



# Arkansas Rice Update

Dr. Jarrod Hardke, Dr. Nick Bateman,  
Dr. Yeshi Wamishe, & Scott Stiles

July 17, 2020 No. 2020-18

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## Crop Progress

“Sometimes the light’s all shinin’ on me, other times I can barely see, lately it occurs to me, what a long strange trip it’s been.” We’re getting into the swing of heading as the latest fields are going to flood. Quite the spread on this crop.

The extended forecast is a mixed bag of good and bad, but it certainly won’t thrill you. Rice may find it to be just ok, but the beans may enjoy it the most. We’re expected to be in the mid-90s for highs and mid-70s for lows as far as the eye can see. Now, mid-90s are rice growing weather, but overnight lows of 75 and above are not. There are some scattered rain chances as well that we’ll hope largely miss mid-day during flowering periods.

A hot topic of the past week has been ‘look at all the grass’. It certainly has come blowing through late to show what all we missed going to flood. Name a product applied for post-emergence weed control and I can show you examples where it didn’t work. Conditions this year just didn’t help us out on our POST options, regardless of product or mode of action. Avoid late revenge applications that have little chance of working on anything except your wallet. If the grass is near or about to head and out the top of the rice, the damage is done.

**Table 1. Percent of acres reaching 50% heading by week (based on fields in DD50).**

Week	Percent of Acres
<b>Beyond 50% heading</b>	6.5%
<b>July 19 to July 25</b>	23.7%
<b>July 26 to August 1</b>	38.5%
<b>Aug 2 to Aug 8</b>	22.5%
<b>Aug 9 to Aug 15</b>	4.7%
<b>Aug 16 and later</b>	4.3%

**Fig. 1. Early rice fields fully heading.**



## Slow Start to Rice Stink Bugs

Usually the first rice fields heading are quickly inundated with rice stink bug. However, the last few weeks have seen large amounts of late-heading grass weeds that seem to be harboring most of the population right now. Calls on stink bugs right now seem to be “where are they?”. Many scouting efforts in the earliest heading rice are only turning up 1-2 stink bugs per 10 sweeps. The answer is we could be between cycles at the moment, in a lull, and they’re finishing off alternate hosts at the moment. With more rice heading every day, and weeds playing out, along with a lot of turn row mowing eliminating those hosts, numbers may be expected to pick up next week. Keep scouting so they don’t surprise you, but most seem to be below treatment level now.

## Rice Field Day Change

The Rice Field Day scheduled for Aug. 7 at the Rice Research & Extension Center is CANCELLED. Instead, mark your calendar for a virtual rice field day on Aug. 20 at 6 p.m. Presentations will be followed by a live Q&A. More information will be available soon.

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## Potassium Deficiency Showing Up

With most of the crop now in reproductive growth stages, it should be no surprise that potassium (K) deficiency is now being found in some fields. The spring weather made K fertilizer applications difficult and can of course impact overall K fertility.

Past research has shown that we can still improve grain yield with applications of potash all the way into late boot (flag leaves out) just prior to heading. One of the easiest diagnostic keys for K deficiency is the development of brown spot on leaves. However, different cultivars have different susceptibility to brown spot so it is not always a good indicator. In general you would expect to see brown spot more in varieties and less or none in hybrid (Fig. 2).

Discoloration of lower leaf tips, primarily a yellowish-red color will be the earliest signs of deficiency. In flooded rice, the symptoms are usually worst in the levee ditches, but they can be present everywhere. While there is no flood on most of the field in row rice, excessive N rates are generally used to offset N losses, and excessive N rates can exaggerate K deficiency.

We recommend to apply 100 lbs potash/acre (60 lbs K<sub>2</sub>O) once a deficiency is detected. Again this application has shown a yield response from pre-flood all the way to late boot (Table 2).

**Table 2. Rice yield response to K fertilizer (average of 60 and 120 lb K<sub>2</sub>O/acre) applied at different growth stages.**

K Application Stage	Grain Yield Bu/A	Yield Difference
No K applied	154	--
Preflood	171	17
BIE / midseason	170	16
Late boot	164	10

**Fig. 2. Potassium (K) deficiency on a variety (left) with yellow-red leaves and brown spot; and on a hybrid (right) with yellow-red leaves but no brown spot.**



## More on Foliar Versus Soil-Applied Nitrogen Fertilizer in Rice

As a follow-up to last week's article, here we provide some data on the topic. Table 3 shows that at pre-flood, internode elongation (IE), and IE + 10 days application timings, nitrogen (N) uptake efficiency by rice was greater when applied as granular urea than when urea-ammonium nitrate (UAN) was applied to rice foliage.

While this research was conducted some years ago, the results are still applicable to the discussion of foliar versus soil-applied N fertilizers in rice. Urea has shown similar or greater plant N uptake efficiency compared to foliar-applied UAN, meaning that 30 lb N applied as urea would have a very high percent uptake and supply more N to the plant than the same N rate applied as UAN.

**Table 3. Fertilizer N uptake by rice as a percent of N applied at different rice growth stages.**

N Source	Preflood	Internode Elongation	IE + 10 days
Urea	65.6 c	77.1 b	81.6 a
UAN	40.7 d	64.3 c	64.9 c

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## Disease Update

**Leaf blast:** From June 30 to July 16, leaf blast has been reported from 7 counties in Arkansas – Randolph, Prairie, Woodruff, Monroe, Faulkner, Jefferson, and Arkansas on Titan, Jupiter, Diamond, CLL15, and PVL01.

### Blast-prone rice fields include:

Fields with heavy tree lines, especially on the east side that prolong dew period; fields with soil types where a deep flood cannot be maintained; fields planted with susceptible cultivars; fields that received high rates of nitrogen; fields with a history of blast planted with susceptible cultivars; low lying fields where fog and dew are often prolonged; fields that are short in fertility, particularly potassium; and fields with poor water source and/or capacity.

**Where to scout in the field:** 1) Water shortage is a key player in blast severity. Field edges and levees are often drier than paddies; 2) Dew on leaves for 9-14 hours is critical for the spores to germinate and start infection. Dew is often prolonged at field spots close to tree lines, particularly on the east side; 3) Where nitrogen fertilizer is overlapped.

**Note:** Lower leaves hold dew for prolonged period. Therefore, it is important to open the canopy and look at lower leaves for lesions (**Fig. 3**). Typical lesions from blast disease are diamond-shaped with ash centers. If the center of the lesions are greyish, it means the pathogen is active.

**Fig. 3. Typical leaf blast lesions more at lower leaves where dew stays longer.**



## Management action:

To suppress the progress of leaf blast, flood depth needs to be increased to at least 4 inches. Spot fungicide application may be deemed necessary in cases of severe leaf burndown.

**Neck blast/panicle blast/node blast (late-season blast):** Neck blast is the most yield robbing disease. Near 100% grain yield loss can be caused by neck blast since it completely dries panicles (**Fig. 4**). Node blast, if severe on flag leaf, greatly affects grain filling. Panicle blast is when panicle branches are infected, and panicles get partial blanking.

**Fig. 4. Left: Neck blast that fully blanked the head & node blast that killed the flag leaf; Right: panicle blast that partially blanked the head.**



**Fungicides for blast:** Strobilurin fungicides containing azoxystrobin or trifloxystrobin need to be applied as **protective** to suppress late-season blast. The first application ranges from late boot to 10% head out and the second application between 50-75% head out. Note that in both timings the necks should still be in the boot. **Once the necks are out of the boot, it is already too late.** Days between the 1<sup>st</sup> and 2<sup>nd</sup> application ranges from 7-10 days. If one time

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application is desired, you have to time it right and should be between 30-50% head out.

**Important note:** Reason for the 1<sup>st</sup> application is to protect primary tillers and the 2<sup>nd</sup> application is to protect secondary tillers.

## Sheath blight:

We get reports on rice sheath blight here and there. Determine the threshold before you make the decision to apply fungicides. Check for the weather forecast, the susceptibility level, canopy thickness, and fertility management. As long as the disease is not threatening to the upper three leaves, delaying fungicide application for sheath blight alone will be advantageous to keep it down to only one application. Hot and drier weather slows the disease progress. Hence, checking the weather forecast and repeated scouting before fungicides is useful. The sheath blight fungus is highly favored by warm and wet conditions and can be devastating in a few days.

**Sheath blight in row rice:** We have seen sheath blight in row rice on RT Gemini 214 CL and RT 7521 FP. In both fields, sheath blight was found in upper and lower ends of the field. However, sheath blight appeared more pronounced on the upper end.

### Possible explanation from our observation:

1. More wees on the upper end (not suppressed by water) could contribute as additional host to increase sources of inoculum.
2. The rice crop can also be relatively stressed from water shortage making it more susceptible for the attack by the fungus.
3. We have also observed more dry lower leaves at the upper end indicating water stress.

**Fungicides:** Fungicides containing strobilurin and flutolanil work to suppress sheath blight. Refer to MP154 for details.

## Kernel smut and false smut:

For susceptible cultivars planted thick in fields with a history and received excessive nitrogen fertilization, protective fungicides containing triazoles (propiconazole, difenconazole) at the recommended rates can be used. Application timing for optimum suppression is between early boot to mid-boot. Fungicide application at full boot and beyond reduces the benefit from protection.

## Rice Market Update

This week has had a bearish tone for rice futures. In fact, downward pressure on prices really started around the June 30 *Acreage* report. A higher production estimate and ending stocks in the July 10 WASDE only added to the downward pressure as the September contract touched \$11.70 on Thursday this week.

### Rough Rice Futures, September 2020.



Improving crop condition ratings for the Arkansas crop and the U.S. crop overall helped the market bears this week. Arkansas' crop is rated 64% good/excellent, up 1 point from the previous week. The U.S. crop is rated 74% good/excellent compared to 73% last week and 67% last year.

Limited harvest is underway in Texas and Louisiana as the crop there is well ahead of the Midsouth. Heading in Arkansas, Mississippi, and Missouri lags behind the 5-year average. The Texas

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crop is at 84% heading and Louisiana is at 72% heading per Monday's *Crop Progress*.

Turning to the diesel market, NYMEX diesel futures have been trading in a tight range of less than 8 cents this month. Wednesday's trading saw prices settle just above \$1.23 but have since retreated a penny. With the coronavirus threat still in play it is difficult to see much upside in the near term and \$1.25 is firm resistance for diesel futures at the present time.

## NYMEX Diesel Futures, August '20.



## Farm Policy:

Regarding the Coronavirus Food Assistance Program (CFAP), when farmers began signup for the program in late May they were only guaranteed 80% of the payment they were eligible for. In comments earlier this week by Bill Northey (USDA's undersecretary for farm production and

conservation), farmers can expect to receive the remaining 20% by the end of August. Northey said there should be enough money available to give farmers the remaining 20% of what they are due under the \$16 billion CFAP, by the time signup for the program ends August 28.

## 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](mailto: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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