



# Arkansas Rice Update

Dr. Jarrod Hardke & Dr. Yeshi Wamishe

July 9, 2016 No. 2016-17

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## Crop Progress

Current conditions have the rice crop speeding along. It's not just your rice either, it's everyone's rice. Daytime highs in the mid-90s and low temperatures staying above 70 have us rapidly accumulating heat units and keeping rice progress at near maximum.

From here, we have some positives and some negatives. The daytime highs staying in the mid-90s should keep us from having pollination issues based on the extended forecast. Daytime highs near or above 100 are where we have pollination issues.

However, the nighttime temperatures continue to be a concern for quality. Again, long stretches of nighttime temps that don't fall below 75 degrees can lead to excessive chalkiness of kernels. We're catching some breaks, particularly in the northern half of the state, but the forecast is still calling for very high overnight lows coming up as we enter grain fill.

Since most of our concerns are after flowering, we still have the potential for this to not be an issue as we just getting into heading. If we don't have a sustained period of high overnight temperatures we should be ok, but the forecast is concerning. So wish in one hand...

**Fig. 1. Midseason N applications continue to be applied as heading begins in many fields.**



## Disease Development – or Lack Thereof

One positive to the high temperatures is the lack of disease development. So far blast development has been kept to a minimum due to the temperatures and lack of rainfall. An increase in rainfall or dew periods, combined with a decrease in temperatures, and we could see disease conditions take off.

For detailed information on managing late-season blast, please visit [HERE](#).

**Fig. 2. Blast lesions present throughout some fields but progress is minimal.**



The same can be said of sheath blight. To date we have very few reports of sheath blight issues with the only finds being low percentage and remaining near the water line. Given the economic situation this year I doubt there will be few complaints. Stay with the threshold for sheath blight and avoid blanket treatments just because sheath blight is present. If the disease isn't moving up the canopy and threatening the upper leaves there's no need to treat.

## Dealing with Hydrogen Sulfide Toxicity After Midseason

Hydrogen Sulfide Toxicity has become an increasingly reported issue over the past few years. To answer a question from many – no, we don't yet understand if this problem is increasing OR if our awareness is increasing to

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the point where we know what we're looking for and that's increasing reports.

Regardless, the worst timing to discover this problem is after midseason. Prior to reproductive growth, we can drain similar to a straighthead situation and safely avoid any potential yield loss (dry to cracking and relood before 1/2" internode elongation).

If discovered after midseason as is common now, the situation becomes much more difficult. First of all, low levels of root blackening or darkening of the lower stems under a deep flood are not uncommon. It's time to be concerned when the blackening becomes persistent throughout the root mass and is heavy around the crown. The danger is that if left unchecked the roots will die and allow for secondary infection of the crown (leading to crown rot).

So what do we do? If minor we watch and wait – hopefully the plants outrun the issue. If the blackening becomes worse and action must be taken, it has to be done delicately. Attempt to let the flood fall back to muddy/wet where the upper roots are exposed to oxygen; and within days new white root growth will be observed. At that time bring the flood back and hopefully we outrun the problem to the end.

On larger fields it may be necessary to “cascade” the drain where as paddies dry you chase them back with water to avoid drought stress. At this stage it's a delicate balance between correcting the issue to minimize yield loss and causing drought stress that will cause yield loss. This is not a fun problem – call if we can help.

**Fig. 3. Hydrogen sulfide toxicity found after midseason make draining to correct difficult.**



## Fungicide Timing for Smut Prevention

Rice fields with a history of kernel and/or false smut with excessive N rates are prone to smut development in susceptible cultivars. Unfortunately, under favorable conditions, most rice cultivars are susceptible including hybrids. False smut often is more severe in late planted rice since it is favored by lower temperatures than kernel smut.

If preventative fungicide applications for smut management is warranted, triazole fungicides containing propiconazole (Tilt or equivalent) are still the only existing options. Fungicides are more effective on kernel smut with up to 90-95% suppression provided the **rate, timing, and coverage** are correct. Well managed fields benefit the most from fungicide application. False smut can be suppressed 50-70% when application is done correctly.

### Management Key:

If attempting to spray with a fungicide for management of both smuts and blast – the application timings do not line up. If you attempt to manage both with a single application, you will fail to manage one disease or do a very poor job on both.

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**Fungicide rate:** In the past few years the Tilt (or equivalent) rate has been raised from 4 fl oz to a minimum of 6 fl oz per acre.

**Fungicide Timing:** The correct timing to apply fungicides to protect against kernel and false smut is from early to mid boot development of the main tillers (**Fig. 4**). Fungicides applied after boot split are too late (**Fig. 5**). Fungicides applied beyond boot split when heads are out are a waste of money. Fungicides applied earlier than boot stage are too early for the fungicides to stay effective until heading.

**Coverage:** For adequate coverage a minimum of 10 gallons of water per acre is recommended. Where this is not possible, use the maximum amount of carrier volume possible closest to 10 GPA. Low volume applications can have a significant lack of coverage to provide the smut suppression desired.

**Fig. 4. Boot stage is the recommended timing for kernel and false smut fungicide applications.**



**Fig. 5. Fungicide applications to suppress kernel and/or false smut after late boot are not beneficial, such as boot split (left) and heading (right).**



**Table 1. Triazole contents of commonly used fungicides for kernel and false smut suppression.**

Fungicide	Rate fl oz / acre	Triazole Rate fl oz / acre
Quilt Xcel	21-27	5.9-7.6
Quilt	21-34.5	6.1-10
Stratego*	19	5.5
Tilt	6	6
Propimax	6	6

\*Use maximum rate of Stratego or add Tilt equivalent to achieve 6 oz of triazole.

### Arkansas Rice Expo is August 10<sup>th</sup>

The 2016 Arkansas Rice Expo will be held at the Grand Prairie Center in Stuttgart, AR on Wednesday, Aug. 10. More details to follow.

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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](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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