

Field Notes

May 22, 2014

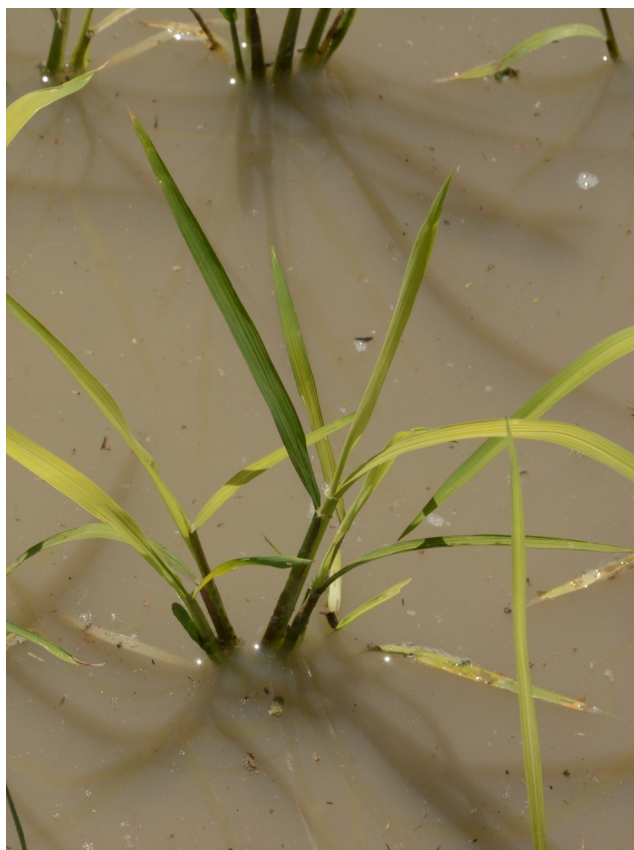
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At left are photos of three seedlings trying to emerge from heavy clay soil that has dried out after one flushing. The first two have a good chance of emerging after the next flush. A second flush will not be in time for the third seedling. As long as it is just a folded leaf or a caught leaf but growing point is intact the seedling should be able to push through moist soil. Once the main stem has begun to “cork screw” it can no longer maintain integrity and even if the soil is moistened it cannot emerge.



If the two photographs on the preceding page were not side-by-side they could easily be mistaken for one another. At left is a plant one farmer thought was Marsh Seedbox, also known as Red Ludwigia, based on the schematic key developed by Dr. Webster and on photographs of Red Ludwigia. If you examine the leaves carefully they are different. However, when encountering only one of the two in a field situation it is easy to see that they can be confused. I do not know the name of the first plant. I will have to wait until it flowers to attempt to key it out. I suspect the same plant was brought to me from a field in Vermilion parish even though this one was in Concordia parish. The plant in the right photograph is Red Ludwigia.



Last week was the week of yellow rice fields. In this case we determined it to be a consequence of a pretty stiff rate of Permit. I visited another field after this one and it had similar symptoms though less dramatic and it had Halomax applied to it. Listening to Dr. Webster at the Evangeline field day this morning he suggested ALS herbicides were the likely cause of many of these yellow field cases by reducing the root mass thereby putting the plants under stress. He told me he saw similar symptoms on a field treated with League and I have seen Londax produce similar symptoms too. Newpath drift onto non-Clearfield varieties may look similar under some conditions. Leaf tissue samples have consistently shown low manganese. In the area where Dr. Harrell set up a replicated study the symptoms have not developed. The symptoms are of manganese deficiency, but are likely brought about by the interaction between something in the soil and the herbicide. In the field above the symptomatic area was clearly mapping soil differences. If this is the case, then the next question is, "What soil factors are likely to lead to ALS injury and how can we avoid it?" Certainly these herbicides are good and have been used on thousands of acres without incident. Interveinal chlorosis (green veins in the leaf with yellow tissue between the veins) is a symptom of manganese deficiency and ALS herbicide injury. Given time we'll figure it out.



Above are photographs of nutrient deficiency symptoms that should be easily recognized. At left is what appears to be a textbook example of phosphorus deficiency and at right is bronzing likely the result of zinc deficiency.

The problem is that the fields affected by these apparent nutrient problems are near each other, were planted at the same time and have been managed the same or nearly so. To complicate things the field exhibiting phosphorus deficiency has had more than enough phosphorus fertilizer applied to it. These fields were planted to CL151 to which a mixture of Newpath, Prowl and Permit was applied. Is this another herbicide/nutrient interaction? The zinc deficiency symptoms could be explained because the farmer had a soil sample that reported 0.8 ppm zinc and it should have 2.0 ppm for rice.

I also think the cold weather of last week was a contributing factor to many of these problems because lower temperatures would slow down herbicide breakdown both in the plant and in the soil and would reduce the ability of the plant to metabolize the herbicide and reduce nutrient uptake. The combination of these factors rather than a single factor makes more sense to me because there are so many acres of the same varieties treated with the same herbicides that show no symptoms.