Weekend rains and more rain coming.

Over the weekend several inches of rain fell in the heart of rice country in southwest Louisiana. Approximately 3-inches of rain fell at the Rice Research Station in Crowley. Rainfall totals north of I-10 were somewhat lower than south of I-10 in general (Figure 1). Dry weather yesterday (Monday) and today and looming storms threatening over the next several days in Louisiana have many growers pushing to apply herbicides and fertilizer.

Most questions received over the last couple days have to do with nitrogen fertilizer applications with the current field conditions. Here are a few of the questions and scenarios that were most common: 1) The rain over the weekend caused many rice fields along and south of I-10 to be flooded. Those who have applied herbicides to the fields but didn’t get to apply their preflood fertilizer on dry ground want to hold the current flood and throw the fertilizer into the water. Unfortunately, this practice is not ideal since throwing urea fertilizer into a standing flood when rice is small and does not have a very big root...
Dr. Dustin Harrell

May 7, 2019

No. 2019-03

**Louisiana Rice Notes**

The system is very inefficient and a large portion of this nitrogen will be lost. The rice root system gets larger at the same rate as the above ground biomass gets larger. Therefore, nitrogen is taken up faster and more efficiently taken up as the rice matures. This is why we recommend throwing nitrogen fertilizer into the water mid-season and not preflood. The reason is that rice can take up the nitrogen at mid-season faster than the nitrogen can be lost. Research out of Arkansas several year ago demonstrated that it takes 3-weeks to take up preflood nitrogen while mid-season nitrogen can be taken up in 3-days! So, how should nitrogen be handled if it has to go into a standing flood early? Well, we have to use what we call “spoon feeding” the nitrogen. This is where we will make several repetitive nitrogen applications split 7- to 10-days apart instead of one large, all at once application. There are many variations of spoon feeding being utilized in commercial production with different rates and N source combinations being used. Unfortunately, we do not have research to show which method is best. However, one thing is certain, if the rice begins to show signs of nitrogen deficiency (yellowing) you are loosing yield potential and fertilizer will need to be thrown as soon as possible.

Scenario 2: Water was drained from the weekend and there is no standing water but the field is muddy. Can the nitrogen be applied efficiently? Absolutely, Nitrogen use efficiency should be high as long as NBPT, NPPT, or Duromide is applied to the urea.

Scenario 3: There is some standing water on the field and it will not drain before the rains. Can I apply my nitrogen efficiently?

![Figure 3. Effect of soil moisture on fertilizer efficiency of urea and Agrotain Ultra treated urea for a trial conducted at the H. Rouse Caffey Rice Research Station in 2015.](image-url)
No, applications of urea, even with a urease inhibitor applied onto it, will be inefficient and spoon feeding should probably be considered. I included the same graph from last week to illustrate this (Figure 3).

What happens when you follow Provisia with conventional rice?

Provisia rice seed technology is a needed system to clean up Newpath resistant red rice and weedy rice. To maintain this technology, we must follow the stewardship guidelines to prevent the development of red or weedy rice with both the Newpath and Provisia herbicide resistance. A copy of the current Provisia Stewardship guidelines can be found here [Provisia Stewardship](#). Under the Best Management Practices section in the document for crops following planting Provisia rice, it states that you should rotate to Clearfield rice following Provisia or to
another crop such as Roundup Ready or Liberty soybeans.

So, what happens if you accidentally plant conventional rice following Provisia? Well, if the Provisia rice shattered or you lost seed during harvest and that seed germinated into the crop, you now have rice that you cannot kill (Figure 4). You also have the potential for outcrossing. The wet winter and inability of many of our fields to be cultivated in the fall and winter caused additional problems in this field. Here you can see the...
Provisia rice growing from last years rice stubble (Figure 5). This is doubly worrisome since Provisia is very susceptible to blast and this rice will potentially serve as a source of inoculum during the season. This will test the blast resistance of even our most blast resistant varieties and hybrids.

**Louisiana rice variety trends over the last 18 years**

Rice seed technology has changed considerably over the last two decades. We have seen the development of Clearfield rice, hybrid rice, Clearfield hybrids and Provisia rice in just the last 18 years. The future looks bright too with the development and pending release of FirstPage hybrids and potentially Provisia hybrids.

Rice variety by parish surveys are conducted annually in Louisiana by the extension agents in each of the rice producing parishes and are available on the LSU AgCenter’s rice website (rice statistics). This data includes varieties planted, how they were planted, if conservation tillage was used and how the water was managed. This is a great resource and historical record of rice production in Louisiana (Figure 6). Using this data, I put together the planting trends over the last 18 years for conventional, hybrid, Clearfield varieties and hybrids and Provisia rice. I though I would include this in todays Rice Notes. The trends are interesting, and you can clearly see the adoption rates of each of these technologies. You can also see the temporary steep decline in Clearfield acres in 2007. This was due to unavailability of Clearfield seed due to the Liberty Link and cersospora outbreaks in 2005 and 2006, respectively. Remarkably, Cocodrie held 49% of all rice acres in Louisiana in 2007. I wonder how rice seed technology will change rice production in Louisiana over the next two decades?

**Join the Louisiana Rice Text Group List**

If you would like to join the Louisiana Rice Text Group, simply text @larice to 81010. To unsubscribe to the group,
simply text back “unsubscribe@larice” to the group.

If you would like to get the text messages by email, send an email to larice@mail.remind.com. If you would like to unsubscribe to the email messages, simply email larice@mail.remind.com with “unsubscribe” in the subject line.

Additional Information

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

Upcomming

May 28  Southwest Louisiana Rice Field Day, Iowa, LA
May 30  Evangeline Parish Rice Field Day, Mamou, LA
June 12  Acadia Parish/South Farm Field Day, Crowley, LA
June 26  LSU AgCenter’s H. Rouse Caffey Rice Research Station Field Day, Crowley, LA
July 18  Northeast Louisiana Rice Field Day, Rayville, LA

Contact Information

Dustin Harrell  Rice Specialist & Research Coordinator  (337) 250-3553  dharrell@agcenter.lsu.edu
Don Groth  Resident Coordinator & Rice Pathologist  (337) 296-6853  dgroth@agcenter.lsu.edu
Eric Webster  Rice Weeds & Asst. SW Regional Director  (225) 281-9449  ewebster@agcenter.lsu.edu
Adam Famoso  Rice Breeder  (337) 247-8783  afamoso@agcenter.lsu.edu
Mike Stout  Dept. of Entomology Head & Rice Entomologist  (225) 892-2972  mstout@agcenter.lsu.edu
Blake Wilson  Rice & Sugarcane Extension Entomologist  (225) 578-1823  bwilson@agcenter.lsu.edu
Michael Deliberto  Rice Economist  (225) 578-7267  mdeliberto@agcenter.lsu.edu
Keith Fontenot  Rice Verification Program  (337) 290-0510  kfontenot@agcenter.lsu.edu
Jim Oard  Hybrid Rice Breeder  (225) 281-9447  joard@agcenter.lsu.edu