

[MN-CCA column October-Nov., 2016]

Consider planting Shelly, new wheat variety, in 2017

BY Troy Hamre

A new hard red spring wheat (HRSW) variety will be available to Minnesota wheat growers next spring.

Shelly, the latest offering from the University of Minnesota, is a strong contender to replace both Faller and Prosper, which have accounted for about a third of Minnesota wheat acreage in past years.

In 2014 and 2015, Shelly yields matched Faller and Prosper yields, averaging 88 bu./acre, statewide, according to U-M trials. Shelly protein was about half a percentage point higher, though, averaging 13.9%. “In some years, that half a point can make a difference between a discount or no discount,” says Jim Anderson, U-M wheat breeder.

Shelly also has a good disease resistance package. The new variety is moderately resistant to scab, leaf rust, and bacterial leaf streak, and highly resistant to stripe rust and stem rust.

Shelly’s heading date is similar to Faller, at 68 days after planting. Shelly is about two inches shorter than Faller — averaging just under 32 inches. And it has stronger straw strength than Prosper, rating 5 on a scale of 1 to 9.

Shelly, named for a town in Norman County, is the result of traditional plant breeding, as are all commercial wheat varieties grown in the world today. “Shelly has a nice all-around genetics package,” says Jochum Wiersma, U-M Extension small grains agronomist. “We think it can compete with the higher-yielding wheat varieties,” Anderson adds. It will be a good fit for growers who are most interested in top yields, rather than top protein.

Good complement

High-yielding Shelly is a good complement to three other recent U-M HRSW releases, which all offer high protein, Anderson says.

Bolles, released in 2015, has exceptional grain protein, averaging 15.8% in 2014 and 2015, and good disease resistance. Linkert, released in 2013, also offers excellent grain protein, averaging 15%.

Bolles and Linkert produce competitive grain yields, but like other high-protein varieties, their yields are 10% to 15% lower than the highest-yielding varieties. Linkert offers excellent straw strength, ranking at the top of Upper Midwest varieties, and it’s more resistant to scab than WB-Mayville, another popular high-protein variety. In 2016, Linkert was the number one spring wheat cultivar planted in Minnesota in terms of acreage, accounting for more than one-quarter of wheat acres. That’s a response to widespread lodging of weaker-straw varieties in 2015. If lodging occurs early in grain fill, yield losses can exceed 40%.

Rollag, released in 2011, is a well-balanced variety with good stalk strength and scab resistance. Rollag and Linkert are somewhat prone to tall off-types, which occur in semi-dwarf wheat and can present problems in seed certification.

Variety selection for 2017

Growers will soon be choosing HRSW varieties for next season. This is one of the most important decisions of the year. University variety trials are an excellent place to start your planning. You can find U-M results at <http://www.maes.umn.edu/publications/field-crop-trials/spring-wheat>.

Small plot trials are a very reliable guide to HRSW traits such as disease resistance, straw strength, and height. “Yield is the most difficult to predict across locations,” Anderson says, one reason that U-M data reflects performance at 16 sites around the state. However, yield rankings are still worthwhile, and will generally reflect relative differences between varieties, Anderson says.

When evaluating varieties for your farm, look first for yield and protein, followed by straw strength and disease resistance. To reduce environmental and weather risk, I recommend diversifying your seed selections by planting at least three HRSW varieties with different genetic strengths: high protein, top yield potential, and good scab resistance.

When it comes to managing fusarium, keep in mind that even the best fungicides provide only partial control of scab. The best you can achieve is about 65% control, so genetic resistance is still key. Anderson encourages growers to pick varieties rated 4 or better for scab resistance. “We’re discouraging the growing of Samson or WB-Mayville because of scab,” Anderson says.

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Key points

- Shelly is a new, high-yielding hard red spring wheat variety from the U-M.
- Diversify your variety selections to hedge weather risk.
- Chose varieties with a scab rating of 4 or better.

Performance of Selected Varieties of Hard Red Spring Wheat, 2014-2015														
Variety	Yield, 2-Yr Avg (bu/ac)			Agronomic Characteristics			Grain Quality, 2-Yr Avg		Disease Resistance*					
	State	North	South	Days to Heading	Height	Straw Strength*	Test Weight (lb/bu)	Protein (%)	Leaf Rust	Stripe Rust	Stem Rust	Bacterial Leaf Streak	Other Leaf Diseases	Scab
Bolles	82	86	78	68.9	33	4	60.1	15.8	1	1	2	4	4	4
Faller	88	94	83	67.6	34.2	5	60.3	13.5	5	5	2	4	4	4
Linkert	82	86	76	65.4	29.2	2	60.7	15.0	4	1	1	4	4	5
Prosper	89	94	83	67.0	35.2	6	60.5	13.6	5	5	2	4	4	5
Rollag	82	86	76	65.4	30.6	3	61.4	14.9	4	1	2	4	5	3
Shelly	88	92	83	67.8	31.6	5	60.4	13.9	4	1	2	4	4	4.5
WB-Mayville	81	84	76	65.2	29.9	3	59.6	14.6	3	3	2	6	7	7

*1-9 Scale in which 1 is the best performance
Source: University of Minnesota

Yield and performance data for these selected hard red spring wheat varieties is based on 16 locations in Minnesota. Shelly, a new variety, is a good contender to replace Faller and Prosper, University of Minnesota wheat experts say.