

# Check Variety Trial Results To Determine Best Lines

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“It all begins with the seed. That’s the most important thing to consider for maximizing potential production profitability. Regardless of the management practices used for a crop, the yield ceiling will ultimately be determined by the seeds genetic yield potential. A superior variety will likely outperform an average variety in high or low yield environments.”

Those are the words of Bill Bruening, University of Kentucky Wheat Variety Testing specialist. The most important management decision a grower is going to make is which variety to plant.

“It pays to take time and really look through the data and, if you’re near a bordering state, look at that other state’s data too,” he added. “Take an hour or two, because it is so important and can make such a big difference in your bottom line. You get a few extra bushels per acre just by paying attention to the genetic differences among varieties, whether it’s yield, test weight or secondary characteristics such as disease reaction or something else you’re interested in such as forage or straw yield potential.”

Wheat variety test results for 100 varieties in the University of Kentucky trials were released in early July and can be accessed by googling Kentucky Wheat Variety Test.

“The website provides results from individual tests conducted throughout the state, as well as a summary of all tests averaged across the state,” Bruening said. “Viewers can see individual variety names and how they performed. Information is listed for each test location and is arranged by yield along with two or three year averages. There is also a link to access other state variety testing web sites.”

Growers can see which varieties performed the best in the overall summary data table which compiles all the data. It’s a very robust test of how well they performed across all test environments.

“Hopefully farmers will look at that data, particularly how the varieties performed over a two year period and really get a good idea of which is a solid variety. That will maximize the potential for optimizing their production profitability,” he added.

Earlier this summer a field day was held to show the wheat trial at the Princeton, Ky., site, which was one of seven locations where variety tests were conducted. With the different locations, tests are conducted under different soil types, climates, rainfall and other environmental conditions

“With the broad realm of conditions, we can determine how the varieties perform through thick and thin,” he said. The Kentucky trials are typically one of the largest wheat tests in the country in terms of number of entries.

Compared with recent years, Bruening found that head scab, which was a huge problem two years ago affecting yield and test weights, was not a problem with the exception of central Kentucky. Wheat disease in general was not a major problem this year.

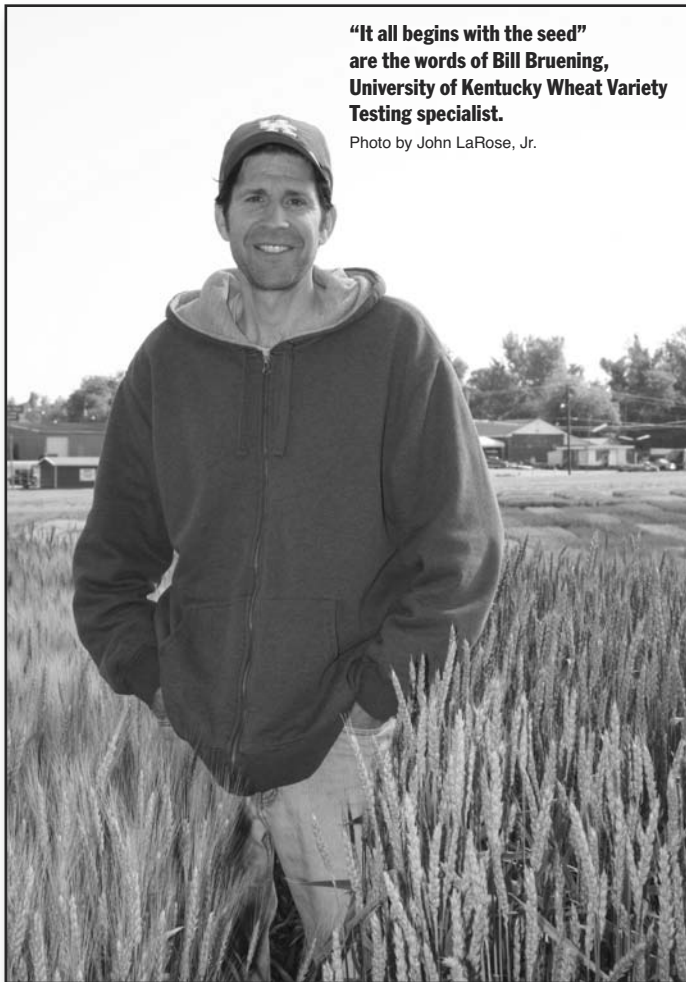
“We did not see very much powdery mildew or rust, though a fair amount of leaf and glume blotch developed in some areas,” he said. “I think that was associated with the high humidity levels coming from the wet soils, but I think in some way, the heavy and frequent rains may have beaten back some of the disease, particularly head scab, by providing some protection during the critical time of flowering.”

High rainfall was a prime aspect of weather conditions and environment that affected the plots this year. The crop was in a weakened state from sitting in wet conditions for a long time. Typically that affects yield, but it just depends how long it is exposed to the mud effect.

Overall, Bruening found the wheat crop looking really good around the state and, if the environment cooperates, he was expecting a good crop this year.

The varieties tested this year are almost all publicly available lines. A number of companies submit experimental lines and some experimental lines were tested for the university as well. But almost all of them are publicly available.

“We test varieties for grain yield potential, test weight, and measure plant height, lodging, maturity date and disease reaction. At the Lexington, Ky., test location, there were also tests to evaluate differences in forage and straw yield potential among wheat varieties.” Bruening explained. “The straw variety test was primarily



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Photo by John LaRose, Jr.

used for growers who market both straw and grain. Companies also market varieties that have low straw residue (yield) to help farmers establish their double crop soybeans. We’re the only university in the country that is currently doing this type of straw research. We’re the leaders in that area. We’ve been doing it for six years now.

“Often straw yield is correlated with plant height. Shorter plants typically have lower straw yields and the taller varieties typically have more, but that’s not always the case,” he said. “That’s an O.K. assumption, but my data has shown throughout the years that you can’t always take that for granted; and in many cases you’ll have a tall, spindly wheat that will have a much lower straw yield than a smaller, thicker, denser straw type.”

The wheat variety forage test is the largest test of its kind in the country, it provides valuable forage biomass yield information for growers who use wheat for silage/hay production. The test results indicate that there are dramatic differences among wheat varieties for forage and straw yield potential.

Bruening’s take home message is to use the data from the test to determine the best varieties to use next season.

“No matter what you do, all the genetic yield potential is locked in that seed,” he said. “If you do your homework and really look through this data, particularly that from unbiased university sources, that’s your best bet for getting off to the right start.”

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