

Winter Wheat Gets Better and Better

By Lee Hart

Several promising new lines of milling winter wheat are coming along for cereal crop producers across Western Canada over the next couple of years, says an Agriculture Canada winter wheat breeder.

Rob Graf, based at the Lethbridge Research Centre says producers in all parts of the prairies should be watching for a new line called AAC Elevate for good yield, especially under dry conditions and it also has an improved disease resistance package.

AAC Wildfire is another of the newer Canadian Western Red Winter Wheat lines with probably a better fit for the western prairies, says Graf. It was a breakthrough variety in terms of yield — much higher yield than AC Radiant.

And another new line, AAC Goldrush, which was registered in 2016 does “okay” in Alberta says Graf, but may have a better fit in Saskatchewan. Graf spoke with producers attending a recent crop walk field day sponsored by the applied research association Farming Smarter. If producers liked CDC Buteo they will like AAC Goldrush with its improvements in yield and disease resistance.

And a little further down the road, Graf told producers to watch for the first of its kind hard white winter wheat, now just in experimental lines.

As he gave an overview of the some of the best new lines developed at the Lethbridge Research Centre, Graf says finding that one line that meets all requirements for improved yield, disease resistance and quality is easily a 10- to 15-year process. Agronomics and yield is always important but his breeding program places a real emphasis on improve disease resistance and milling quality. As Graf spoke to producers he stood in front of a field of about 16,000 crop rows of new winter wheat lines in early evaluation.

“There aren’t any copies of these,” says Graf, noting “if the great white combine” happened to roll through this summer several years of winter wheat development would be lost.

Assuming there is no disaster, he will evaluate the 16,000 single rows which represent about 1,300 preliminary lines of winter wheat this fall and winter. That 1,300 will be whittled down to about 120 lines to be carried forward in replicated plots at five sites across Western Canada next year.

Those 120 lines will be narrowed down to 30 or 40 promising lines that will be replicated at nine sites across Western Canada, two years from now. And from there it will be pared down to five or eight lines that actually go into registration trials for three years. And hopefully after those three years one new variety to be registered.

“It is a 10- to 12-year process just to evaluate these new lines through to registration and then with two or three years to develop seed, the total process is 12 to 15 years,” says Graf.

The varieties

AAC Elevate, licensed to SeCan has a short, strong straw, about six to seven per cent higher yield than AC Radiant, and improved protein. The variety does have some disease resistance to rust and fusarium head blight, although that seems to have slipped from a moderate resistance rating to a moderate susceptibility rating due to a changes in some of the disease strains. Graf says although he had no biomass or feeding data, he also noted that because AAC Elevate is a very leafy variety it might also be an excellent feed-type winter wheat.

AAC Wildfire, also licenced to SeCan, is a couple days later in maturity, but took a huge 14 to 17 per cent yield jump over AC Radiant, says Graf. It has good straw strength, excellent lodging resistance, resistance to stripe rust, moderate resistance to fusarium head blight, and although not quite as important as once thought a few years ago, it is also has resistant to Russian wheat aphid.

AAC Goldrush has considerably higher yield than CDC Buteo, good winter hardiness, good lodging resistance, and a decent disease resistance package to most rusts and fusarium head blight. It is susceptible to bunt.