OF A PROVINCE

FROM ONE GREEN SEED, AL SLINKARD SPARKED A FARMING REVOLUTION.
WILL IT BECOME TOO MUCH OF A GOOD THING?

Story and photos
by
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The door on the old beater truck didn't close right. From Idaho to Saskatchewan the cold winter air creeped in the farther north Alfred "Al" Slinkard drove. Crossing the border, he passed miles of frozen wheat fields. On the prairies, wheat was king.

That was about to change.

It was -40 C when Slinkard finally arrived in Saskatoon on Feb. 1, 1972—a true prairie welcome. The Crop Development Centre at the University of Saskatchewan had spent months courting him. Slinkard had been working at the University of Idaho as a researcher on winter peas and grass breeding—except he was allergic to grass. In October 1971, Slinkard and his wife, Marie, made their first trip to Saskatoon for a job interview. Not long after returning to Idaho, he received a letter inviting him back to work on peas at the U of S. The salary was enticing and Slinkard was getting tired of sneezing his way through working with grass.

At the time, Saskatchewan was still a wheat-first economy—but the wheat market was saturated and prices had tumbled. In 1971 the U of S opened the Crop Development Centre to help farmers find other options. There wasn't much happening yet when Slinkard arrived, just a few other researchers working on various 'special' crops, each to their own.

Slinkard would be the lone pea researcher. On his first day on the job, he sent for samples from the U.S. Department of Agriculture's pea collection at Oregon State College. His job was, after all, to breed pea varieties to grow in Saskatchewan. But he knew that back in Idaho, farmers also grew lentils. Slinkard had a hunch.

"What the heck," he thought. "Why not get the lentil collection, too?"

Slinkard started testing out lentil varieties. After years of line and plot tests he was left with two varieties he liked, a large and a small green lentil. However, farmers couldn't experiment with two new crops at once, Slinkard reasoned. He would have to pick one to get them started. He knew 'eye appeal' mattered when choosing seed, and so the large green lentil seed—the biggest and brightest option—led the way into the market.

Until that moment Saskatchewan was basically a cereal-only place. This went against the grain of 10,000 years of farming practice. When the first hunter-gatherers were beginning to develop sedentary farming systems, to make their soil sustainable they rotated cereals with legumes. In the Middle East, wheat and barley were rotated with lentils, peas, faba beans and chickpeas. In sub-Saharan Africa, it was sorghum-millet with cowpea and in China, it was rice and soybean.

Pulses fall into the legume family and include beans, peas, chickpeas, faba beans, lentils and cowpea. Saskatchewan grows them all except for cowpea, but that wasn't the case 50 years ago. As farmers in Saskatchewan have moved to continuous cropping, no-till pulses have become an important part of crop rotations.

To fit into the crop cycle, pulses fix their own nitrogen, making man-made fertilizers less necessary. Bacteria enters the roots of the plant and the resulting symbiotic relationship allows the plant to take nitrogen from the air and turn it into plant available nitrogen. This nitrogen isn't just for the current plant; it stays in the soil and helps the following year's crop. Cereals, like wheat, barley and oats, and oil seeds, like flax and canola, can be planted the next year with no tillage needed. This allows for continuous cropping and for the most land base to be used for food production. As an added bonus, the flat, relatively rock-free land and semi-arid climate make pulse crops thrive in Saskatchewan.

In ancient societies pulses were revered not only for their soil benefits but also for their health benefits. They are high in protein, which makes them a favourite among vegetarians and vegans. They are high in fibre, too, which helps decrease cholesterol and blood sugar levels. Pulses are abundant in B-vitamins and key minerals including iron, potassium, magnesium and zinc.

The combination of everything made pulses the perfect fit for the narrow Saskatchewan agriculture world in the 1970s. But it wasn't the first time pulses had set their roots in Saskatchewan.

Shams Sallum (Salloum) arrived in Quebec City with her two sons, Adib (Eddie) and Habeeb, in 1924 from the French mandate of Syria and Lebanon. She then hopped on a train to the village of Gouverneur, in southwest Saskatchewan, where she met her husband Jiryas Ya'qub Sallum (George Jacob Salloum). George Jacob had already been in Canada for a year. He drove a horse and buggy through the countryside surrounding Gouverneur, selling wares from a relative's general store to farmers.

The Salloums had lived as peasant farmers in Syria. They now lived in a one-room shack but had dreams of farming again. In 1927, the government granted them a quarter section of land at a homestead north of Val Marie, near the U.S. border, in the heart of the drought-prone Palliser Triangle. The growing family now included Ramza (Rose), a younger sister to sons Eddie and Habeeb, followed by another boy, Abdallah (Albert). In 1928, the family's hard work was rewarded with an excellent crop. One more healthy crop followed in 1929 before the Dirty Thirties hit. For the next three years, nothing grew on the parched soil. In 1930, in an attempt to save their now-failing farm, the family moved some 90 kilometres north toward Neville, Sask., where the growing conditions were somewhat better.

The Salloums had another idea to survive hard times. Back in Syria they had grown lentils, chickpeas and broad beans. The Salloums acquired seeds for these crops from relatives and started growing them in their garden. The plants thrived in the dry, warm

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Habeeb Salloum and his brother, Adib (Eddie), pose with their mother, Shams, for her passport photo for their journey from the French mandate of Syria and Lebanon to Canada in 1924. *Photo courtesy Habeeb Salloum.*

Al Slinkard, a crop researcher at the U of S, is credited with introducing lentils to the Saskatchewan agriculture industry. *Photo courtesy University of Saskatchewan Archives and Special Collections.*

Al Slinkard sits in his easy chair in his Saskatoon apartment. To many, the 84-year-old retired U of S crop researcher is known as the father of the pulse crop industry in Saskatchewan.

climate and suddenly the family was no longer going hungry.

In the fields, the Salloums still grew wheat, feeling that their garden pulse crops would be seen as inferior by their neighbours. The children went to school with lunches of lentils and peas. At lunchtime they hid so the other kids couldn't see what they were eating. None of the other children would even want to try the food the Salloum children ate, Habeeb Salloum recalls today.

When the threshing crews came to the Salloum family farm during harvest time, the normal foods the family ate were hidden away, replaced with bologna and sardines bought from the store to feed the threshing crew. The children waited joyously for this time of year, hoping for leftovers. They craved 'normal' foods.

At 16, Habeeb left home for Moose Jaw, to take a course so he could work at a factory during the Second World War. He lived in a rooming house that served English roast beef and Irish stews. At first he relished the meals, but he soon found himself missing the flavours of his childhood. He connected with other immigrants who shared his love of Middle Eastern fare, and began teaching himself to make his mother's traditional dishes.

Meanwhile, Habeeb's younger brother Abdallah (Albert) took over the family's farm at Neville. In the late 1950's he decided he wanted to start commercially growing the pulse crops his family had grown in their garden in his childhood. The problem was, he needed seeds.

Habeeb decided to try and help him out. The two traveled to the Central Experimental Farm in Ottawa. When they arrived, no one had any idea of anything to do with pulse crops. Undeterred, Albert contacted some family members in Massachusetts who sold Arabic food and asked them to send him chickpea seed.

Albert grew 20 bushels of chickpeas on his farm that year. The crop was never sold commercially. Fortunately, dried chickpeas have a decades-long shelf life. The bounty was distributed among the Salloum siblings who dined off that single crop for the next 20 years.

In 1977, about the same time the Salloums were finishing off their chickpeas, farmers from Saskatchewan, Manitoba and Alberta were picked to grow test plots of lentils. All summer, Slinkard trekked across the prairies visiting the plots. Each one he saw showed the promise of the new crop.

Bruce Cheston, a former herbicide salesman who farmed near Grand Coulee, Sask., decided that a small test plot wasn't enough for him. He wanted to grow an 80-acre field instead. Slinkard thought he was crazy for growing such a big field. But Cheston planted the crop in 1978 and kept control of the weeds

The timing was perfect. South of the border, in the lentil-growing Palouse area of Washington State and Idaho, a drought was underway. Brokers had already sold the anticipated crop the year before, and now they had no lentils. When the panicking brokers heard about a field in Saskatchewan, they rushed to buy Cheston's crop, bidding the price up to an unprecedented 35 cents a pound. Cheston had 1,800 pounds per acre. He walked away with around $700 per acre. In comparison, wheat farmers were fetching just $100 an acre if they could even sell it. Word spread across Saskatchewan of Cheston's bounty crop.

Meanwhile, Slinkard found himself spending the winter travelling. He tromped from town to town, speaking in town halls about lentils and telling farmers how to grow this new crop. He gave at least three to four talks a week from January to March. He coined an acronym: ABC, Anything But Cereals. He preached it everywhere he went and farmers ate it up.

One night after a talk, a farmer approached Slinkard. "Boy, you're a real salesman," he said. Slinkard stared at him dumbfounded. "No I'm not," he replied.

He had always considered himself a researcher.

The farmer's words stuck in Slinkard's thoughts as he travelled around the province. "Every time I do a presentation I'm selling the Crop Development Centre. I'm selling the University of Saskatchewan," he realized. "I'm selling lentils. I'm selling, and when I go out of province I sell Saskatchewan and if I go out of country, I'm selling Canada."

And it turns out he was a pretty good salesman. Over the next 15 years, lentil crops expanded to 14,000 acres. To Slinkard, it was unbelievable.

Cheston's crop was just the beginning. By 2015, Saskatchewan had 3.7 million acres of lentils seeded, selling at $629 a tonne. That amounts to 28.5 cents per pound, while wheat was selling at just 22.2 cents per pound. Producers were already dreaming of fields full of lentils across the province for 2016. It's a long way from the wheat-filled past of only 50 years ago. Following that first large green seed, over 70 varieties of pulses have emerged through the doors of the Crop Development Centre.

Slinkard, now retired, spends his days with his wife at their apartment in Preston Park in Saskatoon. Pulses have been his life and, even though his memory isn't the best anymore, he can still rattle off almost any fact about his cherished crops. Many refer to him as the father of Saskatchewan's pulse industry. His walls are adorned with honours; he's a member of both the Saskatchewan and Canadian Agriculture Halls of Fame.

To most in the pulse industry, the Salloums and their fellow Syrian neighbours aren't thought of as pulse pioneers. Their experience is seen more as a family tradition. In 2005, Habeeb published a cookbook, *Arab Cooking on a Saskatchewan Homestead* (University of Regina Press, 2005). Mixed in among the recipes, Habeeb told the story of his family coming to Saskatchewan.

Pulses have lost their specialness. Now they are just a crop in Saskatchewan. Over 90 per cent of Canada's lentils are grown in Saskatchewan and Canada is known as the top exporter of lentils in the world. The United Nations has declared 2016 as International Year of Pulses, anticipated to drive up demand worldwide for these crops.

At the Crop Development Centre, researcher Albert 'Bert' Vandenburg ponders the pulse industry's future. He was one of the first extra hands to be hired to work on pulses with Slinkard, in 1991. He's seen the industry change over the years and now he wonders if the high prices will lead to greed in the industry. The key to pulses is crop rotation to stop the spread of soil diseases. Vandenberg wonders if the high prices will motivate people to start growing pulses year after year in the same fields, just like they used to do with wheat.

Driving across the Saskatchewan countryside in the summer you can now see fields of pulses beside fields of traditional wheat. So far, it's been a blessing. Some farmers say that pulses have saved their farms and brought them into a whole new prosperous era. But with this new bounty, how tempting will it become for them to start continuous cropping pulses? Will one day all of the fields in Saskatchewan be pulses? Will the soil deplete and markets crash? Is this new landscape sustainable? Hopefully, 10,000 years of good farming will carry the day.