Harvest Moisture Critical To Optimum Rice Milling Yields

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As we begin to look ahead toward rice harvest in the Midsouth, there are a few housecleaning items that need to be considered before making your harvest plans. Most farming operations I'm familiar with begin harvest and go until they can't go anymore, but there is actually a lot of good science out there that supports harvesting at the right time.

Unlike 2010, the 2011 rice crop is much more spread out in terms of maturity. Last year, it seemed like 80 percent of the rice crop was ready at one time. Had the nighttime temperatures during grain fill been lower the rice crop would have been much better. Since there is so much disparity in maturity of the 2011 crop, it is likely there will be better milling yields and quality this year just due to the law of averages; however, there are a couple of things you can do to maximize your milling yields despite Mother Nature.

First, if growing hybrid rice, consider the relative grain retention ability of your crop to determine your harvest order. Below is our recommended order of harvesting hybrids based on grain retention:

XL723 → CL XL729 → CL XL745 → XP754 = CL XP756 → XP753

Another very important factor to consider along with harvest order is harvesting at the proper moisture content. It will be difficult to harvest all your rice at the optimum moisture content, but bear in mind its importance. Above is a graph that depicts the effect of harvest moisture content on the whole milling quality of XL723 (Figure 1).

When rice is harvested too green, whole kernel milling quality can suffer due to the number of immature kernels in the sample. When rice is too dry, whole kernel milling quality tends to decrease due to kernel fissuring (Figure 2). Fissured kernels will break during the milling process, ultimately reducing whole kernel milling yields and the milling premium that goes back in your pocket. Previous research has shown that when considering drying charges for commercial dryers in Arkansas, the average optimum harvest moisture content for long grain rice is 18.7 percent. These data fall directly in line with RiceTec's harvest moisture recommendation of 18-20 percent.

If drying your rice on farm, and not considering costs of drying, the moisture content that produces the best milling yields is about 21 percent! Now, you're probably thinking right now who harvests rice at 21 percent moisture? Well, if you can move the grain and dry it appropriately, allowing time for tempering between passes, you might realize better margins if you harvest rice a little greener than you're accustomed. Give it a shot this fall and see what you think. Good luck out there! Δ

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