



Arkansas Rice Update

Dr. Jarrod Hardke

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Crop Progress

When it rains, it pours. These days we either miss all the rain in the forecast or all the rain in the forecast shows up at once. Suddenly a fishing boat becomes a farming tool.

The focus of this week's update is all about the majority of issues at hand. As we approach midseason we hit the wall for applying some of our rice herbicides (**Table 1**). There have also been plenty of questions about rice going underwater in the northeast and about sick, yellow rice. Finally a few notes on midseason N fertilization.

Next week is forecast to be dry, warm, and sunny. I'll believe when I see it and it will be a welcome sight. Get your ducks in a row over the next few days because every plane and ground rig will be running wide open next week spraying and spreading fertilizer. Try to be mindful of your neighbors crops while trying to get it all done – we're still looking at plenty of drift issues.

Table 1. Growth Stage Cutoff for Common Rice Herbicides

Herbicide	Growth Stage Cutoff
2,4-D	½" IE
Aim	½" IE
Grandstand	½" IE
Grasp Xtra	½" IE
Propanil	BIE
Regiment	BIE
Ricestar	BIE
Sharpen	BIE
Strada	½" IE
Beyond	BIE + 14 days for CL varieties; BIE for CL hybrids

Sick & Yellow Rice

A major number of recent calls have been about rice soon following flood that takes on a sickly, yellow appearance. The most common culprit has been ALS herbicides applied immediately prior to flood during overcast conditions with below normal temperatures. In these situations this type of injury/discoloration can be fairly common.

The best way to help rice recover from these conditions is to get some warmer, sunnier weather. In the immediate absence of that, it will help to back the water down to a shallower level. If the situation is truly severe, it may be necessary to remove the flood completely. However, if we can keep the soil muddy and saturated we can avoid N loss.

Be mindful that these types of problems can bring out other issues in fields such as exaggerating nutrient deficiencies or salt damage. In some instances it is more related to another problem such as Zinc deficiency and the herbicide may not be the issue. Try to cover all the bases when diagnosing the problem, failure to correct all the problems may delay crop progress further.

Midseason Nitrogen Fertilization

Enough rice has been to flood for weeks that it's time to start thinking about and discussing midseason N timing. Over the past year we have modified our recommended timing for midseason N. We still recommend the 2-way split with the majority of N applied pre-flood and 45 units applied at midseason. However, instead of the old method of timing that midseason application around ½" internode elongation, the timing is tied to pre-flood N fertilization.

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Now, we recommend that before applying midseason N, it should be at least 3 weeks since pre-flood N was incorporated AND rice should be past green ring (beginning internode elongation); both conditions must be met.

The key is looking at **Fig. 1**. It's difficult to show this data in just a single graph but we'll give it a shot. I've boiled the data for every instance of this study to two points and a line runs through them. The first point is where we applied pre-flood N but no midseason N (none) and the second point is the highest yield we achieved for any of the midseason N timings. Notice how they all trend up? Wouldn't you know it, the highest yield for all except one was at least 21 days after the pre-flood N was applied, and all were past green ring.

It's difficult to generate data clearer than that. Given the strange cooldown we had in the last couple of weeks, I'm actually

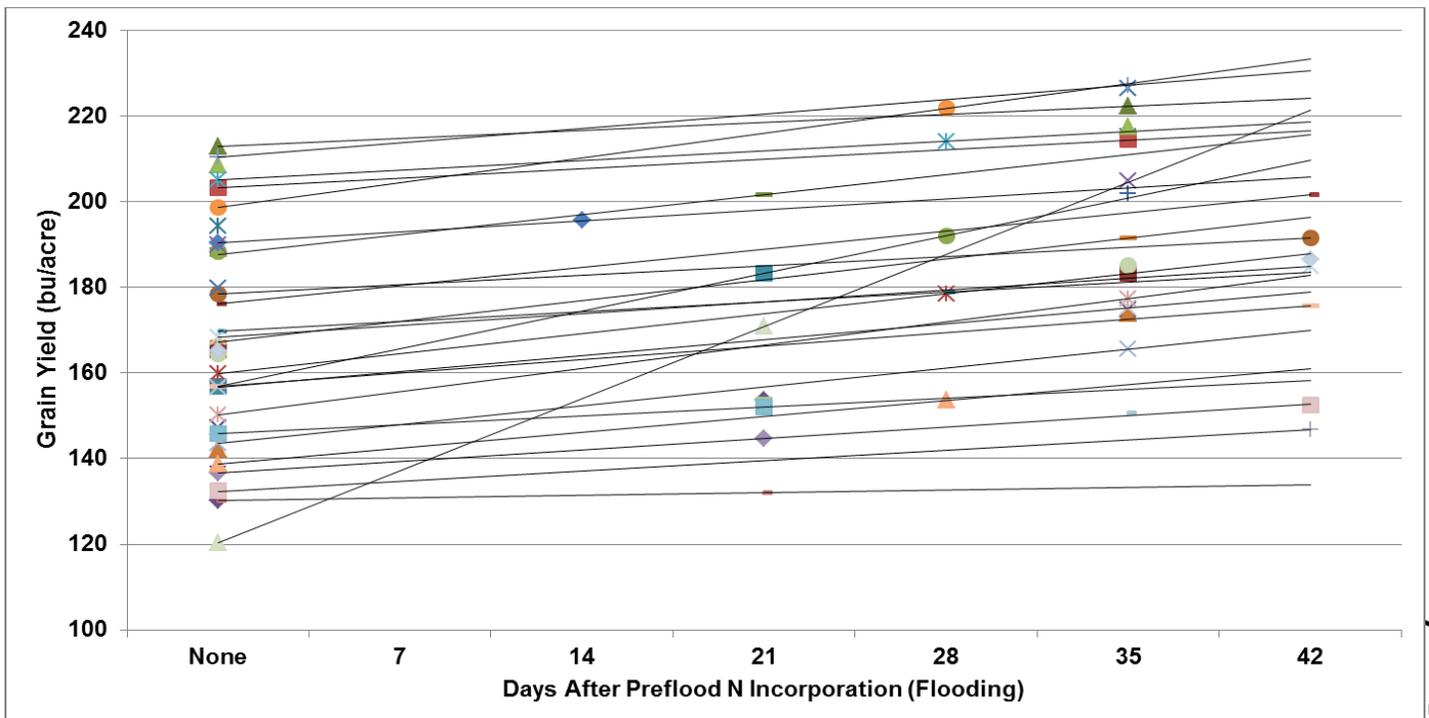
recommending folks lean more toward 4 weeks after pre-flood N was incorporated rather than just 3 weeks. Why? The rice clearly didn't grow as fast as normal, and our data shows that being even later with the midseason N application doesn't hurt yield. This is one time we can recommend that later may be better.

This recommendation is dependent on pre-flood N fertilization applied accurately and under good conditions. If there are problems with pre-flood N efficiency then subsequent N applications and modification of the midseason N timing may be needed.

Rice Underwater – Will it Last?

The heavy rainfall has led to fields holding deep water at the bottom and rivers backing out to meet it. For the second time this season the questions have started rolling in – how long will this rice survive?

Fig. 1. Overview of Timing for Midseason N Application on Rice Grain Yield (see text).



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If rice was newly planted and did not have a chance to germinate there's a chance it will sit there for a prolonged period. But that's probably not what happened. If it's trapped under the soil surface, it won't emerge through both the soil and water, rice will just sit there until it dies or the water leaves. Usually you have somewhere in the range of 6-14 days to get the water off before all bets are off. Results in this window can still be extremely variable depending on environmental conditions and the water conditions.

Emerged, seedling rice that is somewhat established can surprise you. If water conditions are muddy and stagnant the rice may not last long at all, but if the water is moving and let's some light through rice will last a while. Rice has come out of floodwaters after more than 21 days and looked a little small and stretched, but alive.

The bigger rice gets beyond seedling stage, the faster it's going to die if under deep water. Late tillering rice and beyond I'll say that 7 days or less underwater and it will be fine; between 7-10 days and it's a toss-up; over 10 days and it's gone. That metric seems to be almost concrete for reproductive stage rice.

Sometimes it's better to be lucky than good in these situations. But if you're approaching a week underwater and you have taken drastic measures to get the water off, now would be the time or that may be a replant.



The DD50 program can be found at <http://DD50.uaex.edu>. Enroll fields now to help with timing most major rice management practices.

Additional Information

Arkansas Rice Updates are published periodically to provide timely information and recommendations for rice production in Arkansas. If you would like to be added to this email list, please send your request to rice@uaex.edu.

This information will also be posted to the Arkansas Row Crops blog (<http://www.arkansas-crops.com/>) where additional information from Extension specialists can be found.

More information on rice production, including access to all publications and reports, can be found at <http://www.uaex.edu/rice>.

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