



Q: What characteristics do you recommend farmers use to select soybean varieties?

A: Soybean variety selection is one of the more important decisions a soybean producer makes. Proper variety selection can have a major influence on your profitability. In many instances, excellent performing varieties cost little more than poor performing varieties so there is little added expense from using the best varieties.

It is difficult to list variety characteristics in order of priority for selection because several traits need to be considered at the same time. I usually emphasize yield potential, because that is what you are paid to produce. Selecting varieties with genetic potential for high yield will often increase your yield about 4 to 8 %. This may not be as great a difference as you assumed, but after several years the effect on profitability will be substantial.

Selection for yield should be an every year event. Soybean yield potential increases about 1/3 bushel/acre per year. So, keeping a favorite variety for too many years can cost you significant yield potential.

Selection for yield is more difficult than it sounds. Yield is extremely affected by weather and other environmental factors. Breeders say that yield has low heritability – so low that it is difficult to select for in a breeding program. Companies overcome this low heritability by testing and selecting for high yield over a large range of environments. You should do this as well. What about niche varieties selected for specific local environment? I think this is very unlikely to be successful. Think about how weather conditions have varied on your farm over the past five years. The only safe prediction one can make about the weather is that it will be different than last year. So, use variety trails that contain multiple environments to compare varieties. Do not discount a test just because it is conducted far away from your farm. Research has shown that using multiple environments helps you select the best varieties.

Both years and locations are considered environments and it matters little which you choose to use. However, you will probably lose information and yield potential if you wait for three-year information. In our MU variety trails, less than 25% of the varieties have 3-year information. So, multiple locations will be more useful.

Along with yield, use variety genetics to fit your needs. These include maturity, disease resistance, stress stability, weed control, and, perhaps, special traits. Selecting varieties that are too late or too early for your region can lower yield potential. There may be appropriate reasons to select unadapted varieties, but this decision should be based on research and a thorough understanding of the reasons for the decision.

The release of soybean varieties that tolerate glyphosate complicated variety performance tests and variety selection. Today there are excellent varieties with and without glyphosate tolerance. MU has separate tests for each variety category so you can select high yielding varieties regardless of your herbicide program preference.

Selection for disease resistance depends on your experience. Because soybean cyst nematode (SCN) is so prevalent in Missouri, all producers should perform a soil test to determine the extent of SCN infestation. If you have any level of SCN, plant only SCN resistant varieties. Selection for resistance to other diseases is often difficult. You will have to depend on company information. But, do not sacrifice yield potential for disease resistance unless you know that a disease is present or likely to be expressed.