

Field Notes
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Last week I meant to write about a topic I had received a few calls on the week before, but I forgot to do so. That means this information is probably worthless this year, however I hope it helps next year. The issue in question is perenniating rice.

OK, what is perenniating rice? This is rice that has survived from the previous year to begin growth in the spring when temperatures rise. This seemed to be most common to Cheniere this year as I received several calls on fields that appeared to have a pretty good stand thus the farmers wanted to know if they could use it as a crop this year. I don't advise it.

My limited experience with rice that has survived winter is that it is much like a ratoon or second crop we produce in south Louisiana. It has a yield potential of roughly one fourth to one half of the original crop. Dr. Steve Linscombe said the best yield he ever heard of from such a crop was about 25 barrels per acre (4050 pounds or 90 bushels per acre) and that was an extreme example, most are half that. Even though it is tempting, it probably is not a good idea. If you want to experiment with it on 10 to 15 acres that would not hurt, just don't expect much from it.

The major issue this week is the appearance of our "mystery" malady. Last year I used the phrase "mystery disease" and it was a mistake that generated too many phone calls. We have noticed this problem for at least ten years or so. Early on we thought it was a nutrient deficiency of some sort and potassium was the most common suspect because some affected fields responded to applications of additional potassium. It is not that simple.

When we started the verification program we encountered the problem in Calcasieu parish and it got tagged "Calcasieu disease". We think we have a pretty good handle on that problem because we were able to identify the culprit – hydrogen sulfide. Hydrogen sulfide toxicity is well documented in the literature; we were slow to recognize the problem. The only remedy at this point is to drain the field in advance of the problem which means the grower must know the field history. We were caught off guard in one of our verification fields last year, drained after the symptoms appeared and suffered yield loss as a consequence. This year we will drain when we see three "crown nodes" (see Field Notes of May 11, 2005) and dry until the soil cracks. Getting oxygen to the root zone appears to be the key to prevention of the problem.

The problem we are encountering now should NOT be confused with hydrogen sulfide toxicity. Superficial symptoms are similar, but not the same. Dr. Gary Breitenbeck of the Agronomy Dept. at LSU is working on the problem this year on a grant provided by the Rice Research Board. He suspects iron toxicity, but we are a long way from confirming it or determining why it is increasing in frequency.

There are a couple of symptoms useful in distinguishing the two problems. Hydrogen sulfide smells like rotten eggs as do the roots of affected plants. The roots will turn black from a coating of iron sulfides (see accompanying photograph). In the other disorder roots may look normal to rust colored with an odor of iron rather than rotten eggs. When I asked Dr. Breitenbeck what

iron smelled like he said that if I had ever done any sanding or filing on steel or cast iron the odor resulting from that would be the same. Seems like whenever I have had to grind or file something I really did not pay attention to any smells, but I will the next time in an effort to develop an association to help in the field. Like hydrogen sulfide toxicity the only remedy is to drain the field and dry it to the point of cracking as a means of introducing oxygen.



Black roots on rice plant are often associated with hydrogen sulfide toxicity.



The lower plant in the above photograph is exhibiting symptoms of our “mystery” problem. Note the rust colored roots. The top plant is from an adjacent area where there are fewer symptoms.



Typical field symptoms exhibited in cases of the “mystery” malady being studied by Dr. Gary Breitenbeck. Hydrogen sulfide toxicity will produce very similar field symptoms.



Individual plants show various symptoms frequently confused with nutrient deficiencies and will sometimes respond to potassium further confusing the issue.