

Field Notes
June 30, 2011
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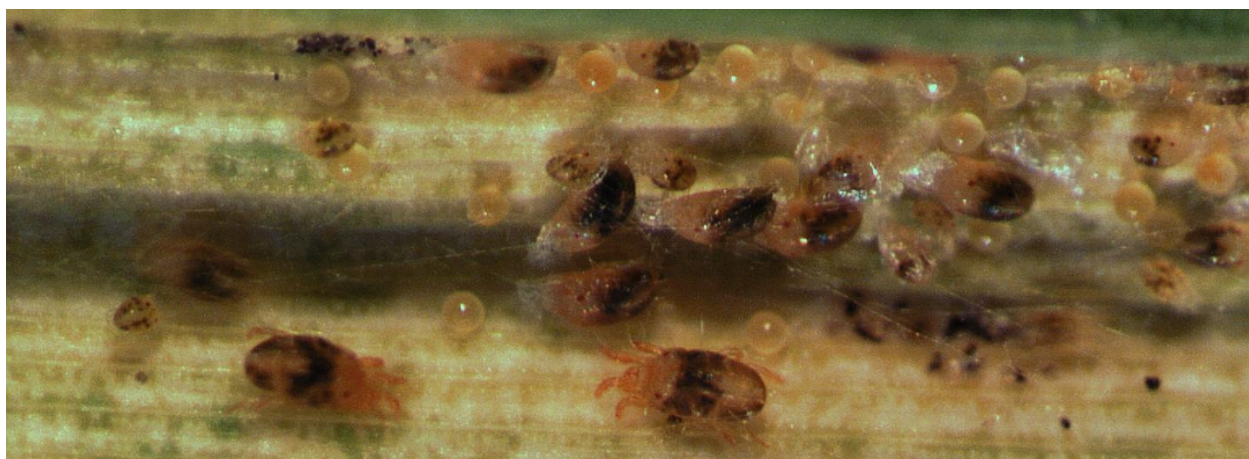
Below are two photographs depicting the same problem. They were taken in Vermilion parish last week, but this morning I looked at some from Texas showing exactly the same symptoms and the same problem. The whole plants are intended to show the white panicles that led the field rep to think it was borers. When he could not find any he was puzzled and called county agent Stuart Gauthier and we looked at them together. The roots tell the story. If you could smell these notes that would help because the odor is unmistakable. The problem is hydrogen sulfide toxicity. Normally we expect to see symptoms on the vegetative portions of the plants, but for some reason the problem occurred late and resulted in panicle blanking.



Until we discovered the cause of the problem we referred to this as “Calcasieu disease” because it is so prevalent in the Calcasieu parish rice growing area. Eventually it was identified as hydrogen sulfide toxicity. It occurs with such regularity there that many growers drain their fields at the same time that they would drain for straighthead to prevent it from developing. By draining the field oxygen is added to the soil which halts the progression of its development. Hydrogen sulfide, often called swamp gas, is a product of anaerobic (without oxygen) decomposition of organic matter. It usually requires that the field be flooded for several weeks before it shows up. It could be that by drill seeding we might delay the onset of the disorder and possibly avoid it altogether. I really do not know.



This is the second year that Stuart Gauthier has picked up spider mites in rice. The field notes editions of June 14 and 21 of last year show them. This time the symptoms are totally different. At left you can see what the field looked like. Tip burn is such a generic symptom it is difficult to place the cause on a common factor. In this instance careful observations picked up the spider mites. At right is a close-up of the leaf tip and the spider mites. Below is a photomicrograph of the same critters. Dr. Hummel was given samples to take to the mite experts in Baton Rouge for a specific identification. We do not have any miticides labeled for use on rice and furthermore I would not treat this problem because it is more oddity than concern.





Over the past several days we have had a number of calls regarding tip burn of one sort or another in rice. Tuesday of this week I photographed these Catahoula leaves in Madison parish. Later that afternoon I looked at nearly identical symptoms on CLXL745 in St. Martin parish. The occurrence of similar symptoms on different varieties in different regions of the rice growing areas of the state points to an environmental cause. Dr. Groth examined these tips and concluded it was not disease. I agree.

My theory, though far-fetched, is related to water of guttation (see Field Notes of 7/13/05, 7/7/08 and 6/21/10). Droplets form at leaf tips when water uptake exceeds use by the plant usually at night. In the morning as the plant begins to use water again it often draws these drops of water back into the plant and along with it anything that may have contaminated that water droplet. We see this every year about this time.

Last year the field shown at right was planted to a non-Clearfield hybrid rice variety. As usual some shattering occurred. The result is the appearance of F₂ plants in the conventional variety planted this year. The photograph does not really do justice to the situation. While this might not have much impact on yield it compounded the efforts of this farmer to rogue out red rice because of the similarity of red rice and pubescent (hairy) plants. The field will be idled next year and the farmer intends to plow or spray every time a stand comes up. The best policy is to encourage the seed to germinate as often as possible then destroy that stand either mechanically or chemically. These plants are not as wild as red rice which makes cleaning up the field much easier than if it had been infested with red rice.





Here is another occasional minor problem or curiosity we run into every year. Near the plants with the tip burn in Madison parish on the edge of the field were groups of dying plants like those shown above left. When the base of the plants was split we could easily find the grub shown at right. This is the larval stage of a billbug. In the past I referred to this insect as the rice levee billbug, but that turned out to be an incorrect common name. If you recall earlier in the season adult billbugs were discovered feeding on seedlings and causing stand loss mainly in the southwestern parishes. Dr. Hummel collected several of these at that time. They were later identified as several different species. I suppose I should have collected this one for positive identification too. Maybe next time I will think to do so.

I took the photograph below because it was a fantastic mix of bird species and the first time I have seen pelicans in a drained crawfish pond. This was in St. Martin parish.

