



Arkansas Rice Update

Drs. Jarrod Hardke, Nick Bateman, & Yeshi Wamishe
August 31, 2019 No. 2019-26

www.uaex.edu/rice



DIVISION OF AGRICULTURE
RESEARCH & EXTENSION

University of Arkansas System

Harvest Progress

“Let it roll, baby, roll. Let it roll, baby, roll.”

This is the weather forecast dream’s are made of. In the 80s and 90s with lows in the 60s as far as the eye can see. More importantly – every day is expected to be sunny or mostly sunny.

These conditions will do a lot for our progress. Expect it to dry out rice that’s getting ready for harvest and to give later rice a potentially strong finish.

We have the preliminary results of our March 21 planting date study in **Table 1** comparing the 2019 to the 2018 results. Generally speaking,, most cultivars are down slightly compared to the same planting date last year.

Yes, these yield numbers are high but we have seen them achieved at the field level. However, no we do not expect to be able to manage fields to this level. The main goal here is looking at differences in performance and how they relate from one year to the next.

There is some noticeable up-and-down movement from 2018 to 2019. In particular, we could say that a decline of 5-15 bu/A occurs in the cultivars we have both years. This lines up well with yields reported from late March and early April planting dates.

This week we’ll be harvesting the next planting dates both at Stuttgart and Pine Tree. Again, we should see what trends begin to emerge. We will also be harvesting other performance trials throughout the week. We’ll share preliminary data as it becomes available.

I shouldn’t have to tell you twice – but do all you can do within this ten day window. I don’t know what is beyond that window and right now I don’t want to know. At this time that “disturbance” in the Atlantic that shall not be named appears headed up the east coast.

Get it drained, get it dried, get it cut!

Table 1. Preliminary data for planting date studies at RREC, Stuttgart, 2019 vs 2018.

Cultivar	Grain Type	Planting Date	
		March 21 2019	March 21 2018
ARX7-1087	L	222	--
CL153	CL	226	222
CLL15	CL	222	--
CLXAR19	CL	245	--
Diamond	L	233	246
PVL01	PL	199	202
RT 7301	L	269	--
RT 7501	L	261	--
RT 7321 FP	FL	237	--
RT 7521 FP	FL	230	--
RT CLXL745	CL	203	238
RT Gemini 214 CL	CL	250	260
RT XP753	L	259	263
ARX7-1121	M	253	--
CL272	CM	232	222
CLM04	CM	230	--
Jupiter	M	248	252
RT 3201	M	219	--
Titan	M	239	236
ARoma17	LA	201	--
MEAN	--	234	234

Grain Type: L = long-grain, M = medium-grain, CL = Clearfield long-grain, CM = Clearfield medium-grain, FL = FullPage long-grain, PL = Provisia long-grain.

Rice Stink Bug Pressure Ongoing

A few quick reminders on rice stink bug management. If you have rice just reaching 60% hard dough and you’re over threshold – we want to spray and clean it up. If your field is already beyond 60% hard dough and some stink bugs start showing up, let it go at that point. For the later fields out there just heading, numbers are really spiking at this time so continue to scout and treat as needed.

Visit our website at <http://www.uaex.edu>



Arkansas Rice Update

Drs. Jarrod Hardke, Nick Bateman, & Yeshi Wamishe
August 31, 2019 No. 2019-26

www.uaex.edu/rice



DIVISION OF AGRICULTURE
RESEARCH & EXTENSION

University of Arkansas System

Notes on Increasing *Cercospora* Narrow Brown Leaf Spot in Arkansas Rice

Narrow brown leaf spot (NBLS), also called *Cercospora* leaf spot, is one of the late-season disease in rice. It appears during the late growth stages of rice, often starting from panicle initiation to heading stage. Damage becomes more severe as plants approach maturity. It is caused by the fungus *Cercospora janseana* (also *Cercospora oryzae*). The fungus can infect leaves (Fig. 1), sheaths (Fig. 2), and panicles (Fig. 3) including pedicels and glumes.

It leads to premature death of leaves and leaf sheaths, and premature ripening of grains. In severe cases, it can cause lodging. Due to only occasional severe epidemics, NBLS has not been considered as an economic factor. However, in severe disease situations 20% to 40% grain yield loss has been reported in Louisiana. Severe damage caused by NBLS can also decrease milling yields.

NBLS is reported to occur more in potassium (K) deficient soils. While excessive nitrogen (N) fertilization is sometimes blamed for higher incidence and severity of certain rice diseases, adequate K fertilization is praised for improving general crop health. In most K deficient soils, brown spot of rice by *Bipolaris oryzae* appears first and has been used as an indicator of stress, mostly K deficiency. Rice plants take up K to accomplish several physiological activities important for good plant growth and health.

Generally nutrient deficiencies need to be corrected as early as recommended – don't wait until after the damage is done. Other opportunistic fungi may also take an opportunity to attack the K hungry crop. In addition, low K affects canopy photosynthesis – directly affecting crop growth. K is important throughout the crop life cycle to increase the grain yield potential of a crop.

Fig. 1. Narrow Brown Leaf Spots (NBLS) are narrow and elongated parallel to the leaf veins and may become very severe on the more susceptible cultivars, and may cause severe leaf necrosis. Courtesy Drs. Rick Cartwright and Don Groth.



Fig. 2. In severe situations NBLS can cause severe leaf and sheath necrosis.



Visit our website at <http://www.uaex.edu>

University of Arkansas, United States Department of Agriculture, and County Governments Cooperating
The University of Arkansas Division of Agriculture offers its programs to all eligible persons regardless of race, color, sex, gender identity, sexual orientation, national origin, religion, age, disability, marital or veteran status, genetic information, or any other legally protected status, and is an Affirmative Action/Equal Opportunity Employer.



Arkansas Rice Update

Drs. Jarrod Hardke, Nick Bateman, & Yeshi Wamishe

August 31, 2019 No. 2019-26

www.uaex.edu/rice



DIVISION OF AGRICULTURE
RESEARCH & EXTENSION

University of Arkansas System

Symptoms of NBLS

- Typical lesions on leaves and upper leaf sheath are light to dark brown, linear, and progress parallel to the vein. They are 2–10 mm long and 1–1.5 mm wide.
- Lesions on leaves of highly susceptible cultivars may enlarge and connect together, forming brown linear necrotic regions. The lesions tend to be narrower, shorter and darker on resistant varieties.
- On upper leaf sheaths, symptoms are similar to those found on the leaf. On lower sheaths, the symptom is a “net blotch” or spot in which cell walls are dark brown and intracellular areas are tan to yellow.
- Abundant sporulation occurs on the lesions during extended wet periods.
- On glumes, lesions are usually shorter but can be wider than those on the leaves. Brown lesions are also found on pedicels.

Factors affecting NBLS development

- Susceptibility of varieties to one or more prevalent races of the fungus.
- Prevalence of pathogenic races on leading and widely grown cultivars.
- Growth stage (although rice plants are susceptible at all stages of growth, they are more susceptible from panicle emergence to maturity).

Management of NBLS

- Use resistant cultivars. Refer to updated version of the Arkansas Commercial Varieties Disease Reaction Table in Arkansas Row Crops Blog. Although there are differences in susceptibility among rice cultivars including hybrid rice, resistance can be an unreliable

control method due to the capacity of the fungus to produce new races.

- Keep fields clean.
- Remove weeds to eliminate alternate hosts that allow the fungus to survive and infect new rice crops. Weedy rice can be more affected by NBLS.
- Use balanced nutrients; particularly make sure that adequate K is applied.
- In susceptible cultivars, apply propiconazole-containing fungicides between booting to heading stages. Fungicides containing propiconazole have showed activity against NBLS if applied as recommended (**Fig. 4**).

Fig. 3. Severe NBLS on Jupiter in 2019.



Fig. 4. Propiconazole sprayed strip at booting (left) and fungicide unsprayed strip (right) at LSU. Courtesy Dr. Don Groth.



Visit our website at <http://www.uaex.edu>



Arkansas Rice Update

Drs. Jarrod Hardke, Nick Bateman, & Yeshi Wamishe
August 31, 2019 No. 2019-26

www.uaex.edu/rice



DIVISION OF AGRICULTURE
RESEARCH & EXTENSION

University of Arkansas System

References

<http://www.knowledgebank.irri.org/training/fact-sheets/pest-management/diseases/item/narrow-brown-spot>

Rice Knowledge Bank. International Rice Research institute, Philippines.

<https://www.lsuagcenter.com/NR/rdonlyres/BA9CBCB0-085B-4211-A422-A788382DE25C/74889/pub3105NarrowBrownLeafSpotHIGHRES.pdf>

Narrow Brown Leaf Spot. LSU AgCenter. Louisiana.

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>.

Acknowledgements

We sincerely appreciate the support for this publication provided by the rice farmers of Arkansas and administered by the Arkansas Rice Research and Promotion Board.

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

Arkansas Row Crops Radio Podcast

Join us for the latest development – a podcast! Here we’ll start posting audio updates on many topics including rice. In fact – rice has the first episode up talking about harvest aids.

Check it out: <https://www.uaex.edu/farm-ranch/crops-commercial-horticulture/RowCropsRadio.aspx>.

Next there should be an Apple Podcast station you can subscribe to but that’s being finalized now.

Rice Advisor Now Available

Visit <http://www.RiceAdvisor.com> for your DD50 login, calculators for seeding rate, drill calibration, and fertilizer, and links to videos and publications. Let us know what you think!

Visit our website at <http://www.uaex.edu>

University of Arkansas, United States Department of Agriculture, and County Governments Cooperating
The University of Arkansas Division of Agriculture offers its programs to all eligible persons regardless of race, color, sex, gender identity, sexual orientation, national origin, religion, age, disability, marital or veteran status, genetic information, or any other legally protected status, and is an Affirmative Action/Equal Opportunity Employer.