

Field Notes
June 7, 2010
Johnny Saichuk



I have had only a few reports of disease so far, but given the sudden appearance of afternoon thundershowers I expect to hear of more this week and next. Last week I did get one report of blast on Jupiter. The photograph at right is of a couple of lesions on the plant that was brought to me. It sure looks like blast to me.

If you look at the disease susceptibility tables in Rice Varieties and Management Tips 2010, you will see that Dr. Groth has Jupiter listed as susceptible to blast. This is one more example of how disease reaction can change over time. In 2007 it was listed as resistant. Then in 2008 and 2009 it was changed to moderately susceptible. I have not had any other reports of blast in any varieties. Let me know what you are finding out there.



Last week I looked at a field that from a distance appeared to be nitrogen deficient even though it had more than enough nitrogen fertilizer under it. The pattern in the field was irregular with some areas lighter green than others, but none looking especially good. Closer examination of the plants revealed the symptoms shown at left. Knowing something about the soils in that area provided a clue. The pH of the soil is often above 8 and pH patterns in a field are often irregular. I believe the problem is zinc deficiency. Usually we see zinc deficiency induced by cold weather early in the season or on land that has been cut hard in leveling. The pH is the culprit in cut ground because it exposes the subsoil which often has a higher pH. I recommended an application of zinc chelate. We will see if that was the right thing to do.

At right is the first in a series of four photographs of a field of Cocodrie rice that was hit by Newpath drift. I just read Ford Baldwin's column this morning in which he addressed this problem. We have had several cases so far as well as calls about glyphosate drift on rice. It is bad enough when glyphosate being applied to soybeans hits rice, but when Newpath being applied to Clearfield rice hits conventional rice it is even more disappointing and many times can be more injurious. The straw colored plants are already dead. Adjacent plants appear healthy in this photograph, but are not. They are stunted and show other symptoms when examined closely.



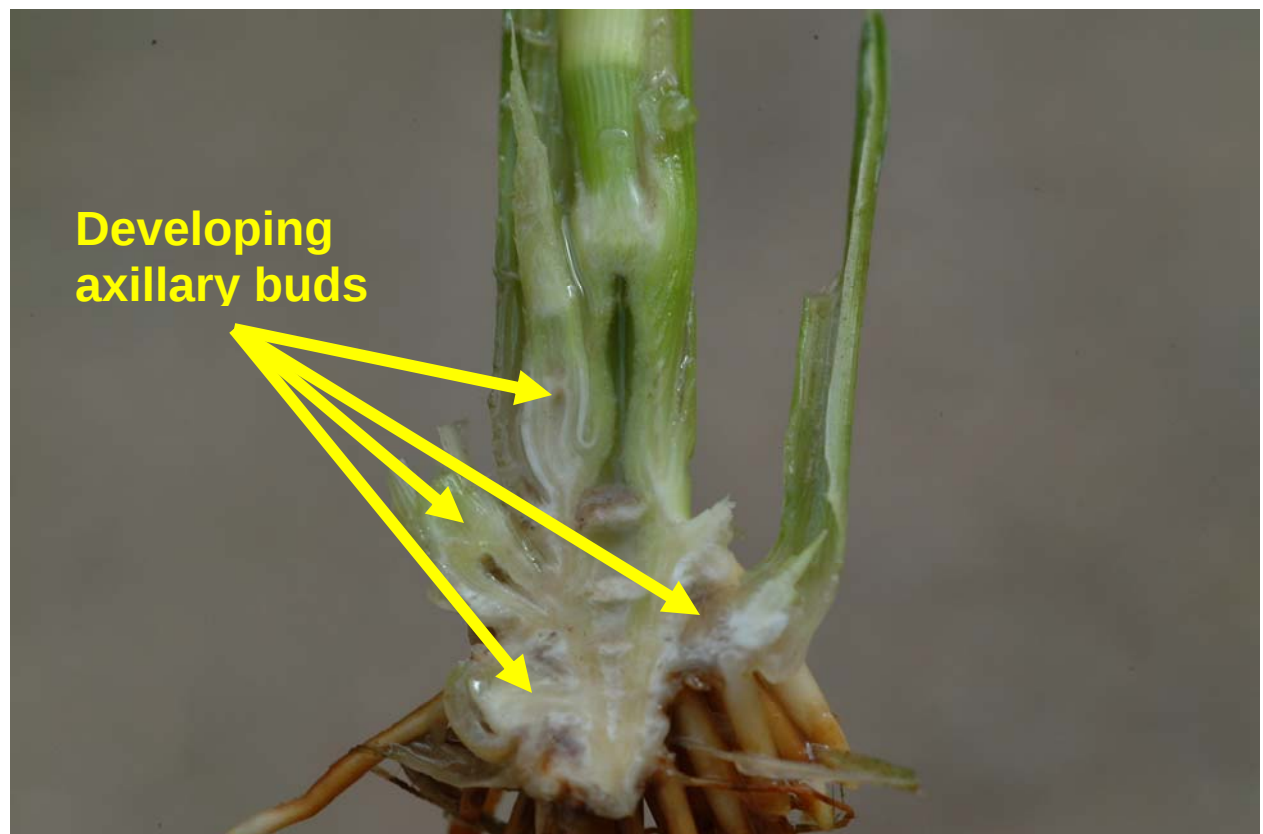
One of the affected plants is shown in the next photograph. As Dr. Eric Webster has said in training sessions, one way to distinguish Newpath injury from glyphosate injury is that plants appear to be affected from the center out if hit by Newpath and from the outside toward the inside if hit by glyphosate. In other words, the newest leaves and growing point are more likely to show the most severe symptoms when Newpath is involved. Had this been a problem with glyphosate the lower leaves would be affected more than the newest.

In this case the newest leaf is dead because the growing point was killed. Does this mean the plant is dead? It depends on severity of injury and dose.



When plants like the one shown above were split the severity of injury could be easily seen. The brownish discoloration means the growing point is dead. The five dollar term is necrosis of the growing point. Because the area of necrosis extends downward into the crown of the plant it is unlikely that this plant will survive. The tissue here had already started to decompose and was very soft. At this point nothing can be done for this plant. The herbicide is doing precisely what it was intended to do; it is killing rice. Unfortunately, this is not a red rice plant.

The plant shown in the next photograph has at least 4 developing axillary buds that should not normally develop. This is a consequence of damage to the main growing point. This gives the appearance of excessive tillering.



As long as the main growing point is intact and healthy it suppresses the development of these types of buds. It is not the same as normal tillering. The growing point (technically the apical meristem) is not dead, but is injured to the point of losing the ability to suppress the axillary buds. If you look carefully at the photograph you can see the tissue is distorted. In the field the plant takes on a ragged appearance because none of these new stems are growing normally. They are competing with the other stems in the same plant reducing vigor and overall growth. While this plant will not die it certainly will not perform as it would have under normal conditions. Even if each of these axillary buds produces a stem and that stem a head the head will be greatly reduced in size and well behind in maturity.