

# Arkansas Rice Update

Dr. Jarrod Hardke, Dr. Gus Lorenz, and Dr. Yeshi Wamishe

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## Crop Progress

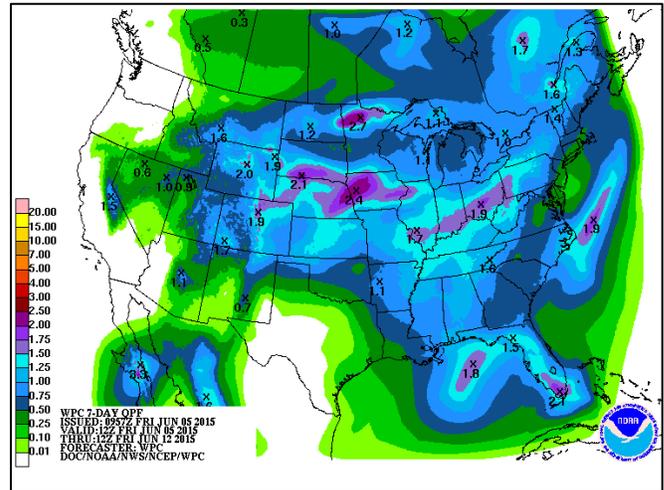
It's June already? Some locations received heavier rainfall than others last weekend, so progress this week has been highly variable across the state. The one positive is that a great deal of drying is going on everywhere. In many locations we're finally reaching the point where much needed work can be done – for rice primarily making preflood herbicide and fertilizer applications. In some cases we're just now able to finish levees and the rice is ready to flood, or was ready a week ago.

Drift complaints on rice continue to be an issue. As in recent years, the most common complaints are Newpath and Roundup. Weather conditions haven't helped anyone's efforts to minimize drift this year. Still seeing many fields that are not using Flag the Technology – help yourself and your neighbors by identifying the herbicide technology being used in your fields.

The 7-day rainfall forecast (**Fig. 1**) has much of eastern Arkansas set to receive around 1 inch of rain. While this total luckily is pretty small, the forecast calls for possible rainy conditions most of next week. So we may end up with several days of small amounts of precipitation. This is something we can only hope to be able to work around.

In an unforeseen turn of events, some rainfall is backing down into the state from the north tonight (6/5). Those in the northeast just can't seem to catch a break this year.

Figure 1. 7-day rainfall forecast.



## Insecticide Seed Treatments Wearing Off? Watch out for RWW

Rice water weevils are active right now (**Picture 1**), and we're beginning to see leaf scarring where there is standing water and flooding. As we take fields to permanent flood, it's time to be on the lookout.

Picture 1. Rice water weevil adult feeding on leaves causing "scarring".



If you have rice planted >40 days ago, do not expect that you will have insect control from a seed treatment. Some rice that was planted

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early is just now going to flood – meaning it has been in the ground for close to 2 months. Unfortunately, 35-40 days after planting is about the maximum length of time we can expect to control rice water weevil with our seed treatments. If your rice has been in the ground longer than that, be prepared to scout and possibly spray if needed.

If you need to scout for rice water weevil, begin immediately after the rice is flooded. Base treatment decisions on 50-60% scarring on NEW leaves – at this point you're probably at threshold. Timing is critical if you're going to take action – consider a foliar application within 5-7 days of flood establishment. After 7 days, you've missed the window to spray.

## Zinc Deficiency

Sometimes confirming a nutrient deficiency is all about being in the right place at the right time. Early-season deficiency symptoms often point a non-descript finger at a problem without giving away the exact culprit. **Picture 2** shows classic zinc (Zn) deficiency symptoms – specifically “bronzing” and a bright yellow leaf midrib. A week earlier the plants in this field had only a mild yellow appearance that could have been the beginning stages of several possible deficiencies. The reason for the “bronzing” on the leaves with Zn deficiency is that when Zn is limited the plant will take up another metal in its place, most often iron, which explains the reddish-brown bronzing we see.

**Picture 2. Classic zinc deficiency symptoms in rice.**



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## Phosphorus Deficiency

Phosphorus (P) deficiency can be a very deceptive problem. Plants that are affected by P deficiency typically have a very dark green, almost bluish color to them that can make you believe they're the healthy plants in the field. What you'll find on closer inspection is that these areas are shorter, more erect, and have fewer tillers than surrounding healthy rice (Picture 3).

Picture 3. Phosphorus deficiency in rice.



Luckily, if P deficiency is caught before midseason, yield potential can be almost completely restored. There is still a need to correct the deficiency if discovered after midseason, but it's unlikely we will be able to restore full yield potential. To correct, apply 100 lbs of DAP or Triple Super Phosphate immediately.

## Rice Leaf Blast Reported in Louisiana: What it Means to Arkansas

Rain, cloudy skies and overcast conditions that continued to hold up the planting of rice, did not hold up the rice blast pathogen from reproducing and infecting rice at an early growth stage in Southwest Louisiana on the medium-grain variety Jupiter to a large extent and to a lesser extent on the long-grain CL151, particularly on lighter sandy soils. Although the rice crop in Arkansas is behind that of Louisiana, blast can start infecting the plant as early as tillering stage. If conditions are favorable, it can appear early and prevail again at heading.

### Field conditions that favor blast

1. Fields with heavy tree lines, especially on the east side – which prolong nighttime dew period – are more likely to develop blast if planted with susceptible varieties.
2. Soil types where a deep flood cannot be maintained are more prone for blast disease.
3. High nitrogen in fields with blast history makes susceptible varieties more prone to the disease.
4. Fields with history likely get the disease if planted with susceptible varieties.

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5. Fields at river bottoms with longer dew periods are prone for the disease.
6. Fields low in potash and low irrigation capacity favor disease development.
7. Low cut fields when leveling get low in fertility particularly potash and are prone to blast disease.

### Weather conditions that favor blast

1. Frequent light rains that allow extended leaf wetness.
2. Extended cloudy days that allow slower leaf drying.
3. Slow wind that transport spores and slow leaf dryness.
4. Warmer days and cooler nights that allow long dew periods.
5. Combinations of rain, cloudy skies, and overcast.

Note that spores of the blast pathogen are windborne and can travel long distances so we have to be watchful and scout the fields. What happened in Louisiana may happen here, too, particularly if we go from extreme wet to extreme dry. Damage from leaf blast can be substantially suppressed if **detected early, diagnosed correctly (Picture 4) and managed timely**. Late detection, incorrect diagnosis and poor management could be costly with increasing the frequency of fungicide application and yield reduction. Maintaining a consistent >4-inch flood at all times until the field is drained for harvest is essential to suppress further leaf blast disease development. However, in severe conditions (**Picture 5**) fungicide application may be required to

suppress blast disease development. Once the leaf blast is under control, you still need to be prepared to apply preventative fungicides at late boot stage to 10% heading followed by a second application at 50-75% heading. **Blast** is a devastating disease of rice.

**Picture 4. Rice leaf blast is distinctive when lesions form spindle shape. Sporulated lesions have ashy centers. Non-sporulated early lesions can be confusing.**



The blast fungus infects several parts of the rice plant:

1. It infects leaves causing “Leaf Blast”.
2. It infects leaf collars causing “Collar Blast”.
3. It infects panicles causing “Panicle Blast”.
4. It infects panicle node and/or neck causing “Neck blast” (neck rot).

The blast pathogen is the most effective organism in promoting its survival. It is versatile to adapt to different environmental conditions and infect rice varieties. Get ahead of this notorious disease.

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Scout fields for leaf blast symptoms on susceptible varieties grown in blast prone fields. Scouting fields **historically prone to blast** is always warranted. Varieties known to be resistant are not totally immune from blast infection. New races of the pathogen may change history. When scouting for leaf blast looking for the typical **spindle-shaped lesions** on older and lower leaves (**Picture 4**) is advisable. Early blast lesions may be confused with brown spots or spots formed due to herbicide damage such as Gramoxone (paraquat).

**Picture 5. Rice leaf blast disease can cause severe leaf burndown. Field of CL151 in Clay Co. in 2014.**



The DD50 program can be accessed at <http://DD50.uaex.edu>. It has now been improved for use on both your computer and your **mobile devices**.

### 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 [jhardke@uaex.edu](mailto:jhardke@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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