

*SEED MATTERS is a quarterly feature in The Western Producer offered by the Saskatchewan Seed Growers' Association for producer information. Our inaugural article looks at the ongoing development of, and new approaches to, advances in the seed sector.*

## **SEED MATTERS**

### **Seed sector continues to evolve**

The purity, cleanliness and quality of certified seed hasn't wavered over the years, but many other aspects of the seed business have changed. While the adjustments have been incremental, the seed business is far different than in previous decades.

Long gone are the days when research institutions funded entirely by taxpayer dollars released new crop varieties to seed growers who in turn multiplied the breeder seed and sold certified seed to farmers.

Governments still invest in varietal development and public research institutions are still critical, but it's really farmer investment that now propels the seed sector for open-pollinated crops. It's a change not always recognized or appreciated in the farming community.

### **Pulse crops led the way**

The pulse crop success story, particularly in Saskatchewan, is the result of producer investment in the development of new lentil and pea varieties. Saskatchewan Pulse Growers (SPG) directed producer levy dollars to the University of Saskatchewan's Crop Development Centre for the development of new varieties that were provided to farmers royalty free.

When you look at the long list of available lentil varieties, all the names have the prefix "CDC" showing their origin as the Crop Development Centre. Field peas are a mix of CDC varieties and AAFC (Agriculture and Agri-Food Canada) varieties, along with a few offerings from private companies.

"The Crop Development Centre developed and SPG has released more than 130 pulse varieties since 1997," notes Carl Potts, executive director of Saskatchewan Pulse Growers. "Over the last five years, the SPG investment has been about \$5 million a year." In addition to lentils and peas, the CDC has been the source of new varieties of chickpeas, dry beans and faba beans.

The model for the future has changed. The Crop Development Centre wants to pursue different funding sources rather than being tied exclusively to SPG. And SPG will look to make germplasm and varietal development investments with multiple partners.

What won't change is farmer dollars from SPG being a driving force in pulse variety development. Improved disease resistance and additional herbicide tolerance traits are on the priority list.

### **Minor acreage crops**

Producer investment through the various crop commissions is particularly important in smaller acreage crops. Flax and Canary seed are prime examples.

Not many years ago, Canada had three flax breeding programs. Viterra had a breeding program that dated back to the days of Saskatchewan Wheat Pool. Agriculture and Agri-Food Canada had a breeding program located at Morden, Manitoba and the Crop Development Centre in Saskatoon was active in flax breeding. Today, the only breeding program is at the CDC.

“Without producer investment in flax breeding, the CDC program would not likely be running,” notes Wayne Thompson, executive director of the Saskatchewan Flax Development Commission. “We have been investing about \$150,000 a year and that has been matched by various government programs.”

Thompson notes that governments don’t want to invest unless producers are willing to invest. Having producers involved sets the direction and priorities for the breeding program.

The country’s only Canary seed breeding program is also at the CDC. “The \$85 to \$90,000 per year provided to the CDC by the Canary Seed Development Commission of Saskatchewan is a small part of the total cost, but without that producer investment, breeding work would not likely have continued,” notes CSDCS executive director Kevin Hursh.

### **Canadian Wheat Research Coalition**

Producer investment has become increasingly important in the major crops as well. Wheat is a prime example.

Sask Wheat, Alberta Wheat Commission and Manitoba Crop Alliance have teamed up through the Canadian Wheat Research Coalition (CWRC) to fund wheat varietal development at institutions across Western Canada. Money is going to AAFC and CDC as well as the University of Alberta and the University of Manitoba. These current five-year agreements cumulatively total \$37.8 million, with Sask Wheat’s share at \$18.7 million.

The CWRC is also the lead on the \$25 million Canadian National Wheat Cluster, which receives matching government funds through AAFC’s AgriScience Cluster program. The bulk of the wheat cluster funding supports germplasm development, pre-breeding, and breeding activities at AAFC and universities. As a co-funder of the Wheat Cluster, Sask Wheat’s contribution is \$3.1 million towards this effort.

Since its inception in 2014, Sask Wheat has committed a total of \$37.7 million to variety development efforts. More than 20 Sask Wheat-funded projects deal specifically with enhancing resistance to fusarium head blight, one of the top priority disease issues. While progress is tangible, it’s a multi-gene issue that will take time and continued investment.

“Growers often ask how their wheat check-off money is being spent,” says Sask Wheat executive director Blair Goldade. “Despite all our communication efforts, not everyone understands the importance of producer investment in varietal development.”

### **Variety adoption lags**

For farmers, it often seems that everyone wants to sell you something and the sellers always promise the investment will be profitable. It can be difficult to know which products truly increase your bottom line.

Seed growers also want to make sales. One key difference is the unbiased variety trial information widely available through seed guides. Whether it's yield, seed size, disease rating or lodging resistance, these trials conducted over multiple years at various locations provide the best information available.

With the seed supply tight for many varieties going into 2022, the Saskatchewan Seed Growers Association has developed an Interactive SaskSeed Guide that can be accessed from [www.saskseed.ca](http://www.saskseed.ca). Variety trial results from 2021 are incorporated into the data and there's a function to easily find seed growers with the varieties you're looking to buy.

SPG has been running an information campaign urging growers to consider the newer pea and lentil varieties. It's a bit of a mystery why so many growers stick with older mainstays when newer varieties have up to a 10 per cent yield advantage as well as equal or enhanced quality traits.

Producers are paying a significant and increasing portion of development costs, but many are seemingly reluctant to make the additional investment to buy certified seed of a new variety despite tangible benefits.

### **New approach for seed growers**

Dustin Klym, a young and progressive seed grower from the Regina area, believes it's no longer enough to produce certified seed and just wait for the orders to flow in. He believes seed growers need to actively seek business and be prepared to explain varietal choices, including why a newer variety might make economic sense.

"We need to have professional staff, know our customers and their needs and establish relationships," says Klym. "Concentrating on production isn't enough. We need to be a link in this technology chain."

When a new variety shows only a marginal yield increase over established varieties, it can be difficult for growers to calculate a return on their investment unless the variety also offers other advantages. Klym sees that changing due to the requirements being implemented by various end users, particularly those processing peas and oats.

Processors often value the purity and consistency that comes with the use of certified seed and in a number of cases, this has become a condition of supply contracts. Premium prices are offered, but the production needs to come from certified seed of specific varieties and this makes it easier for the producer to calculate an immediate economic advantage.

This approach is likely to spread, making certified seed an even better value proposition for farmers.