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LOUISIANA RICE NOTES

Drs. Dustin Harrell, Don Groth, and Blake Wilson

June 2, 2017 **No. 2017-6**

Rice Crop Update

The bulk of the rice crop in the northeast part of the state is ready to establish the permanent flood. However, wet soil conditions have limited opportunities to apply our preflood nitrogen fertilizers on dry soil. Applications of early season N into standing floods are very inefficient and require additional applications of N to make up for this loss of efficiency. If possible, it is always best to wait for the ground to dry to apply the preflood nitrogen and stick to the standard two-way split nitrogen fertilizer application recommendation.

Here in the southwest part of the state we continue to see stress symptoms on rice associated with the flooding and high water. Bronzing-like symptoms as well as brown spot can be seen on many fields. Brown spot is caused by the fungus *Cochliobolus miyabeanus*. Brown spot is generally brought on by some kind of external stress. The most common stress where the fungus appears is when rice is deficient in nitrogen. Both the flooding-induced bronzing and brown spot symptoms will go away with a little nitrogen fertilizer, warm weather and sunshine. Unfortunately, the weather has been overcast and rainy for several days and looks to be the same in the coming days. These conditions have delayed the recovery of the rice, and it is worrisome to keep looking at sick rice that does not seem to

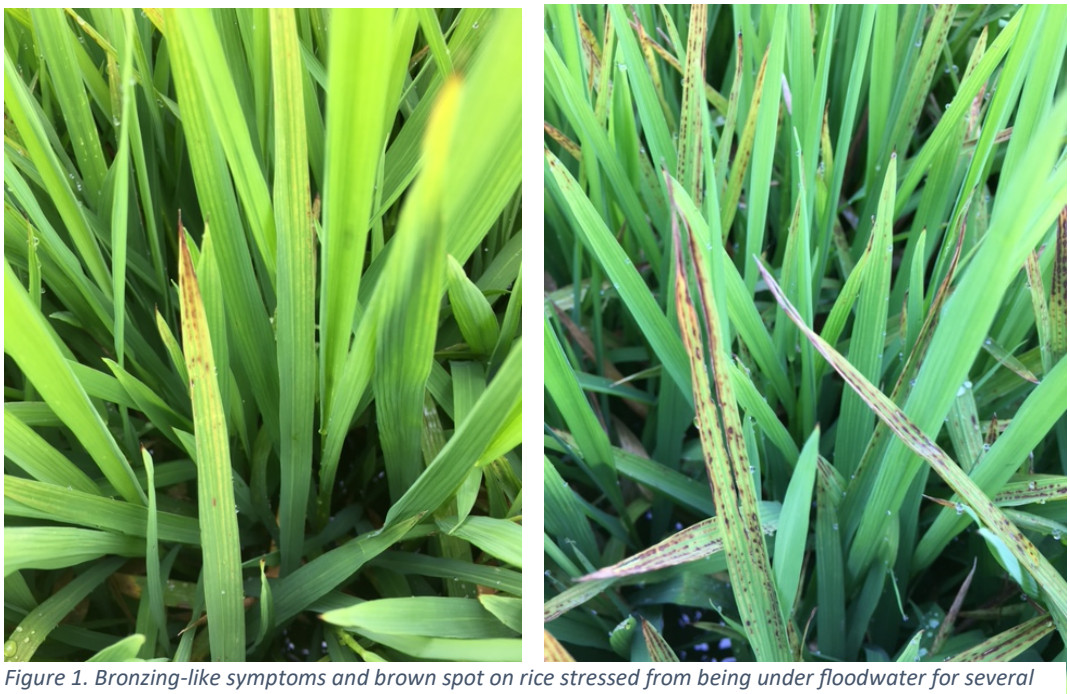

Figure 1. Bronzing-like symptoms and brown spot on rice stressed from being under floodwater for several days. These symptoms can easily be confused with Cercospora and potassium deficiency.

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want to recover. I hope the sun comes out soon.

Some heading has started in the southwest part of the state on a limited basis. Another concern with the recent rains is that heavy mid-day rains when the florets are open can cause grain sterility and reduce yield potential. Really, the only thing these conditions are good for is disease. Disease incidence has really picked up in the last week, especially sheath blight. Be sure to start scouting your field. Dr. Don Groth has put together his fungicide rate recommendations below and he also addresses the reported limited supply of the Sercadis fungicide. Once the rice is headed, it is also time to start scouting for stink bugs. Dr. Blake Wilson has also contributed an article on best management practices for stink bug management in rice.

Sercadis vs Elegia Fungicide

There have been several reports of Sercadis shortages in South Louisiana for rice sheath blight control. Sercadis, in the Fungicide Resistance Action Committee (FRAC) Group 7 mode of action, has good activity against sheath blight and the strobilurin (FRAC Group 11) resistant sheath blight fungus. Elegia, also in the FRAC Group 7, is another fungicide with similar activity against both the wild and resistant sheath blight fungi. Both fungicides are good choices for control of the strobilurin resistant sheath blight fungus and as a rotation option for strobilurin fungicides resistance management to delay resistance development.

Sercadis is applied as a single 6.8 oz/A application at mid-boot, or as two 4.5 oz/A applications at early boot and late boot. Elegia is applied at early to mid-boot at 32 oz/A. Propiconazole (Tilt, Bumper, PropiMax etc.) can be tank mixed with either product to expand and increase activity against Cercospora, grain smuts and other rice diseases. Propiconazole has some activity against sheath blight and is in FRAC Group 3.

There are reports of resistance to the FRAC Group 7 fungicides in the sheath blight pathogen population. At this point results are contradictory and confusing. The probability is that Rhizoctonia solani, the sheath blight pathogen, has become tolerant to the Group 7 fungicides due to extensive use on rice and soybeans. Other products with different

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modes of action will be needed in the future. However, at this time it this resistance does not appear to be wide spread nor prevalent in most rice fields. Studies are under way to confirm resistance and determine its distribution.

Suggested Fungicide Rates and Timings for Louisiana

Here are some of the fungicide suggestion I have made the last couple of years. Adding Propiconazole (Tilt or other products) adds Cercospora and kernel smut activity. If you have the strobilurin resistant sheath blight fungus you have to use Sercadis or Elegia. If you have blast you have to use a strobilurin fungicide (Quadris, Stratego, Quilt, Quilt Xcel). Rotation of fungicide activity is always a good idea. Remember to scout so you know which diseases are present and the rice's growth stage.

Fungicides:

Stratego	19 oz/A (you can add 3 oz/A Tilt) Apply at boot to 35 days preharvest
Quilt Xcel	21 oz/A (you can add 3 oz/A Tilt) Boot, no heading
Quilt	28 oz/A (you can add 2 oz/A Tilt) Boot, no heading
Quadris	12 oz/A boot to heading (you can add up to 10 oz/A Tilt but no heading then)
Sercadis	6.8 oz/A (you can add up to 10 oz/A Tilt) Boot
	or 4.5 oz/A followed by 4.5 oz/A 7-14 days later
Elegia	32 oz/A (you can add up to 10 oz/A Tilt) Boot

Tilt/PropiMax/Bumper/etc. Boot no heading

8-10 oz/A or 6 oz/A followed by 6 oz/A 7-14 days later

Timing:

Boot (2-4 inch panicle) for SB, Cercospora and **Kernel smut**

Heading (50-70% heads emerging or boot split) for SB, Cercospora, **Blast**

Rice Stink Bug Management

The rice crop is advancing nicely and many fields will soon be heading. Crop protection at this point in the growing season

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is critical because rice has less time to recover from insect and disease pests before harvest. The most important insect pest of late season rice in Louisiana is the rice stink bug (RSB), Oebalus pugnax (Fig. 1a). RSBs have spent the winter and spring in weedy grasses around rice fields, and will move into rice as soon as the crop begins flowering. RSB feeding is most damaging to younger seed heads with grains beginning to fill, and often the first fields in a region to mature are hit the hardest. Both RSB adults and nymphs attack rice by feeding on developing grains, but it is typically the adults that cause the most damage.

Figure 1. Rice stink bug, *Oebalus pugnax*, adult (a) and injured "pecky" rice (b). *Photos by J. Saichuk (a) and D. Groth (b).*

Feeding by RSB during the early stages of heading can cause high numbers of empty or partially filled grains, reducing yields at harvest. Damage from RSB feeding also occurs after grains have been filled in the form of peck (Fig. 1b). Penetration by the RSB's piercing mouthparts into rice grains allows entry of fungal pathogens, causing the characteristic brown spots. This peck increases the number of broken grains and substantially reduces grain quality leading to losses in revenue at the mill. This combination of quantitative loss in the field and qualitative loss at the mill has made it challenging to estimate the true impact of RSB on rice production. Ongoing work by the LSU AgCenter aims to cooperate with milling operations to better estimate the effects of RSB infestations on rice quality and farm revenue. This work will aid in development of improved economic thresholds to better determine when pest control measures are needed.

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Figure 2. LSU AgCenter Entomologist, Dr. Mike Stout, samples a field for rice stink bugs using a sweep net.

The presence of RSBs alone should not be used to trigger an insecticide application, and pest populations should be monitored with a sweep net (Fig. 2). Scouting should be initiated as soon as rice begins to head, and should be continued for approximately four weeks after heading. Scouting should be done by taking 10 sweeps across the tops of rice plants and counting the number of RSB adults and nymphs collected. Repeat this process in multiple areas of each field. The more areas which are sampled, the more accurate the measurement of infestation will be. During the first two weeks of heading, the threshold to trigger an insecticide application is more than 3 stink bugs per10 sweeps. The infestation level to trigger control increases to 10 RSB/10 sweeps after the first two weeks after heading as the rice becomes less susceptible to injury. Insecticides remain the primary tactic for RSB control, and effective products are available.

The pyrethroid insecticides, lambda-cyhalothrin (Karate Z®) and zeta-cypermethrin (Mustang Maxx®), are the most commonly applied insecticides for RSB control in Louisiana because they are generally effective and affordable. However, widespread use of lambda-cyhalothrin has led to concerns about development of insecticide resistance among RSB populations, and partial control failures have been reported in Texas. Dinotefuran (Tenchu®) was recently labeled for RSB control and offers a good

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alternative to pyrethroids. This product was demonstrated to be as effective as pyrethroids in insecticide trials and is thought to provide longer residual control. Malathion is labeled, but is not considered effective. Methyl-parathion is no longer labeled and therefore not legal to use on rice. Unfortunately, none of the available products for RSB control are compatible with a rice-crawfish rotation because insecticide residues from spring applications may still be toxic to crawfish the following winter and spring. Removal of weedy grasses during spring is one cultural control strategy which can reduce RSB populations, but damaging infestations may still occur. LSU AgCenter entomologists are working with the agrochemical industry to identify products which may fit with the crawfish rotation as well as to develop alternative control strategies. However, RSB control options which are compatible with crawfish production will likely remain limited for the time being.

More information on RSB biology and management options can be found on the LSU AgCenter website or in the 2017 Louisiana Insect Pest Management Guide.

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.

Upcoming

June 14	Acadia Parish/South Farm Field Day, Crowley
June 20	Northeast Research Station Field Day, St. Joseph, LA.
June 28	LSU AgCenter H. Rouse Caffey Rice Research Station Field Day, Crowley, LA.
July 6	St. Landry Field Tour, Palmetto, LA
July 12	Northeast Louisiana Rice Field Day, Oak Ridge and Rayville
July 18	Northeast Region Rolling Crop Field Tour, Morehouse Parish

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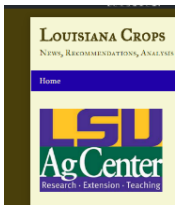
This information will also be posted to the LSU AgCenter website where additional rice information can be found. Please visit www.LSUAgCenter.com.

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

Louisiana Rice
@LouisianaRice

LSU AgCenter H. Rouse Caffey Rice Research Station



Louisiana Crops Website @ www.louisianacrops.com

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