

Field Notes

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Last week when we visited our verification field in Jeff Davis parish we left a herbicide recommendation. Like most of you this farmer was prevented from spraying because of wind, rain and low temperatures. So when we showed up yesterday we saw what is shown in the photograph at right.

While it looks like a disaster it really is not. I feel certain we can clean the field up, but we'll have to spend more money than I would have liked. My philosophy of weed control has always been one of management, not elimination. We cannot afford to sterilize a field. We pick the top 3 grasses and 3 main broadleaf weeds and make our herbicide recommendation on that basis and hope to pick up as many of the "other" weeds as we are able .

We recommended Newpath plus propanil plus Command. It was applied with a ground rig later that day. Next week we will get a better idea of our next step. Fall panicum and sprangletop are the two most troublesome weeds in the field. Sedges, rushes, sesbania, and water paspalum are also players we will likely have to deal with at the next application.



As we arrived at our next verification field the first application of Newpath was being made. Surrounding trees, isolation from any sensitive rice, and a conscientious ag pilot made the application possible.

I have had a number of calls about the same theme in which the caller says something to the effect, "....my rice is a month old and I should be establishing permanent flood, but I haven't even applied herbicide yet." How long the rice has been planted is not important, the stage of growth and health of the plants are what determines if you are late with weed control and water. In my opinion, it is much more important to do what is necessary to have healthy plants before doing anything else. We have had to apply ammonium sulfate to "perk up" a field or two before making herbicide application. While so called "starter" nitrogen rarely contributes to yield, the ability to tolerate herbicides and establish permanent flood have value that is difficult to measure. This year in some fields an application of small amounts of nitrogen (50 pounds of urea or 100 pounds of ammonium sulfate) made within two to three weeks of flooding may suffer less nitrogen loss and therefore contribute something toward yield more than is expected.



This image is a little larger than I normally use because it shows a problem I had not encountered before. The green tint indicates the seed were treated with fungicide as the farmer reported. The white spider web looking stuff growing all over the seed is fungal mycelium. I took samples to Dr. Groth who said it appears to be *Rhizoctonia* sp. the same fungus that causes sheath blight in rice and aerial blight in soybeans. The field is rice behind rice and there was clear evidence of partially decomposed rice stubble in the soil. The fungicides used to treat seed are not effective against *Rhizoctonia* and even if they had some activity it would not have lasted long enough to prevent this disease situation.

To make inoculum for his tests Dr. Groth places chopped up rice straw in flasks with some nutrient and the fungus and it grows on the straw which is then distributed in his plots to insure disease pressure. This was essentially duplicated in the field. Rice straw was coarsely chopped and turned under, the fungus was already present, and nutrients necessary for the fungus to grow were already in the soil. The cool, wet weather we have had for the past three or four weeks slowed down seed germination and emergence even in the absence of disease placing the seed at greater risk for attack by pathogens.

If you read Dr. Groth's disease newsletter in which he discussed the disease triangle this situation is a perfect example of it. The cool, wet weather we have experienced the last three or four weeks provided environmental conditions unfavorable for seed germination and emergence while being conducive for the fungus to grow. The rice behind rice sequence and heavy load of partially decomposed rice straw supplied more than enough inoculum. The third side of the triangle is the susceptible host which in this case is CL111, an excellent rice variety that is susceptible to this fungus. Susceptible host plus favorable environment (for the pathogen) plus a susceptible host equals disease.

The farmer estimated two-thirds to three-fourths of the field had either completely destroyed or severely reduced stand. If anyone else finds a similar situation let us know so we can document it. I do not know if this strain of *Rhizoctonia* is in an area where the resistant strain has been isolated.



Both of the above photographs were taken in the same field in Acadia parish. The field view shows a swath of the field where rice emerged then died. Isolated plants in the affected area exhibit the symptoms of Command herbicide injury shown in the image of the seedlings. However, to conclude that the problem is simply herbicide injury is to over simplify the situation and place blame where it is not due. Large areas of the same field sprayed with the same combination, the same day, by the same rig are fine.

As is almost always the case there are a combination of contributing factors. I know it is irritating to keep talking about cold, wet conditions, but certainly they played a role. Near where I was standing when I took the photograph was an oilfield location site many years ago. When Barrett Courville and I looked at the field we left feeling pretty confident there were soil chemical properties (pH, salinity, something) associated with the old site that was involved. After studying the photographs and thinking about it some I called Dr. Webster. He did not think pH would likely have been a factor.

The next question was whether the spray rig had malfunctioned. What cannot be seen in the photograph is that the problem appears to end at the levee in the distance and at the other levee in the opposite end, but the field was sprayed first then levees were pulled. If the application was involved injury should have continued onto the other sides of the levees.

We can be fairly sure we have Command injury. The real question is "Why?" This is one of those cases where we will likely never know exactly what caused it.



The old saying, "Misery loves company" comes to mind this morning (April 19th) as we are experiencing another episode of colder than normal weather. As I mentioned at the beginning of this newsletter, most of my calls have involved the effects of cold weather. Just to assure you that you are not alone out there I took this photograph in Dr. Linscombe's plots on the Rice Research Station. I do not know the exact date of planting, but I do know it was planted the first week of March. The scale is inches. As you can see, it still is not flooded and it is about 6 weeks since it was planted. I picked out the **largest** rice I could find to photograph.