

LOUISIANA RICE NOTES

Drs. Dustin Harrell

May 4, 2017

No. 2017-04



Excessive Rainfall and Hail

We have probably had the best start to the rice season here in Louisiana than we have had in at least a half decade. We started with warm, clear and dry soil conditions, which facilitated planting. Accumulated heat units have moved the physiological development of the crop along. We currently have a lot of rice that is very near green ring development.

However, things took a turn for the worse on Saturday with excessive rainfall occurring in some cases up to 12 inches. The rainfall seemed to be hit-or-miss in places depending on if the passing storm stalled or passed over quickly. For example, the Rice Station in Crowley received about 1.5 inches while just a few miles north around Eunice and Mamou received enough to flood roads, homes and schools. Yesterday (May 3), another system moved through the region and dumped more rain and also hail in places. In Figure 1, you can see that some areas in Jeff Davis and

Calcasieu received around 10 inches, most of Acadia Parish receiving 6 to 8 inches, while southern Vermilion and Cameron Parishes received less than 4 inches in most cases. We do not have a large probability of rainfall in the future forecast until next Friday.

Unfortunately, it is predicted that Arkansas may lose up to 100,000 acres of rice this year from the flooding from Saturday alone. New predictions after Wednesday's system could raise that number considerably. In general, I believe that a large percentage of the Louisiana rice will survive if we can get the

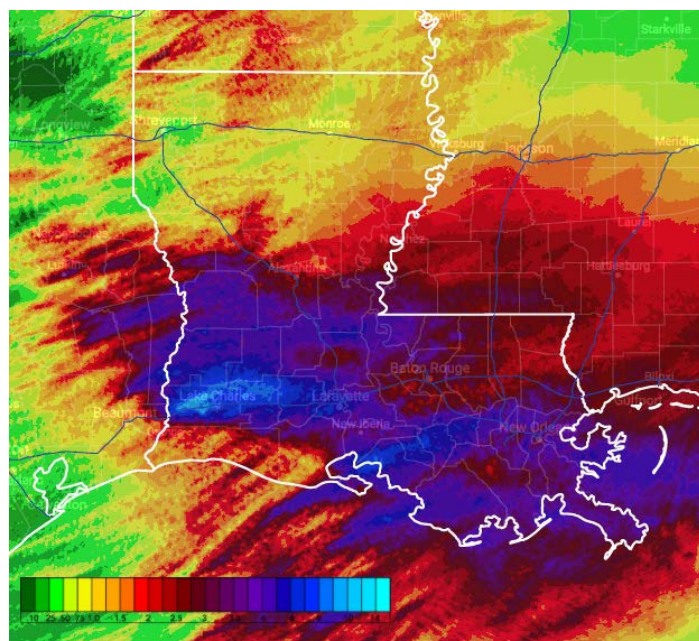


Figure 1. Rainfall totals in Louisiana on May 3, 2017.

water off quickly and repair the broken levees.

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I have heard that some areas around Bunkie and Whiteville will not have the water off in time to salvage the crop and will certainly lose several thousand acres. There is always a possibility for backwater flooding in the river basins as much of this water drains southward. The full extent of the impact on Louisiana rice production will not be fully known for a couple weeks. For now, we just need to focus on fixing washed out levees and getting the water off the submerged rice as soon as we possibly can.



Figure 2. Stretched rice due to high water.

How long will rice live underwater?

Although rice is grown in submerged fields, rice cannot live under submerged conditions for an extended period of time. How long the rice can live underwater depends on the conditions and the stage of rice development. Consensus of most consultants is that rice can live under submerged conditions about eight days. Less if the rice was already stressed from other factors (herbicide, nutrient, insect and disease), if the water is not clear, or if the water is excessively hot or cold.

Stretched rice

Stretched rice is caused by rice that grows quickly when it is submerged under clear water. The rice grows quickly in order to get its leaves out of the water so that normal photosynthesis rates and plant development

can resume. The quick elongation of the rice makes the leaves unable to stay erect on their own. Often the leaves float on top of the water once they emerge. Once normal growth and development resumes, the plant will eventually become more rigid and stand up on its own. All it takes is a little time and good growing conditions. The real problem occurs when we drain all the water off the field quickly. If all of the water is drained off the field before the rice can stand up on its own it can become stuck into the mud. As the mud dries it will desiccate and kill the rice. This can occur quickly in windy conditions. The key to keep this from happening is to never drain all of the water out of the field until the rice recovers enough to stand up on its own. Drain the water and keep a skim of water on the field until the rice stands

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up on its own and then you can dry the field completely.



Figure 3. Stretched rice laying on muddy soil.

Hail Damage

Wednesday's (May 3) rains also brought dime- to golf-ball-size hail in some places. Rice damaged by hail will vary depending on the stage of rice development. Early season rice, prior to jointing and panicle formation, will bounce back from hail damage faster and cause less yield loss than damage that occurs after the panicle has formed. The most important factor to evaluate for damage is the growing point. Right now most of the rice has not reached green ring so the growing point we need to evaluate is the crown node. You can see in the adjacent picture that hail caused much of the rice to look shredded like it was hit with a weed trimmer. However, the growing point (crown node) was not damaged and this rice

will recover quickly. In my opinion, this rice will have some but not excessive yield loss. If this rice had formed a panicle and the growing point was an upper node, I would expect the yield loss to be more excessive, and yield would probably be more in line of what we would expect from ratoon rice.



Figure 4. Hail occurred in many areas on May 3rd.

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Figure 5. Rice damaged by hail from the May 3rd storm.

How much N is lost from the draining flood water?

A common question I have been getting since Sunday is in relation to how much preflood or mid-season N is lost when we drain excess water from the fields. There is not an exact formula that we can use to estimate the N loss; however, we can make some general assumptions based on environmental conditions. In the case of pre-flood N, it depends on: 1) if the N was applied on dry soil, moist soil or into a standing flood, and 2) how long after the application that the excess water was drained.

Applications of N onto dry soils allow the N to be incorporated into the soil as the field is flooded. This will somewhat “protect” the N and keep most of it in the soil when

excess water is drained from the field. However, if the N was dropped into a standing flood, most of the N will reach an equilibrium and remain in the water above the soil. In this case there is less potential for N to move into the soil. Therefore, additional water that is drained will move a large amount of the N with the flood water. Time is the other factor we need to consider. Consider this, it takes approximately three weeks for preflood N to be taken up by rice. If the preflood N was just applied, a greater percentage of the N would be removed with the flood water as compared to N that was applied two and a half weeks earlier.

Mid-season N applied into the water can be taken up by rice much more quickly than preflood N due to the mature and large root system. Previous research has shown that over 75% of midseason N can be taken up in as little as three days. Therefore, if the rain occurred immediately after midseason N application and the excess water was drained, we can expect much larger N losses as compared to N that was applied four days earlier.

LOUISIANA RICE NOTES

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May 4, 2017

No. 2017-04

Upcoming

- May 25 Vermilion Parish Field Day
- May 31 Southwest Louisiana Rice Tour, Fenton, LA
- June 1 Evangeline Parish Field Tour, Mamou, La
- June 14 Acadia Parish/South Farm Field Day, Crowley, LA
- June 28 LSU AgCenter H. Rouse Caffey Rice Research Station Field Day, Crowley, LA
- July 12 Northeast Louisiana Rice Field Day, Oak Ridge and Rayville, LA
- July 18 Northeast Region Rolling Crop Field Tour, Morehouse Parish

Louisiana. If you would like to be added to this email list, please send your request to dharrell@agcenter.lsu.edu.

This information will also be posted to the LSU AgCenter website where additional rice information can be found. Please visit www.LSUAgCenter.com.

Remember you can keep in touch with what is going on in the Louisiana rice industry by using:



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Additional Information

Louisiana Rice Notes is published periodically to provide timely information and recommendations for rice production in

Page 5 of 6

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Louisiana State University Agricultural Center, Louisiana Agricultural Experiment Station,
Louisiana Cooperative Extension Service, and Louisiana State University College of Agriculture.

The LSU AgCenter is a statewide campus of the LSU System and provides equal opportunities in programs and employment.
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After 38 years of serving the people of Louisiana, Dr. Ronald “Ronnie” J. Levy, Jr, Associate Professor & State Soybean Specialist will be retiring on April 30, 2017. Ronnie first began his career at the Calcasieu Parish Extension Office in 1979 as a 4H agent. He continued 4H work in Jeff Davis Parish until 1986, then moved to the Acadia Parish Office working as County Agent/ANR and also, served as parish chair. In 2008 Ronnie was hired as State Soybean Specialist.

Please join us as we honor Ronnie at a retirement reception to be held on **Thursday, May 18, 2017**, from 5:00-7:00 p.m. at the H. Rouse Caffey Rice Research Station, 1373 Caffey Road, Rayne, LA 70578.

We will be collecting letters to present to Ronnie during this time. If you would like to contribute to the Book of Letters, please submit your letter (1 ½ left margin) via e-mail to Gaye Richard (grichard@agcenter.lsu.edu) or mail to Central Region/LSU AgCenter, 8105 Tom Bowman Drive, Alexandria, LA 71302 **by May 1, 2017**. (Please do not fold letter)

If you have any questions, please contact Gaye Richard (grichard@agcenter.lsu.edu) or call (318) 427-4424.



RSVP by May 1, 2017

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