

# LOUISIANA RICE NOTES

Dustin Harrell & Don Groth

March 9, 2015

No. 2015-03

## Wet and Cold This Week



Rain, rain and more rain in the forecast this week. The Weather Channel forecast in Crowley today (March 9<sup>th</sup>) calls for high rain chances over the next four days. When you add this rain to the already wet soils and cool soils that we have, it makes predicting when we will be able to get into the field for drill-seeding rice uncertain. Our recommended optimum planting window for south Louisiana begins tomorrow, March 10<sup>th</sup> and ends April 15<sup>th</sup>. This typically means that planting outside this range, either earlier or later, would result in reduced yields. However, it is important to remember that the AgCenter’s optimum rice planting window is a determination from historical date of planting trials at the Rice Research Station in Crowley. Even though this year is shaping up to be very comparable to last year at this time, we have to remember that environmental conditions are different every year and that the true “optimal” planting window will shift each year accordingly. Some things, however, remain true year in and year out. This includes that the average daily temperature which is important for seed germination. The average daily temperature can easily be determined by adding the daily high and low temperatures and then dividing by 2. Seed germination will not begin until the average daily temperature exceeds 50°F. Even then, germination rates are really not acceptable for planting until the average daily temperature consistently exceeds 60°F. Seedling survival after emergence is typically not satisfactory until mean daily temperatures exceed 65°F. Looking at the forecast above, it looks like the average daily

temperature Tuesday through Sunday will range between 62 and 64°F.

## AV-1011 Bird Repellent Seed Treatment Update

We received word from the EPA last week that the emergency exemption application submitted by the LDAF for the use of anthraquinone (trade name AV-1011) on rice to repel blackbirds was reviewed. The review by the Agency’s Biological and Economical Analysis Division (BEAD) found that “a non-routine emergency situation does not exist in Louisiana based on the data submitted” in the application. The Agency acknowledged that new testimonials were submitted based on 2014 experiences however they believe that the data did not provide:

- Evidence that there has been a change that would apply to this year’s application
- Before-and-after yield loss scenarios

After hearing this, we sent out a request last Thursday to Louisiana producers in an effort to obtain more data to support our application. The deadline to get the data in to me was noon today (March 9<sup>th</sup>). The response from Louisiana producers was excellent for such a short turnaround. We had responses from 25 rice farming operations representing approximately 30,000 acres of planted rice in 2014. I would like to thank all of those who responded. This information will be compiled with other information and will be submitted to the EPA shortly. I will let you know as soon as we get a response from the EPA on the issue. The wet and cool weather which is delaying planting may actually turnout to be a good thing if it delays planting long enough for us to be able to use the bird repellent. That is, if the EPA grants the Section 18 for this year...

## Rice Diseases

The 2015 Disease Management Guide is updated annually and is available online ([www.lsuagcenter.com](http://www.lsuagcenter.com)). The newly updated rice disease tables can be seen below.

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| Table 1. Symptoms, source of inoculum and management of diseases of rice |  |
|--|--|
| Disease  |  |
| <b>Blast</b><br>( <i>Pyricularia grisea</i> )                            | <p><b>Symptoms:</b> Leaf lesions are spindle-shaped and elongated with brown borders and grayish centers. A brownish lesion on the internode at the base of the panicle causes “blasting” of heads followed by breaking over of the head to produce the “rottenneck” symptoms.</p> <p><b>Source of Inoculum:</b> Fungus may overwinter on diseased straw and stubble, or in some cases it may be carried on infested or infected seed. Source of inoculum for early infection has not been satisfactorily worked out. It spreads in the field by means of airborne spores.</p> <p><b>Management:</b> For leaf stages of the disease, maintain proper flood level. Infection levels tend to be less severe where floodwater is maintained at adequate but <u>not</u> excessive depths. Plant varieties resistant to prevalent races of the fungus. (See variety list.) Avoid excessive rates of nitrogen (Nitrogen amounts vary with cropping history, soil type, varieties, etc.). The use of fungicides will be helpful in the management of blast. Fungicide timing is critical for effective control.</p> |
| <b>Sheath Blight</b><br>( <i>Rhizoctonia solani</i> )                    | <p><b>Symptoms:</b> Large spots with cream-colored centers and broad, dark reddish-brown borders appear on sheath, usually beginning near the water line. Alternating wavelike tan and brown bands can extend up the sheath and may include the flag leaf. The wavelike band pattern may extend out on part or the entire leaf surface.</p> <p><b>Source of Inoculum:</b> Fungus is soilborne and persists as sclerotia or mycelia on straw and stubble of rice and grasses. Weed hosts may serve as sources of inoculum.</p> <p><b>Management:</b> Thick stands and excessive nitrogen applications tend to favor disease development. Some varieties are less susceptible than others. (See variety list.) Fungicides may be necessary to suppress disease development. Fungicide-resistant populations exist in some fields.</p>  |
| <b>Brown Leaf Spot</b><br>( <i>Bipolaris oryzae</i> )                    | <p><b>Symptoms:</b> Dark reddish-brown spots are somewhat circular or oval to slightly elongated. Mature spots have gray centers. Spots usually associated with low nitrogen or maturity of the plant. Spots also may occur on hulls and kernels with a dark brown fungus sometimes present on kernels.</p> <p><b>Source of Inoculum:</b> The fungus is seedborne and also may live from one crop to the next on infected rice straw and stubble. It is spread by airborne spores.</p> <p><b>Management:</b> Maintain good growing conditions through fertilization, land leveling, soil preparation and other cultural practices.</p>   |

| Table 1. Symptoms, source of inoculum and management of diseases of rice                              |   |
|---|---|
| Disease   |   |
| <b>Narrow Brown Leaf spot</b><br>( <i>Cercospora janseana</i> )                                       | <p><b>Symptoms:</b> Leaf spots are light reddish-brown to brown, long and narrow. Reddish-brown discoloration of the sheath may occur when disease pressure is severe. Disease usually occurs after heading.</p> <p><b>Source of Inoculum:</b> The fungus persists on crop residue and on red rice.</p> <p><b>Management:</b> Varietal resistance offers the best approach to control. (See variety list.) Fungicides may control narrow brown leaf spot.</p>           |
| <b>Seed and Seedling Diseases</b><br><b>Water Molds</b><br>( <i>Achlya</i> spp., <i>Pythium</i> spp.) | <p><b>Symptoms:</b> Light to dark brown discoloration on soil surface around seed after water is removed. Usually have fluffy fungal growth around seed before water is removed.</p> <p><b>Source of Inoculum:</b> These fungi persist in the soil on organic matter.</p> <p><b>Management:</b> Removing water after seeding will reduce losses. Seeding into clear water reduces the incidence of water mold. Seed treatments may reduce damage.</p>                   |
| <b>Seedling Blight</b><br>(Several fungi)   | <p><b>Symptoms:</b> Young plants have roots and lower stem affected, often resulting in death of the plant. Dark lesion at the junction of seed and root.</p> <p><b>Source of Inoculum:</b> May be seed-borne or soil-borne.</p>  |
| <b>Stem Rot</b><br>( <i>Sclerotium oryzae</i> )   | <p><b>Symptoms:</b> Black, discolored areas on leaf sheath near surface of water. Later, small black seedlike sclerotia develop inside leaf sheath and still later inside the stem. Stalks may break over and lodge.</p> <p><b>Source of Inoculum:</b> Fungus persists in the sclerotial stage in soil and on diseased straw and stubble.</p> <p><b>Management:</b> Applications of potassium to the soil may reduce the severity of the disease in some instances.</p> |
| <b>Kernel Smut</b><br>( <i>Tilletia barclayana</i> )  | <p><b>Symptoms:</b> Black masses of spores replace all or some of the seed endosperm. Often the spores ooze out of the grain, leaving a black mass along the seam of the hulls and on leaves and stem.</p> <p><b>Source of Inoculum:</b> The fungus overwinters in soil and in seeds.</p> <p><b>Management:</b> Avoid high nitrogen rates. Application of propiconazole containing fungicides at boot growth stage reduce incidence.</p>                                |
| <b>Straighthead</b><br>(Physiological Disorder)   | <p><b>Symptoms:</b> Rice heads remain upright at maturity because of lack of grain formation. Hulls usually are crescent or “parrot beak” shaped.</p> <p><b>Source of Inoculum:</b> No organism involved.</p> <p><b>Management:</b> Drain water from field just prior to jointing stage of growth. Leave water off until cracks form in the mud. Then flood again. Some varieties are moderately resistant to this disorder. (See variety list.)</p>                    |

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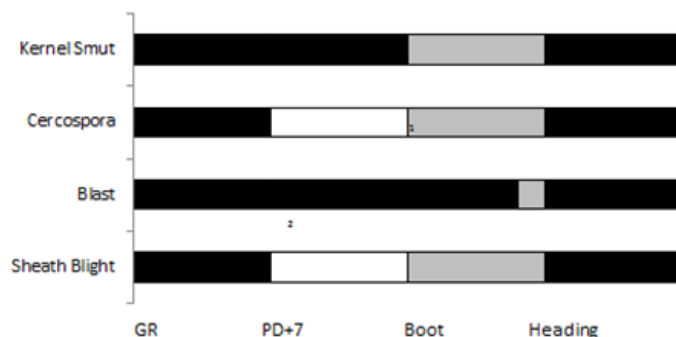
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**Table 2. Rice variety reactions to common diseases in Louisiana**

*S indicates a susceptible reaction, MS indicates a moderately susceptible reaction, MR indicates a moderately resistant reaction, R indicates a resistant reaction and --- indicates that the reaction is not known. Varieties labeled S or VS for a given disease may be severely damaged under conditions favoring disease development.*

| Variety    | Disease |               |            |                          |               |
|------------|---------|---------------|------------|--------------------------|---------------|
|            | Blast   | Sheath Blight | Cercospora | Bacterial Panicle Blight | Straight Head |
| Antonio    | S       | MS            | MS         | MS                       | ---           |
| Caffey     | R       | MS            | R          | MS                       | MS            |
| Catahoula  | MR      | S             | R          | MS                       | S             |
| Cheniere   | MS      | S             | S          | MS                       | MR            |
| CL111      | MS      | VS            | S          | VS                       | S             |
| CL151      | VS      | S             | S          | VS                       | VS            |
| CL152      | S       | S             | MR         | MR                       | MR            |
| CL261      | VS      | S             | MS         | VS                       | S             |
| CL271      | MR      | S             | MR         | MS                       | MR            |
| CLXL729    | R       | MS            | R          | R                        | ---           |
| CLXL745    | R       | MR            | R          | MR                       | ---           |
| Cocodrie   | MS      | S             | S          | VS                       | S             |
| Colorado   | S       | MS            | MS         | MS                       | ---           |
| Cypress    | MS      | VS            | S          | S                        | MR            |
| Della-2    | R       | S             | MS         | MS                       | MR            |
| Jazzman    | R       | MS            | S          | S                        | MS            |
| Jazzman 2  | MR      | S             | S          | VS                       | VS            |
| Jupiter    | MS      | MS            | R          | MR                       | MR            |
| IAkASTE    | S       | S             | MS         | S                        | MS            |
| Mernmentau | S       | S             | MS         | MS                       | S             |
| Roy J      | S       | MR            | R          | MS                       | S             |
| Tagart     | MR      | MR            | R          | MS                       | MR            |
| XL723      | R       | MS            | R          | MR                       | ---           |
| XL753      | R       | MR            | R          | MR                       | ---           |

## Rice Fungicide Timing



<sup>1</sup> A boot application followed by the heading spray may be necessary if diseases pressure is high and the variety is susceptible.  
<sup>2</sup> An early application may be necessary if sheath blight appears early and is severe followed by the boot to heading application.

Do not apply      Application may be needed      Best application timing

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**Table 3. Efficacy of fungicides in managing diseases of rice**  
Efficacy categories are as follows: P=Poor; F=Fair; G=Good; VG=Very Good; NL = Not Labeled for use against this disease.

| Fungicide Information                       |                             |                                     |                           | Disease |               |            |             |
|---|-----------------------------|-------------------------------------|---------------------------|---------|---------------|------------|-------------|
| Class and Mode of Action Group <sup>1</sup> | Active Ingredient           | Product(s) <sup>2</sup>             | Rate <sup>3</sup> (fl oz) | Blast   | Sheath Blight | Cercospora | Kernel Smut |
| QoI Strobilurins Group 11                   | Azoxystrobin                | Quadris 2.08 SC<br>Equation 2.08 SC | 9-15.5                    | G       | VG            | P          | P           |
|   | Trifloxystrobin             | Gem 500 SC                          | 3.1-4.7                   | VG      | G             | P          | P           |
| Carboxamides Group 7                        | Flutolanil                  | Convoy 3.8 F                        | 16-32                     | NL      | G             | NL         | NL          |
|   | Fluxapyroxad                | Sercadis 2.47 SC                    | 4.5-6.8                   | NL      | VG            | NL         | NL          |
| Demethylation Inhibitors (DMI) Group 3      | Propiconazole               | Tilt 3.6 EC                         | 6-10                      | NL      | F             | VG         | G           |
|   |                             | Bumper                              | 6-10                      |         |               |            |             |
|   |                             | PropiMax                            | 6-10                      |         |               |            |             |
| Mixed <sup>4</sup>                          | Azoxystrobin, Propiconazole | Quilt 200 SC                        | 14-34.5                   | G       | VG            | VG         | G           |
|   |                             | Quilt Xcel 2.2 SE                   | 15.8-27                   |         |               |            |             |
|   | Azoxystrobin, Propiconazole | Stratego 250 EC                     | 16-19                     | VG      | G             | VG         | G           |

<sup>1</sup>Mode of action groups are determined by the Fungicide Resistance Action Committee (FRAC).  
<sup>2</sup>Reference to commercial or trade names is made with the understanding that no discrimination is intended nor endorsement of a particular product by LSU or the LSU AgCenter is implied. Many products have specific use restrictions about the amount of active ingredient that can be applied within a period of time or the amount of sequential applications that can occur. Please read and follow all specific use restrictions prior to fungicide use. This information is provided only as a guide. It is the responsibility of the pesticide applicator by law to read and follow all current label directions. Members or participants in the CDWG assume no liability resulting from the use of these products.  
<sup>3</sup>Rates are the amount of formulation (product) per acre unless otherwise indicated.  
<sup>4</sup>Refer to product label for the fungicide class and mode of action group.

## Additional Information

Louisiana Rice Notes is published biweekly 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](mailto: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](http://www.LSUAgCenter.com).

### Contact Information

|                 |  |                |  |
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