

Field Notes  
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Over the past two weeks I have looked at three drift complaints. Two of them were farmers doing it to themselves and one was a neighbor's application. Two were glyphosate and one was Newpath. This drift issue is getting more than old; it is becoming a serious problem. Yesterday personnel from the LSU AgCenter, Louisiana Department of Agriculture and Forestry and aerial applicators representatives met in Baton Rouge. It basically boils down to this; if we do not find a way to minimize the problem we will face more regulations.

The LDAF has made it clear they do not want to impose more rules and regulations, but when they are being urged to "take all glyphosate applications out of the air" the problem is significant.



The panicles shown above were victim of Newpath drift. Newpath is applied to Clearfield rice to kill non-Clearfield rice. When it drifts it can cause serious injury. In this case the injury was minimized because it was not extensive and it hit rice at a less susceptible stage. As can be seen above, many of the panicles did not fully exert from the flag leaf sheath. A few actually formed grains down in the boot. That is why the grain at left is sprouting. It formed in the boot and remained there. After it ripened the captured moisture caused it to germinate. I actually found this one after splitting open a flag leaf.



Most of the other calls I have received have been about Bacterial Panicle Blight and its effects on yield. The variety CL111 seems to be the most affected, however that could be because it is the earliest one out there and might have been flowering when other cultivars were not.

At left is a panicle of CL261 affected by Panicle Blight. Note the grains at the top one third of the panicle and lower quarter appear to have less injury than those in the middle of the panicle.

It is fairly easy to explain why this happened. Flowering in each panicle starts at the top and progresses downward with the whole process taking as long as a week. Bacterial Panicle Blight is associated with high night time temperatures **during flowering**. Apparently the spikelets in the middle of the panicle were flowering under a period of high night time temperatures while the others were not.

I have also had two nearly identical calls about whether a field badly affected by Bacterial Panicle Blight should be considered for second cropping. The answer is, "Yes". I discussed this with Drs. Linscombe and Groth and the consensus is the same. Research has shown that accumulation of carbohydrates in the stubble is associated with good ratoon crop yield potential. We know the association between high night time temperature and Panicle Blight infection. The reduction in yield caused by Panicle Blight (I heard one report of 43.7 hundredweights or 27 barrels or 97 bushels per acre) should mean much of the carbohydrates that should have ended up as grain remained in the stubble. Second, the high night time temperatures are not likely to occur during second crop flowering. The result is that Panicle Blight should not be a problem in the second crop and that yields might actually be better than if Panicle Blight had not been a problem.

I have also been asked if harvest aids like sodium chlorate and Aim can be used on the first crop where second crop is intended. The answer is No. Dr. Pat Bollich did research with this several years ago and the results were pretty clear. Using harvest aids in the first crop will reduce yields in the second crop.

I still get questions about stubble management of the first crop and its effects on second crop. Dr. Bollich studied this and Dr. Dustin Harrell has followed up with studies of his own. The

practices I am referring to are: harvesting at lower than normal heights; flail mowing following harvest, rotary mowing following harvest, and rolling stubble following harvest. There are two consistent results of these practices: the second crop will be more uniform than if it was not manipulated and it will be about two weeks later in maturing. In some years a yield increase has been documented and in others no increase was seen.

We know what is happening physiologically to the plant. When rice is harvested at normal height, panicles can be produced by axillary buds fairly high on the stem as well as from buds at the base of the plant. When the stubble is mowed many of the axillary buds are removed resulting in the majority of heads coming from buds either on or near the base of the plant. Rolling breaks the straw effectively removing the upper buds.

Panicles derived from the axillary buds are smaller and mature earlier than panicles derived from basal or crown buds. If the straw is tall (normal harvest height) panicle maturity is uneven, but earlier than if the stubble is manipulated.

Rolling according to some growers works well which disagrees with research. Research has shown that rolling can often damage the crown of the plant resulting in a reduction of panicle production. Various conditions ranging from soil moisture level to variety probably interact causing variation in success with this practice.

Because flail mowing is less damaging and more even than rotary mowing (bush hogging) it is considered the better practice of the two. However, flail mowers are expensive, require a lot of maintenance, are heavy and require more horsepower to run than rotary mowers.

Most growers I know do not want to harvest at lower heights because it forces the combine to handle more straw than it was designed to handle.

Dr. Harrell told me he just finished harvesting his first crop in the study he is conducting this year. Hopefully he will get some good data this year and we will be able to provide better advice on this subject.