

Field Notes
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Last week Keith Fontenot and I visited a field in Evangeline parish. The two photographs on this page show the symptoms we saw. My first reaction was that it was caused by gramoxone drift, but that was ruled out because there was no sign of any injury on any plants bordering the field. The pattern in the field appeared to follow a spray pattern leading me to think of some sort of sprayer contamination. That was ruled out when we checked enough of the field to see that it was primarily in one rectangular part of the field. The farmer said this was his first year on the farm and that he had laser leveled the field pulling hard in the affected area. When I showed the plants to Dr. Groth he identified the problem as brown spot. Because we know brown spot is often associated with nutritional problems it is likely the pattern we saw is related to nutrition in the field. Soil samples will be taken to check this theory.



Another field I was asked to check out was easier to diagnose because the flying service was already aware some glyphosate drift had occurred onto a rice field. The visit was more to evaluate the extent of injury than identify it.

The panicles shown at right were down in the boot and were about 3 inches long. The panicle on the left provides a very good clue to the impact of glyphosate drift on rice in the boot stage. No foliar symptoms were visible. The flag leaves appeared normal. Only when the panicles were exposed by slicing open the flag leaf sheath could the extent of injury be seen. Most of the spikelets are distorted and under developed. Only one spikelet shows the amount of development that should be visible at that stage. The panicle at right has no normal looking spikelets. Poor grain formation can be expected in both cases.



Another clue to drift was the yellowish appearance of the growing point and uppermost leaves of the sesbania plant shown at right. Other herbicides could cause similar symptoms, but none that would be likely suspects had been applied to the field. This is in an area where the two panicles shown above were found.

There were several rice fields involved. Luckily most of them were more advanced thus the impact was much less. One field was near the stage to drain. Impact there was expected to be minimal. Another field was headed and turned down for the most part. Again injury was not expected to be significant. The field where rice was still in the boot will probably show the most injury.

I am still amazed at the susceptibility of rice to glyphosate when it is between internode elongation (green ring) and heading. It does not take much.



I was also asked to look at some sort of herbicide injury to a field in E. Carroll parish. Bill Williams and Donna Lee had looked at it the day before. Because there were several things that did not make sense and because I was in the area I was asked to put in my two cents worth.

There was a pattern in the field that indicated something other than drift was going on. According to records the field had been sprayed with Clincher a couple of weeks before the symptoms showed up, but Clincher should not do this. They noticed the problem when they were checking for disease.

When we split the stems this was the typical symptom – dead or severely injured growing points. This is the type of injury we used to see when the old herbicide Whip was applied. In addition to the damaged growing points, the plants were exhibiting a lot of axillary bud development. This is to be expected when the main growing point is damaged because the plant loses apical dominance. As long as the primary growing point is intact (the apical growing point) it suppresses the axillary buds. Once the growing point loses its effect all of the axillary buds (buds located at each node in the leaf axil) begin to develop. This is what happens following harvest and is one way a second crop is produced. It is acceptable then, but not in the first crop. Tissue samples are being sent off to try to identify the culprit.

The last photograph shows a common disease in its worst form. This is sheath blight on the panicle. It was so severe that by the time fungicide had been applied it had already moved up the stems of some plants. From the sheath of the flag leaf it moved on to the panicles as they emerged from the boot. This is one of the most yield limiting forms of the disease.

