

SEED MATTERS

Crop Varieties: Saskatchewan vs. North Dakota

Seed regulations and certification systems are quite different from one country to the next. For Canadian farmers, a frequent comparison is with our closest neighbour and largest trading partner to the south.

Seed certification is much more than a rubber stamp. It involves:

- variety registration, that in Canada includes certification eligibility, unique genetic identity recognition
- seed crop production requirements and standards for varietal purity
- seed crop inspection by officials or authorized parties
- processing, sampling, testing, grading and labelling of seed by officials or authorized parties

“In Canada, seed certification is the responsibility of the CFIA (Canadian Food Inspection Agency) in partnership with the Canadian Seed Growers Association,” explains Mike Scheffel, the managing director of policy and standards for the CSGA. “In the U.S., seed certification is the responsibility of the official seed certifying agency in each state.”

For farmers, an interesting comparison may be crop varieties in Canada versus the United States as well as the rate of new variety adoption in the two countries.

For a snapshot comparison, let’s examine spring wheat varieties in North Dakota as compared with CWRS wheat varieties in Saskatchewan. North Dakota has more than half of the U.S. spring wheat acreage while Saskatchewan has over 40 per cent of the CWRS wheat grown in the Canadian prairie region.

North Dakota had 5.95 million acres of spring wheat in 2021 as compared to 4.42 insured commercial acres of CWRS wheat in Saskatchewan.

When you look at the Saskatchewan Seed Guide 2022, you’ll find a listing of insured commercial acres by crop variety for 2021. The insured acreage report is prepared annually by the Canadian Grain Commission, based on data from Saskatchewan Crop Insurance, Alberta Financial Services Corp, Manitoba Agricultural Services Corporation and BC Crop Insurance.

Not all farmers enroll in crop insurance, but most do and this provides the best information available on what crops and varieties producers actually seed. The 2021 information is in the

SaskSeed Guide and previous years are on the Canadian Grain Commission website under “statistics”.

The popularity of varieties differs from province to province, but in 2021 the top CWRS variety in all three Prairie Provinces was AAC Brandon. The table below is how CWRS varieties have evolved over the years in Saskatchewan. While dozens of varieties are planted, the following table shows the top five varieties for each year.

Percentage of Saskatchewan CWRS wheat acreage							
Top 5 varieties each year							
	2015	2016	2017	2018	2019	2020	2021
CDC Utmost	13	14	13	9	4		
Carberry	9	8	6				
Shaw	6						
Lillian	6						
Unity	6						
Cardale		8	8	6	4		
AAC Brandon		6	20	33	39	37	32
CDC Plentiful		5	8	7	5	3	
CDC Landmark				5	13	16	14
AAC Viewfield						9	12
AAC Elie						3	
AAC Alida							6
AAC Redberry							4

As the table illustrates, AAC Brandon has been the most popular CWRS variety in Saskatchewan for the past five years. In 2015, AAC Brandon accounted for less than 1 per cent of the acreage. Two years later, it had the highest acreage. While still dominant, its percentage of total acreage has declined in each of the past two years. This table confirms that a popular variety can be quickly adopted in the Canadian system.

What about North Dakota? The North Dakota Field Office of USDA’s National Agricultural Statistics Service conducts a survey of wheat producers each June. The ND Wheat Commission, the ND Ag Experiment Station and the ND State Seed Department provide funding for the survey.

A similar ebb and flow of variety popularity is evident in the following table.

Spring Wheat Varieties – Percent of Acreage Planted – North Dakota					
	2017	2018	2019	2020	2021
SY Ingmar	17.8	20.3	20.6	19.2	13.2
SY Valda	5.0	8.7	12.5	12.5	9.5
WB 9590	0.1	0.4	1.4	6.1	7.5
AP Murdock	-	-	-	0.4	4.7
Glenn	4.9	3.9	2.9	3.6	4.4

SY Ingmar was released by Syngenta/AgriPro in 2014, around the same time as AAC Brandon came on the scene in Canada. Both quickly became the most popular variety and both appear to now be in decline.

Of the top varieties, the first four come from private breeding companies while Glenn came from North Dakota State University. Ken Bertsch, CEO of the North Dakota State Seed Department says NDSU varieties used to dominate, but have declined because newer private varieties exhibit better straw strength and harvestability. Bertsch believes the public breeding program is making progress on those traits and is likely to come out with some popular varieties in the years ahead.

Are Canadian varieties ever adopted in the U.S. and do American varieties ever make it into Canada? The answer to both questions is yes.

The aforementioned Glenn from NDSU is registered within the CWRS class of wheat in Canada. Fallar and Prosper are American spring wheat varieties registered in the CNHR (Canadian Northern Hard Red) class. Quality specifications for the CWRS class limit eligible varieties.

A look south of the border reveals a large number of Canadian varieties in North Dakota trials. In lentils, Canadian varieties from the University of Saskatchewan's Crop Development Centre dominate the performance trials and a significant contingent of varieties developed in Canada is evident in flax, field peas, oats, durum and spring wheat.

One of the Canadian spring wheat lines being trialed in North Dakota is Canada's most popular variety AAC Brandon, developed by Agriculture and Agri-Food Canada at Swift Current and distributed by SeCan.

Todd Hyra of SeCan explains that with publicly funded programs supported by farmer levies, there's a three-to-five-year time lag before a variety can be introduced into the U.S. This is to allow Canadian producers time to benefit ahead of competing markets. Hyra says a time lag also exists on some publicly developed varieties coming north.

"Malting barley varieties are typically an exception because more widespread adoption makes newer varieties more attractive to major malting companies," notes Hyra. "Encouraging malt acceptance as quickly as possible in both Canada and the U.S. is the goal."

In summary, Canadian varieties dominate the planted acreage of most crop types in Saskatchewan and a number of those varieties go on to be important in North Dakota. On this metric, the Canadian system seems to be serving farmers well.

However, some worry that Canada's registration requirements delay the release of new varieties as compared to the U.S. Watch for the next article in this series for an examination of that issue.