can I get more crop updates?

You can find more crop updates on our Extension website uaex.edu. I am also posting updates daily on twitter @AgentGriffinSFC If you have questions or concerns feel free to contact me via email: cgriffin@uaex.edu or via cell phone: 870-565-8872.

Corn

Be Prepared to Water

It's safe to say that it's been wet, and the corn has gotten a lot of free water. Early planted corn is coming along fast and before you know it, it will be time to turn the well on and irrigate. It's time to get your polypipe laid out. Our first irrigation application is critical! We don't want to stress the corn and reduce yield because we weren't prepared to irrigate. We lose 10%-20% yield potential from moisture stress prior to tasseling. Tasseling to soft dough we lose 20%-60% due to moisture stress and 10%-35% after soft dough. The way prices are right now, no one can afford to lose any yield and we have to do everything we can to keep what we got.

Pre Tassel Nitrogen Applications Coming Up

Early planted corn will need pre tassel Nitrogen applications in about 10 to 14 days. We typically like to get these applications out around V12-V14. From what fields that I have been scouting the corn has more than doubled in size in the last week and will continue to put on new leaves in the next couple of weeks. We will see tassels popping up before we know it.

Late Planted Corn

For those who have late planted corn just be aware that the cutoff for atrazine is 12" corn and the cutoff for glyphosate is 30" corn or V8. Once we hit May 1st we really start losing yield potential. We typically loose about 1% yield per day after May 1st, which adds up to be around 2 bushels a day. We recommend putting out approximately 25%-33% of Nitrogen immediately before or after planting. Apply sidedress Nitrogen between V4 and V6.

Soybean

Will Nitrogen Applied to Corn Hurt Soybeans That Get Replanted In These Fields?

I've had several calls over the last few days with producers who had already had corn planted, and due to flooding are considering going back with soybean. The number one question I've been asked is "Will the 70-100 pounds of nitrogen that was applied to the corn crop hurt the soybean crop that will be planted back into these fields?" The short answer is the nitrogen applied prior to corn planting will not adversely affect the soybean crop. We can assume that some portion of this nitrogen will be lost due to runoff as the flood waters recede or leached down into the soil profile. The remaining nitrogen will be used by the soybean plant. When it comes to inorganic nitrogen, the soybean planted doesn't care if the nitrogen comes from native soil nitrogen, fertilizer nitrogen, or nitrogen supplied by the bacteria associated within the nodules on the soybean roots.

When it comes to nitrogen needs, a soybean plant requires around 5 pounds of nitrogen to produce one bushel of grain. A 50 bushel per acre soybean crop will require 250 pounds of nitrogen per acre. Between 50-75% of this nitrogen comes from nitrogen fixation that occurs in the nodules on the soybean roots. High levels of residual soil nitrogen can inhibit nodule formations and activity, but the remaining nitrogen from the application prior to corn planting should be used by the soybean plants quickly, and proper nodulation should occur. Once the residual soil nitrogen is reduced to a low level, the process of nitrogen fixation in the nodules will begin. However, it will take about two weeks for the nodules to produce nitrogen the soybean plant can use.

Inoculants are recommended after May 15th

We have been looking at soybean inoculants for the last several years. Many of our original studies planted early in the planting window (mid-April to mid-May) showed no yield response with the use of inoculants compared to the untreated check. For the last three years, we have been evaluating the effect of planting date and inoculants on soybean grain yield. Results from the last three years are showing a significant yield response with inoculants in delayed plantings. Mid-June planting dates are showing an average of 6 bushel/acre and mid-July planting dates are showing an average of 11 bushel/acre soybean grain yield increase when compared to the untreated check. We have evaluated several commercially available inoculants, and all seed treatment inoculants preformed equally. We did see a slightly lower yield response with the dry, hopper box products compared to the seed treatments. This could be due to better coverage with the seed treatments, thus more bacteria per seed with the seed treatments. Our new recommendation is the use of soybean inoculants for any soybean that is planted after May 15. We would prefer the use of a seed treatment product, but would recommend the dry, hopper box products if this is the only option. Our previous recommendations pertaining to soybean inoculants have not changed.

Rice

If it wasn't for bad luck I guess we'd have no luck at all. Initial estimates of rice lost due to flooding in northern Arkansas now exceed 150,000 acres. Additional "acres affected" pushes the economic hit to extreme levels (**Figure 1**). As we approach 7+ days of submerged rice the conversation turns increasingly toward the ability of rice to survive. Every day more acres are going under as water moves south; some acres are coming out of the flooding but not many. More water is being released out of Missouri that will likely worsen the situation.

With Arkansas only projected to plant 1.2 million acres of rice (USDA-NASS), we're now in an interesting position. I felt we would be in the 1.1 million acre range this year. Either way take 150,000 acres off lost to flood, and subtract another 120,000 that haven't been planted yet.

Simple math says that puts us in the range of the lowest acres since 1987 or we might fall below 1 million acres for the first time since 1983 (Table 1).

Maybe the planting acreage estimate was too low from mine and USDA estimates and we'll have more acres than we think. Maybe more acres lost or not yet planted will be planted/replanted than we think. It's too early to know, but as of today it looks like a very low number of acres – possibly a 30-year low.

Rice futures prices have been doing some interesting things this week. That's been a little surprising as we still know so little about the extent of the damage and lost acreage. We'll know in a few weeks and how the market responds is anyone's guess.

Fig. 1. Initial estimated impact of rains and flooding in Arkansas.

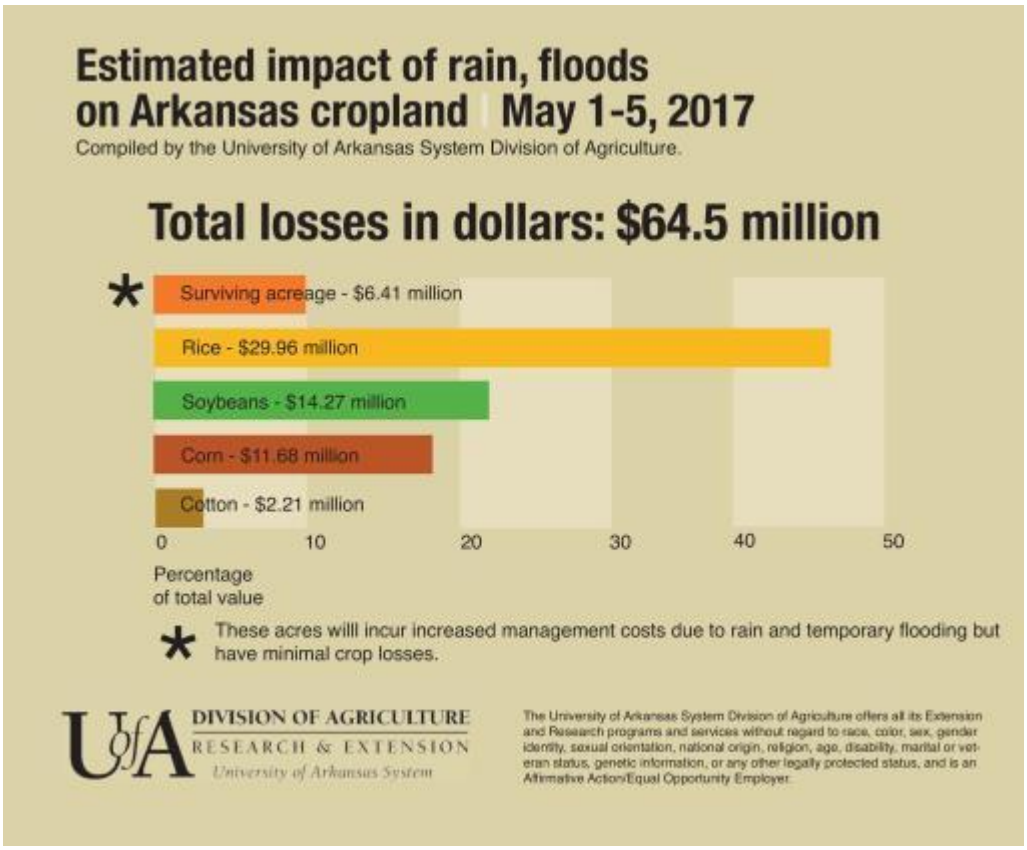


Table 1. History of Arkansas rice acreage harvested and state average yield.

Year	Acres (1,000)	Yield (bu/A)	Year	Acres (1,000)	Yield (bu/A)
1979	1020	96.0	1998	1485	128.9
1980	1280	91.3	1999	1625	130.0
1981	1540	100.4	2000	1410	135.8
1982	1330	95.3	2001	1621	**141.1**
1983	915	95.1	2002	1503	**143.1**
1984	1150	102.2	2003	1455	**146.9**
1985	1050	**115.6**	2004	1555	**155.1**
1986	1020	**117.8**	2005	1635	147.8
1987	1010	116.7	2006	1400	153.3
1988	1210	**118.9**	2007	1325	**160.7**
1989	1140	**124.4**	2008	1395	148.0
1990	1200	111.1	2009	1470	151.1
1991	1260	117.8	2010	1785	144.0
1992	1380	122.2	2011	1154	150.4
1993	1230	112.2	2012	1285	**166.2**
1994	1420	**126.7**	2013	1070	**168.0**
1995	1340	121.1	2014	1480	168.0
1996	1170	**136.7**	2015	1291	163.1
1997	1390	126.7	2016	1521	153.8

* I – crops can be planted immediately; D – number of days; M – number of months; FY – crops can be planted the following year; and FS – the following season.

Survival of Submerged Rice

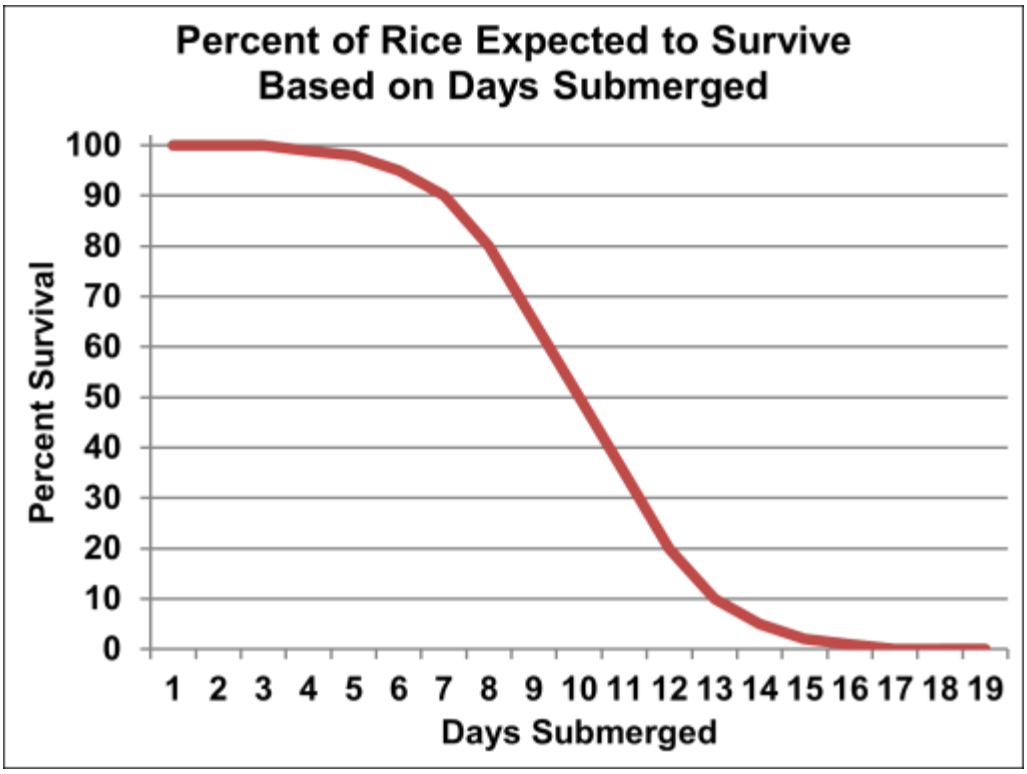
There have been tons of questions about whether any of the previous numbers thrown out about rice survival mean anything. In a word, yes. I've seen too many acres of rice up and down the state submerged at every stage imaginable for a wide range of time lengths. Aside from the extremes there are some pretty consistent expected outcomes.

The key is that there are wide ranges of response based on environmental factors. It goes back to the golden rule of farming: it all depends. So have a look at **Figure 3**.

You can see that 10 days is generally about the 50/50 point. I've seen rice die after being under for 4 days and I've seen rice live after being under for over 21 days. Plan based on the average, not the extreme. If you've got rice under for 10 days, act like it's not going to be there when the flood comes off.

Please keep in mind that this figure is not based on data – it is based on a large number of observations over time. Putting it into a figure of this type is meant only to provide a visual aid about what to expect. All the previously mentioned variables still come into play.

Fig. 2. Rice survival based on submergence.



While not making light of the current situation, many could use a laugh right now:

If We Get to Replant, What Will Be Available to Replant?

A reminder on comments made earlier in the week – the final planting date for rice in Arkansas is May 25, 2017. "The late planting period begins the day after the final planting date for the insured crop and ends 15 days after the final planting date." This reads to me that June 9 is the final day of the late planting period and June 10 is the first day past – consult with your crop insurance agent.

But remember the final planting date for soybeans is June 15, 2017. That should make things interesting in the coming weeks of deciding what to do as many acres may not be accessible until June.

Despite the lower rice acreage expected this year, seed supplies are extremely tight and there are few available options for additional acres of replanting. Of what is available, there is little of it. There will be some hard decisions made.

Assuming you can switch over to soybeans – finding seed there may also be extremely difficult. The increase in soybean acres expected to start the year was going to strain seed supplies and finding seed for another 200,000 acres may be asking too much.

I wish there were more answers to provide, but we're still in 'wait and see' mode with our flooding problems. The best advice is to start making tentative plans and arrangements now to increase our odds of making it through 2017 as best we can. What seemed like such a good start to the year looks like anything but.

Herbicide Plant-Back Intervals

One thing to begin considering as we make plans for what to do next is what our options are – this is where herbicide plant-back restrictions are of serious concern. Regardless of what has happened in fields, these intervals are there for a reason and we must stick with them (it's the law). Also don't forget your season maximum application rates still apply. Not included below but should be noted are Newpath and Beyond – both of these have lengthy plant-backs to any crop other than Clearfield rice or soybean. Consult MP519 for more information.

Table 2. Plant-back intervals for selected rice herbicides.

Herbicide	Cotton	Corn	Rice	Soybean
Bolero	6M*	6M	6M	6M
Clincher	3M	3M	I	3M
Command	I	9M	I	I
Facet L	10M	10M	I	10M
Grandstand	4M	4M	I	4M
Grasp	3M	3M	3M	3M
League	8M	12M	I	12M
Obey	309D	309D	I	309D
Permit	4M	1M	I	9M
Prowl	I	FS	FS	I
RebelEX	30D	30D	I	30D
Regiment	FY	FY	I	FY
RiceBeaux	60D	60D	I	60D
Ricestar HT	30D	30D	I	30D
Sharpen	1-3M	I	I	0-30D

Fig. 3. Flooding in Arkansas and Missouri. April 25 (left) vs. May 2 (right). Blue/black is water. Images from NASA.

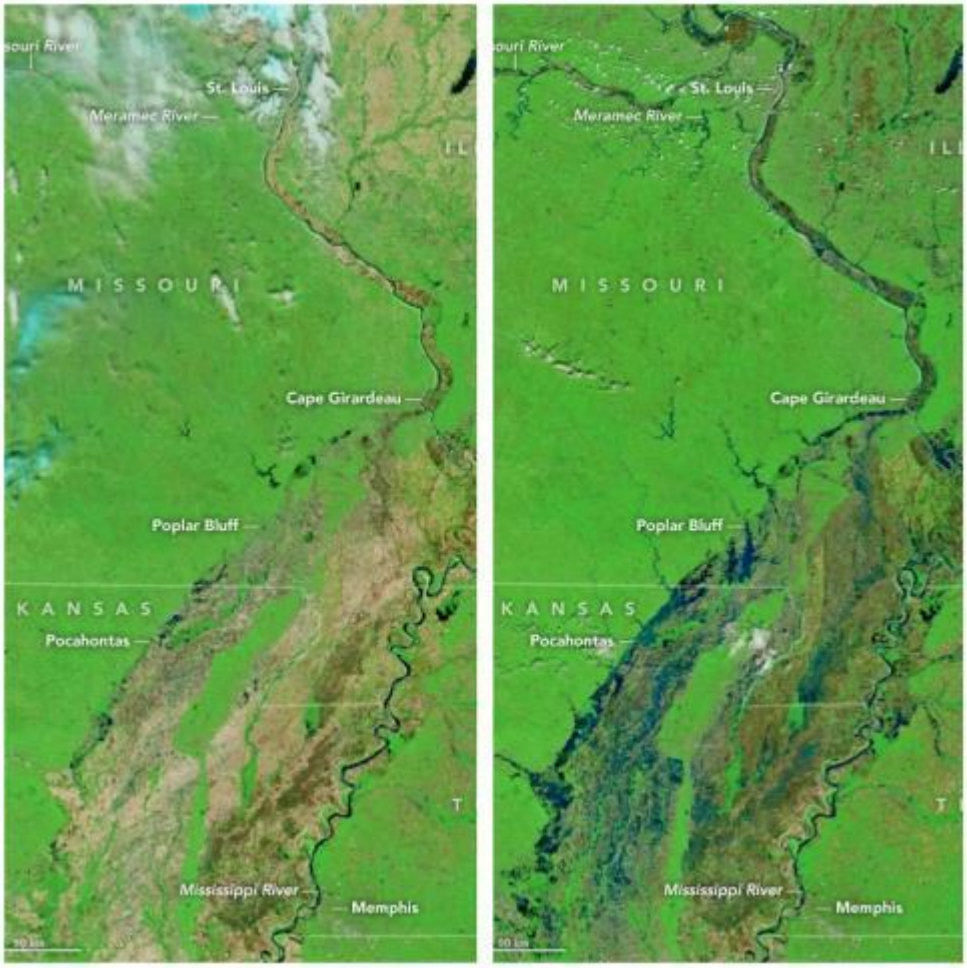


Fig. 4. Flooding on Highway HH in Missouri south of Clearwater Lake. Additional releases from the lake of 7,000 cubic ft per second are expected which will flow down the Black River into affected areas.

Flooding in Northeast Arkansas

The following images are courtesy of Mike Andrews, Extension agriculture agent in Randolph County.

Preflood Nitrogen Recommendations

Despite the flooding in northeast Arkansas, early fields throughout the state are approaching the need to fertilize and establish the permanent flood. Our earliest planting date studies, planted late March and early April, need to go to flood next week based on the DD50 program. The 2017 Rice Farming for Profit publication on pages 12-14 contains recommendations for nitrogen rates, urease inhibitors, and determining midseason nitrogen needs using the Greenseeker handheld.

Enroll Fields in the DD50 Program to Help Time Management Decisions

The variability in environmental conditions the past few seasons has shown the importance of managing the rice crop on time. The DD50 Rice Management Program helps to predict the timing of the most critical practices to make sure we hit our marks and produce the best crop that the environment allows. The DD50 program can be found at http://DD50.uaex.edu. The program is now much friendlier for mobile use than in the past and efforts are underway to further improve functionality for future seasons. Please let us know if you have any questions or encounter any problems.