

Field Notes
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The rice panicle shown in the photograph at right is severely affected by bacterial panicle blight. In spite of the high night time temperatures we have experienced for the past month or so we have not seen a great deal of it. For that we are grateful.

The diagnostic symptoms are the grains that are partially chocolate brown and partially gray while the panicle branches remain green. Almost all of the other diseases that can affect the panicle will not leave the panicle branches green. In those other diseases (most notably blast and sheath blight) the panicle branches are killed resulting in the loss of grain. In this case it is just the opposite.

So far the only effective control measure is the use of resistant varieties.





When we arrived at our verification field in Concordia parish we noticed spots in the field like the one shown in the above photograph. A closer examination of individual panicles made for an easy diagnosis. The damage was done by blackbirds which have become an increasing problem in headed rice from central to northeast Louisiana.

Along this field is a power line where the birds like to perch. They fly down to the rice, fill their crops, then fly back up to the power line where they sit until they have digested that load. Then they repeat the process. This goes on all day long. So far there are not a lot of blackbirds. The damage they do can be significant. Aside from scare tactics there is not much we can do on headed rice. We tried another repellent last year without success.



In the July 6 and July 10 editions of field notes I had photographs of what we thought was either potassium or sulfur deficiency. We collected samples from affected and healthy plants in two fields, one south of Crowley and one near Mamou. We got the results back today. In both cases potassium was lower in the affected plants and even the healthy plants had potassium levels considered below the critical value of 1.50 percent. So that looked like we had solved the problem until I read the sulfur values which were also lower in both samples showing symptoms than in their corresponding “healthy” samples. We do not have critical values for tissue sulfur. I still think the key is potassium and the sulfur is secondary. For a number of years we have gotten away from using ammonium sulfate because it is so much more expensive than urea per pound of nitrogen. We may have to take a look at this practice where we have documented low sulfur values in tissue tests.

Following is a discussion of exactly the same problem they are experiencing in Arkansas. It appeared in their July 21st edition of Arkansas Rice.

RICE PROBLEMS:

During the past few days, we have received a few calls about unusual leaf tip discoloration on rice. While sometimes this tip “firing” may be due to sheath or stem diseases working lower down, it may also be various soil-related conditions including the following:

Sulfur deficiency of rice: The following images show leaf symptoms of sulfur deficiency. We rarely see this in Arkansas and it is usually in patches or areas of fields, often associated with sandy regions but may be reported on “cut” spots as well. In the latter, it may be associated with other deficiencies from what we have observed.



Sulfur deficiency shows up in the upper leaves, from a distance a dull or bright yellow, at least at first.

Closer examination may show shortened leaves with tip discoloration (yellowing) followed by the formation of rows of brown spots between the veins proceeding from the tips downward.



Another view of the tip discoloration and the spotting between veins.

Potassium Deficiency: Many silt loam rice soils in Arkansas are low in available potassium. Rice grown on these soils is subject to potassium deficiency, which often gets noticed during the early to mid booting stages, and to more severe stem rot and brown spot.



As shown above, potassium deficiency may



show up as a later season tip discoloration. From a distance, patches in the field may turn reddish or brown and seem to spread across the field over time as the plants become deficient over larger areas. Wells rice shows this symptom as reddish tip discoloration, and the affected length of leaves may be several inches from tip downwards.



This is a closer picture of Wells rice leaf tips affected by late-season potassium deficiency and stem rot disease.

If you examine rice plants in suspected potassium deficiency areas, you may find increased disease symptoms of stem rot as above, in severe cases killing the stems resulting in partially blanked discolored panicles.



You may also notice severe brown spot as above. This often occurs on deficient Bengal and other rice varieties.

Several years ago we started taking hand samples of rice to determine their moisture and compared them to combine samples. We continue to do this in the verification fields and are convinced it works. While the absolute values of moisture are not the same it clearly identifies the driest fields without having to use a combine and cut a sample. If you like driving combines around on public highways stop reading here, but if you would like to try this method read the next few pages.

Taking Hand Samples to Determine Harvest Moisture

- Cut a sample from an area representing the field in terms of maturity
- Beat it into a 5 gallon bucket



Taking Hand Samples to Determine Harvest Moisture

Make sure to thresh the sample thoroughly removing as many grains as possible from the panicles.



Taking Hand Samples to Determine Harvest Moisture

- Collect enough material to operate moisture meter.
- Remove all large pieces of leaves or panicles by hand.



