

Field Notes
July 10, 2007
Johnny Saichuk



Based on the calls I have had the past week or so there is still a lot of concern over whether we will have an outbreak of Narrow Brown Leaf Spot (*Cercospora*) or not. More fungicide probably was applied to rice this year than ever before in south Louisiana. The impetus for those applications was fear of such an outbreak which devastated our crop last year. Naturally everyone is a little gun shy so we keep getting calls about various lesions being found on rice that might be *Cercospora*.

Below are three photographs of such lesions. These were brought in by a consultant. They are on leaves of the variety Jupiter. I showed them to Dr. Don Groth, rice pathologist at the rice research station. The left most image is of a lesion what Dr. Groth suspects is the beginning of leaf scald. In the center is a long narrow lesion that might appear to be narrow brown leaf spot, but Dr. Groth said he does not think so. Lesions on the right most leaf also bear a striking resemblance to what we saw last year in the beginning stages of the narrow brown leaf spot.

None of these lesions can be firmly identified as narrow brown leaf spot. According to Dr. Groth, the heavy frequent rain we have experienced for the past couple of weeks (and continue to experience to a lesser degree) leaves the crop wide open for infection from various lesser diseases with which we are less familiar. All we can do is hope we do not experience anything like what happened last year.

Dr. Groth did report he has observed some *Cercospora* on Bengal in plots on the station. That means it is out there, but does not mean we will experience what we did last year.





On the preceding page are a series of photographs taken in a field of Trenasse. The top photograph shows an area of different coloration which from a distance might make one think some weird disease was attacking the field. The second photograph is a close-up of a single panicle showing the purple grains we have written about since the introduction of Trenasse.

In the third photograph a group of panicles exhibiting the purplish coloration responsible for the darker area of the field in the first photograph in comparison to a group of panicles of “normal” color collected farther out in the field.

As we have reported before this is a combination of genetic and environmental factors. The variety Trenasse tends to produce more anthocyanin pigment than most of our other varieties. The anthocyanin pigments are responsible for the red to purple colors we see in plants. What is different here is the expression of the color. Why did it happen? Nearly always, the expression of them is a consequence of some sort of stress. In this case we know what happened. The adjacent field had 2,4-D applied to it. In all likelihood drift of 2,4-D onto the more advanced Trenasse it placed stress on the Trenasse – not enough to cause yield loss, but enough to stimulate the production of the anthocyanin pigments.

In the “normal” panicles where there is an absence of stress there is little or no stress, hence little or no expression of the color.

This phenomenon is observed every year where fall color is exhibited by hardwood trees. One of the reasons we have little fall color in comparison to areas north of us is because our fall temperatures, especially night-time temperatures, do not drop as low as they do in areas north of us. When temperatures fall there is greater expression of these colors (and others) because the dominant pigment, chlorophyll is broken down. As long as chlorophyll is the dominant pigment they appear green.

Some have associated purple grains with poor grain fill. While the purple color is not directly responsible for poor grain fill it is possible that as an indicator of stress more purple grains might be blank than green ones because of the stress that caused the color to appear in the first place.

On another note, I have been asked to review drain timing. We continue to use changes in grain color to indicate drain timing. When rice is grown on well drained and/or silt loam soils we recommend draining when a representative sample of panicles is straw colored from the tip down about $\frac{2}{3}$ to $\frac{3}{4}$ of the panicle length the field is ready to drain. On heavy or poorly drained soils we recommend draining when a representative sample of panicles has grain that are straw colored from the tip down to $\frac{1}{2}$ of the panicle length. This usually works out to about two weeks prior to harvest on silt loam soils and three weeks on clay soils.

There is one exception to this rule. Our experience with the hybrid varieties is that they should be drained about one week earlier than conventional varieties because of their tendency to shatter. We also recommend beginning harvest when grain moisture is around 20 to 22%. Part of the problem is the high number of tillers produced by the hybrids and associated varying degrees of maturity of them. The combination of these two factors, tendency to shatter and varying maturity, warrant this exception to drain timing. If you need help with this give us a call.