



# Arkansas Rice Update

Drs. Jarrod Hardke, Trent Roberts, & Nick Bateman

July 6, 2019 No. 2019-19

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DIVISION OF AGRICULTURE  
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## Crop Progress

“Get your motor runnin’, head out on the highway, lookin’ for adventure, in whatever comes our way.” Heading has begun on a limited basis in the state – right on schedule for the earliest-planted rice.

The state achieved “officially” 100% planting progress as of 6/30 with 98% emerged. Temperatures remain very favorable for increased plant progress with highs in the mid 90s in the coming weeks.

The more concerning element is the forecast nighttime temperatures with lows hovering around 75 degrees. Avoiding issues with chalk is directly related to avoiding high nighttime temperatures during grain fill. So, the fact we’re looking at these temps now is not very alarming, but they need to subside before we get more into dough stages. This is something we’ll keep an eye on going forward.

Every day appears to have 20-40% rain chances. The pop-up showers of the past two weeks will likely continue. You won’t know where and you won’t know how much, but it could rain again at any time.

**Fig. 1. Heading has just begun in some fields.**



## Hybrid Boot Nitrogen Timing

The recommended nitrogen (N) management for hybrid rice is a pre-flood application followed by a late boot application to maximize grain and milling yield, while reducing the chances for lodging potential. The late boot N rate should be 30 lb N/acre (65 lbs urea/acre) and applied once the field enters late boot (flag leaves fully extended, you can see the leaf collar) up until you see the first panicles emerging.

The goal of the late boot N application is to reduce lodging potential through increased stalk strength, increase milling yield, and perhaps slightly increase grain yield. Please remember that the late boot application can only increase rice kernel weight and therefore large increases in grain yield from this application timing are rarely seen. However, significant increases in milling yield have been reported from the late boot application to hybrid rice, but the physiological factors behind this phenomena are currently being investigated.

The timing of late boot for hybrid rice is of critical importance as the rice plant will not get any taller when the application is made at this growth stage. Applications made prior to late boot at more of a midseason timing will result in taller rice plants, which we want to avoid as this can lead to increased lodging potential.

Moving the late boot N application earlier doesn’t provide any measurable gains, but brings increased risk of lodging due to greater plant height.

### Mark Your Calendars!

Thursday, August 1, is the **2019 Rice College** at the Rice Research and Extension Center (RREC) at Stuttgart. Registration link and info will be sent out next week. This is a “hands-on, boots-on” event with a registration fee of \$50 and space is limited.

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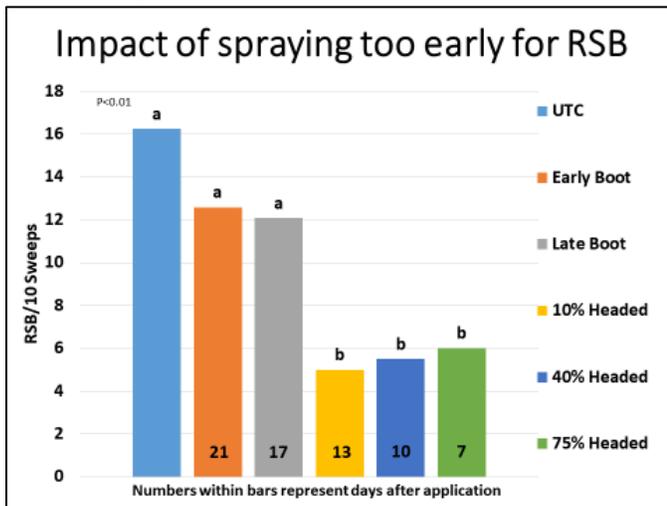
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## Do Not Spray for Rice Stink Bug Before Rice is Heading

In recent years there have been reports of folks wanting to apply an insecticide with their fungicide application prior to rice heading. In some cases they just wanted to spray early and knock them out before heading.

**Fig. 2** shows no benefit to spraying early for rice stink bug (RSB) management. At the time of early and late boot applications in this trial there were no RSB present. Once heading had begun, insecticide applications resulted in a good reduction in RSB numbers. Applications prior to heading would require a second application sooner than applications made after heading. Based on these results, we remind again – DO NOT spray for rice stink bug before rice is heading.

**Fig. 2. Results of 2018 study on insecticide application timing for rice stink bug management.**



## Fungicides and Fungicide Timings for Selected Rice Diseases

See this recent blog post: <http://www.arkansas-crops.com/2019/07/01/fungicides-fungicide-diseases/>.

## Managing Rice Kernel and False Smut with Fungicides

See this recent blog post: <http://www.arkansas-crops.com/2019/07/03/managing-kernel-fungicides/>.

## Zinc Deficiency in Rice

In recent weeks, nutrient deficiencies have been showing up with increasing regularity. This can be the result of many of the rice acres having been flooded and many others beginning reproductive growth. Zinc (Zn) deficiency is not fun to deal with but has shown up in a number of fields in the past week or so. Once a more severe deficiency is in place, lower leaf “bronzing” or purpling is present and the midrib has a bright yellow appearance (**Fig. 3**). The plants will generally be short and stunted as well with very little to no space between the leaf collars of plants that should be elongating following the pre-flood N application. Moderate to severe Zn deficiency can lead to significant yield losses and plant death if not managed or corrected in a timely manner.

Unfortunately, moderate to severe Zn deficiencies show up soon after flood and the best method to correct the deficiency and recover as much yield potential as possible requires taking the flood off. Once the water is removed and muddy soil exposed, apply 1 lb Zn/acre as a chelated Zn (typically 1 gallon/acre of a liquid Zn EDTA product, but needs to be 1 lb of chelated Zn/acre regardless of product).

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The use of a chelated Zn product for application at this growth stage is important to maximize plant uptake both through the foliage and also the rice root system. Zinc is an immobile nutrient in the soil and for early season or post-flood applications the rice typically has not fully canopied and much of the soil surface remains exposed. Using a chelated Zn source allows any of the Zn that does not contact rice leaves to be mobile in the soil and move downward towards the rice roots where it can also be actively taken up by the plant.

For a non-chelated Zn source, any of the Zn that does not hit the foliage will remain at the soil surface and rice plant uptake of this portion of the Zn application may be severely restricted and lower the ability of the application to correct the deficiency.

A few days following flood removal and Zn application, apply 100 lbs of ammonium sulfate/acre and re-flood.

**Fig. 3. Zinc deficiency in late-planted rice.**



## Rice Advisor Now Available

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## 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>.

## Acknowledgements

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The authors greatly appreciate the feedback and contributions of all growers, county agents, consultants, and rice industry stakeholders.

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