

Field Notes
July 25, 2006
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I thought by now the phone calls would begin to slow down, but that has not been the case especially in northeast and central Louisiana. Most of the questions are about late season weed control, stink bugs and unusual problems.

One problem I mentioned in another issue, but failed to explain well became a major source of questions last week. The problem is a form of Narrow Brown Leaf Spot that has been around for a long time, but is becoming a more serious problem. The causal organism is *Cercospora oryzae*. Many folks out in the field simply refer to it as Cercospora. In soybeans two species of *Cercospora* cause disease. *C. sojina* causes Frogeye Leaf Spot and *C. kikuchii* causes Cercospora Leaf Blight. The organisms are obviously similar, but not the same. However, all tend to be late summer or early fall diseases.

The phase we are seeing in rice now is called net blotch referring to the symptoms. These can be seen in the photograph below. When the symptom is on the leaf sheath it resembles Sheath Rot. If it occurs at the collar it resembles Collar Blast and if it spreads to the panicle it may mimic Panicle Blast. Almost everything we have seen with those symptoms has been associated with *Cercospora*. I have had no confirmed cases of Blast in the field so far this year.



According to the literature the disease can cause premature ripening of kernels and lodging of plants. There has been quite a bit of discussion of the effect of this disease on second crop. Several farmers whom I consider to be in the top 10% of growers have insisted where they see it on first crop second crop yields are reduced in some cases severely.

Several years ago Dr. Chuck Rush, plant pathologist based in Baton Rouge, confirmed that an early single application of certain fungicides would ultimately result in **more** disease instead of less. To understand why this happens you have to understand plant pathogenic fungi. There are lots of different fungi in every field. Most of the fungi are not pathogenic, that is, they do not cause disease. All of these fungi are competing for a food source of some kind. In the case of those that attack rice they are all competing for a spot on the rice plant. When the fungicide eliminated some of the competition the surviving fungus, in this case *Rhizoctonia solani* which causes Sheath Blight, flared up resulting in more damage than it would have if no fungicide had been applied.

So what does that have to do with Brown Spot? The predominant fungicides we use on rice do not control *Cercospora* sp. Once the competition is reduced this organism can flare up. Weather also plays a role. The high humidity associated with all of the afternoon showers has magnified the problem. The rice plant is most susceptible to the disease from panicle emergence to maturity. Everything necessary for a disease to occur is present; a susceptible host, a pathogen and the right environmental conditions.

On the following page are a series of three photographs I took in W. Carroll parish last Tuesday. In the first photograph the view is toward the riser showing a pattern of injury that clearly follows entry water. On the right side some of the less affected plants are visible. Adjacent paddies also show little or no injury.

In the second photograph obvious iron accumulation on the plants is visible. There was also a noticeable rotten odor associated with the area.

When plants were pulled up to examine the root system we found very little intact root system as you can see in the third photograph. While there was some rice water weevil injury it could not account for the extensive root loss. The blackened roots and soil indicate sulfide injury according to Dr. Gary Breitenbeck. Iron sulfide may be the problem here. Both soil and plant samples were sent to Dr. Breitenbeck for analysis. When we get the results we'll let you know.

The symptoms here are very similar in some respects to Localized Decline which is thus far restricted to south Louisiana. In this instance the well water apparently is playing a role rather than soil conditions as is suspected in south Louisiana. The recommendation to the grower at this point is to purge the well for about 15 to 20 minutes before opening the valve then adding fresh water to flush out the area. It is unlikely that these plants will fully recover, but if improvement is noted we are on the right track.



The photograph below was taken in Richland parish this morning. It illustrates classic symptoms of Stem Rot. The dark discoloration of the sheath follows the outline of the plant cell walls giving the edges a squared off appearance. Looking from left to right you can see normal cells, then slightly infected cells then the full blown infection. The fungus, *Magnaporthe salvinii*, will eventually penetrate the sheath and invade the stem behind it. If it progress unchecked it can result in reduced grain fill and poorer grain quality.

We do not have any current recommendations for control of Stem Rot alone. In one of our verification fields we had more Stem Rot than Sheath Blight, but enough to justify a fungicide in any case. We will take a look at it next week to see how much success we have had in slowing it down.

Four of our verification fields are now drained and awaiting harvest. Week after next will probably be the earliest opportunity to harvest. We will keep this report going until we have harvested most of the fields just to let you know how we are doing. We may skip a couple of weeks if there is little activity in the field.

