

Field Notes
July 20, 2012
Johnny Saichuk



This is a series of photographs presented to help distinguish between some of the diseases we discussed last week. Top left is the same photograph used last week illustrating Black Kernel disease. Top right is a close up of Kernel Smut and Lower left is the easiest to recognize, False Smut.

As you can see False Smut is the easiest to separate from the others. At first glance Black Kernel and Kernel Smut look the same. Upon closer inspection you can see the black spores of Kernel Smut working their way out of the grains. This is the disease that when heavy will coat the combine with a fine black dust. It will also brush off onto clothing while walking through a field that is infested. Black Kernel will not rub off like Kernel Smut.

Fungicides applied to control Blast, Sheath Blight, Cercospora or Kernel Smut will not work on Black Kernel because Black Kernel infects the plant after the fungicides have lost their effectiveness.

I have had several phone calls regarding fertilization of second crop. Dr. Harrell and I discussed it this morning. Most of the questions are the result of our recommendation that nitrogen be applied to dry soil then the field should be flushed or flooded. Part of the problem is that the recommendation is very important and correct when fertilizing young rice just prior to permanent flood establishment. Fertilizing second crop is similar to topdressing at mid-season because plants are larger and root systems much more extensive.

Following are several questions we have received and their answers.

Should I wait until my field is dry before applying nitrogen fertilizer to second crop?

No, do not wait. This will penalize the crop which should be fertilized and flooded as soon as possible following harvest of the first crop. If the field is damp and it will take several days to flood the field the addition of a nitrification inhibitor might be helpful.

If the field is muddy should I flood it then apply nitrogen?

There would be no real advantage to flooding first other than being secure in knowing a flood could be maintained. Even though the soil is moist water will still move downward into the soil upon flooding and that will help a little.

What if I get 2 to 3 inches of rain and the field is flooded, should I drain before fertilizing?

No, there is little advantage because the soil will be saturated for several days anyway. The longer the application of nitrogen is delayed the more the crop will be penalized. Application of nitrogen at mid-season is to a flooded field without the problems we associate with application of nitrogen to **young** rice at the beginning of the season. We never want to flood **young** rice before applying nitrogen. If there is standing water in the field and nitrogen is applied to stubble it may be a little less efficiently used than if it could have been applied to a dry soil, but not enough to justify delaying application.

Some of the confusion results when the growth stage of the rice plant is ignored and the behavior of nitrogen is considered alone. It is always true that applying nitrogen to damp, wet or flooded fields will result in nitrogen losses. The difference between applying nitrogen to young rice versus older rice takes into account the ability of the plant to utilize water and nutrients. Larger rice plants have larger root systems and will take up water and nutrients at a much faster rate than young rice. This ability to take up nutrients fairly rapidly compensates for the potential to lose nitrogen.

If you know you are going to produce second crop in a field we recommend fertilizing as soon as the combines leave the field followed by flooding as soon as possible.