

Field Notes
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The major question this week has been, “When should I drain?” We have asked ourselves the same question in the verification program and have finally drained three of the eight fields. We continue to follow our published recommendations based on panicle color changes. On heavy soils or poorly drained fields when the grains in one half of the panicle are straw colored we drain. On silt loam soils we wait until two thirds to three fourths of the grains on a panicle are straw colored before draining. This usually amounts to about three weeks prior to harvest on heavy soils and two weeks prior to harvest on light soils.

Common sense must be used in making the call. If a field is going to be used to produce a second crop it is important to keep the stubble alive which means holding water as long as possible. At the same time the field must not be harvested in wet conditions which will result in rutting thus ruining or at least reducing the yield potential of a ratoon crop. If a field is difficult to drain or rainy weather has set in then the same field might be drained earlier than if it is hot and dry or the field drains rapidly.

In the photograph below is a sample of panicles pulled from our verification field in Jeff Davis parish yesterday. The panicle color indicates the field is not quite ready to drain because too much of the lower portion of several of the panicles is still very green. However, the field is one that drains slowly and the soil is fairly heavy. So, we will drain at the end of the week.



Following draining the next most logical question is, “When will the crop be ready to harvest?” Traditionally this has been determined by cutting a sample with a combine and checking the moisture. The AgCenter recommendation is to harvest when grain moisture is between 18 and 22 percent. Some varieties like Cypress and CL161 can tolerate being harvested at lower moisture levels without subsequent loss of milling better than other varieties. In an effort to help make the decision a little easier we have been hand harvesting grain samples from our verification fields at the time of harvest and comparing them to combine samples obtained from the same areas of the field at the same time. Below is a table summarizing the data we have collected. Some of the same information has been published in the last issue of Rice Farming magazine.

Variety	Number of Observations	Average Difference	High Difference	Low Difference
Cheniere	29	2.0	5.3	-2.5
Cocodrie	22	2.1	4.6	0.4
CL161	23	2.2	5.1	-0.5
Others*	12	3.5	5.2	1.1
All	86	2.3	5.3	-2.5

Most of the time the moisture reading in the hand harvested sample is about 2% lower than the moisture reading of the combine sample. While the absolute values may vary the relative moisture readings are more consistent. In other words, it might not as good a method as the combine sample to determine the actual moisture in a field, but it will definitely work to decide which fields are the most mature so harvest can be planned without having to drive combines all over the farm.



In the photograph at left Shane Theunissen demonstrates the method we have used to take a hand sample to estimate grain moisture. We simply beat a handful of panicles on the inside of a bucket repeating this until we believe we have enough grain to obtain an accurate reading with our hand held moisture meter. We remove the largest pieces of debris to reduce interference in the meter. Then we take a grain moisture reading just as we would with a grab sample from the combine. The method is simple, takes about 5 minutes and does not burn any diesel fuel.

The next step will be to develop a means of measuring grain moisture to determine drain time more accurately. One of the problems is that at that time grain moisture is above 30% and none of the commercial meters will work well in that range.



On the previous page are photographs of the panicles and roots of the same plants. Both are exhibiting signs of 2,4-D injury. According to the field rep that brought in the samples the timing was either correct or a little early. Two factors probably played a role in the injury. One is the use of drift retardants that may have caused a higher dose per droplet per plant. This is conjecture on my part, but it follows that if there are fewer droplets per acre then each droplet must carry a larger dose of the material than a smaller droplet. The other factor is low water levels at the time of application.

As you may have read in Ford Baldwin's column 2,4-D has soil activity and one of the early labels recommended the use of 2,4-D as a soil applied herbicide. Well, it also has activity in water which is why it is used in some aquatic weed control situations. We have seen the proliferation of adventitious roots (roots that arise from tissue other than a root, the stem in this case) when the crown of the plant is not covered with sufficient water depth at the time of 2,4-D application. Either direct contact of the herbicide with the base of the stem or simply the concentration in very shallow water will accomplish the same thing.

This phenomenon is also dose related. In this case it is known that the rate was approaching the maximum labeled rate per acre. If the theory that larger droplets carried more herbicide per plant is correct then it is logical that some plants received an even higher dose than others. In almost all the cases we have seen there are at least two or more factors interacting that result in injury. This explains why the farmer often says, "I have done it this way for years without any problem." He is right. Most of the time he did not have all of the negative conditions in place at the time of application thus got away without injury leading to the assumption that it was OK all of the time.

In this case the rate was approaching if not at the maximum allowable rate, the water was probably too shallow or not covering the base of the plant and some plants got an even higher dose. All the stars aligned and Bingo! It may never happen again. I am not a fan of growing rice in shallow water and this is another reason why.