

October 2017

Soybean *Guide*

CANADA'S SOYBEAN SPRAWL

OPPORTUNITIES, CHALLENGES AND PUSHING YIELDS

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Farmers are being encouraged to manage soybeans with more intensity and more intensively, where required.

The road to better soybeans

Take a look at this “strength in numbers” approach, which helped the soybean growers in this program boost their yields 20 per cent in four years

**By Ralph Pearce,
CG Production Editor**

Growing better soybeans is a challenge today, and for so many reasons. Corn is still perceived to be “the King” in cropping practices, even though growers across the country planted more soybeans in 2017 than corn. Nationally, 7.3 million acres of soybeans went in the ground last spring compared to 3.6 million acres of corn, according to figures from Statistics Canada (see Table 1 for more detail).

Granted, most of that growth came in Western Canada, where acres increased dramatically in Saskatchewan with 850,000 acres, potentially a tipping point sort of jump of 254.2 per cent over 2016’s numbers. Manitoba growers did their part as well, with 2.3 million acres in 2017, an increase of 40.1 per cent.

Yet for all of the positives that soybeans represent, it’s impossible to deny the importance and power of corn. Growers in the U.S. and many in Canada have eclipsed the 200 bu./ac. mark in corn and are now setting their sights on 250 bushels and beyond, with most using techniques that focus on precision management in fertility and agronomy. From a market perspec-

tive, there’s also the wisdom that says whatever the price of corn does, whether it’s up or down, it almost always brings soybeans along for the ride because soybean buyers have to compete for acres.

But don’t tell Eric Richter that trying to improve on soybeans’ performance isn’t productive. Since 2013, he’s been engaged in the Elite Soybean Grower initiative, a collaborative effort to raise soybean production levels among a group of innovative producers. He understands the challenges of growing soybeans and has urged farmers to change their thinking when it comes to managing their crop.

It’s an attitude change, and it can be summed up in one brief mantra: treat soybeans with the same attention to detail as your corn.

“Soybeans are an extremely interesting yet challenging crop to grow,” says Richter, agronomic service manager with Syngenta Canada. “It’s somewhat easy to achieve those 45 to 55 bu./ac. yields, but it’s ever so challenging to consistently move soybean yields for-

Continued on page 4

ward, where it takes serious commitment, focus and effort.”

For nearly 20 years, growers in Eastern Canada have heard from one source or another that the genetic potential in soybeans is greater than 200 bu./ac. Yet many growers struggle to reach 60 or 70 bushels on any sort of consistent basis.

Richter acknowledges the difference between corn and soybeans, and borrows a “Corn is from Mars, Soybeans are from Venus” literary reference as an illustration. Although most growers have been able to increase corn production in the past decade, many are frustrated in their attempts to advance their soybean yields by similar percentages.

“We asked this group of elite growers to take a journey with us and see what we could achieve together in moving the soybean production needle forward,” says Richter. He acknowledges the help of Jackson Seeds from Dresden, Ont., and Tracey Childs, Syngenta’s seed consultant who worked directly with the growers and helped Richter compile much of the information from this benchmarking exercise.

Before the exercise began, there were nine primary objectives that the group developed late in 2013 including:

1. Bring together like-minded growers who were striving to move their soybean yields and profitability forward.
2. Create an optimum environment for shared learning (in the classroom and in the field).
3. Challenge the group to identify limiting factors within their current production systems, and propose and implement solutions.
4. Establish realistic yield goals for their soybean production systems.
5. Provide basic and advanced soybean agronomy systems.
6. Introduce new production concepts that could be implemented into their soybean production systems.
7. Benchmark the growers’ progress.
8. Identify some of the major limitations common within the group.
9. Identify some of the management changes that moved the production needle forward.

GOALS OF TOP SOYBEAN GROWERS

As part of the Elite Soybean Grower initiative, agronomists surveyed top Ontario soybean growers to see what they’re doing in common.

The following 22 production strategies topped the list.

- Plant only certified seed.
- Commit to a hyper-focused effort to significantly improve overall soybean stand establishment.
- Continue with a very high use of seed treatments including fungicides and insecticides.
- Use increased secondary tillage.
- Rely on significantly less “pure no-till” stand establishment.
- Increase the focus on targeting and achieving the desired/optimum populations by specific field or yield zone.
- Ensure growers are conducting post-emerge stand counts.
- Continue to reduce the percentage of growers planting on wide (30-inch) rows (now only at about 10 per cent).
- Growers narrowing their row widths from medium (15 to 21 inches) to less than 15-inch — on extremely heavy soils.
- Greater effort conducting planter and drill calibration for targeted seeds per acre.
- Higher adoption of precision row unit planters to establish soybean crops.
- Slight increase in variable rate technology used.
- Significant decrease in grower attempts to use only a one-pass weed management system.
- Increase in two-pass herbicide application for optimum weed management (including pre-plant, pre-emerge and/or two post-emerge applications).
- Significantly enhance fertilizer programs, including starters and foliars (phosphorus, potassium, nitrogen plus micronutrients).
- Significant increase of in-crop application of fungicide(s) to protect from diseases.
- More time spent on in-crop scouting and crop assessment activities and techniques.
- Increase the usage of a diverse soybean portfolio with slightly different maturities.
- Plant slightly earlier maturing varieties to allow for timely wheat planting, capturing the benefits of rotation effect.
- More focus and effort to enhance soil health and crop rotations.
- A high percentage with production insurance coverage.
- A higher percentage of growers continuing on-farm trials to locally validate new products and production methods.



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COMPARE AND SHARE

One of the first activities Richter asked the growers to participate in was to compare their current corn production systems with those they used in soybeans. The goal was to get them to take a hard look at each system holistically or, as Richter phrases it, from a “sum of the whole” perspective.

“We challenged them to consider managing their soybean crop with more intensity and where required, more intensively, just like many of them were doing in their corn production system,” he explains. “Managing with more intensity was a key message and a driver for change. But it’s important to clarify that we’re not saying to grow soybeans exactly like they grow corn. Instead, follow the recommendation to apply the same level of planning, scouting and resource investment based on profitability per acre potential or revenue opportunity, like the old ‘opportunity-cost’ equation.”

The benchmarking activity was completed through individual surveys with the growers, asking them about more than 40 production techniques that they might be using in their corn versus what they’re using in soybean production systems. Richter and Childs pulled together the relevant information from their benchmarking activity in 2014 and compared it to 2017 to evaluate how the group of elite growers changed their production systems to help move the needle forward and grow a better crop of soybeans (see sidebar).

Although only a portion of the changes were benchmarked, Richter believes these changes over the course of the four growing seasons helped to increase their combined average on-farm yield to about 58 bu./ac. from 48 bu./ac.

The elite growers involved in the project farm a range of soil types, from extremely light tobacco sands to heavy clays, spread across five different counties in southern Ontario. Yet in spite of geographic and soil diversity, growers were able to increase their combined average yields by 20 per cent in just four years.

Gross returns increased by \$100 to \$120 dollars per acre, with many of the

TABLE 1. ACRES OF SOYBEANS AND CORN PLANTED/SEEDED IN 2017

	Soybeans		Corn (for grain)	
	Acres planted	% change over 2016	Acres planted	% change over 2016
Ontario	3,100,000	13.5	2,100,000	4.7
Manitoba	2,300,000	40.1	410,000	18.8
Quebec	983,500	22.5	939,000	5.6
Saskatchewan	850,000	254.2	—	—
Total *	7,233,500	33.2	3,449,000	7.5

Source: Statistics Canada, July 2017

* Totals account for 99 per cent of soybean acres planted and 96 per cent of corn acres planted across Canada. Figures for Alberta, B.C. and the Maritimes were not included in the summary.



In terms of acres planted in 2017 soybeans outpaced corn by a two-to-one ratio, from Quebec to Saskatchewan.

“It’s ever so challenging to consistently move soybean yields forward.”

— Eric Richter, Syngenta Canada

management changes not directly impacting their cost of production. Instead, they were simply changes in their management practices within their soybean cropping system that resulted, Richter says, from “managing with more intensity and — where required — managing more intensively.”

“We’re focused on soybeans as a strat-

egy because we believe that we’re well positioned to help provide growers with the soybean solutions for the 21st century grower who needs to be profitable to ensure the sustainability they need,” says Richter. “And they need that for their farm operations to compete in both the local — and global — agricultural business arena.” **SG**

Better news on SDS

Sudden death syndrome isn't new, but it has been very troubling

By Ralph Pearce,
CG Production Editor

Sudden death syndrome (SDS) isn't new but it's spreading across southern Ontario and adding to the list of troublesome agronomic challenges. It's also a late-bloomer since it exhibits its symptoms right around pod-fill.

As more growers are learning, however, once you see the foliar symptoms, it's too late to do anything about it. And once it's in your fields, it's there to stay.

What makes SDS more problematic is that it has joined soybean cyst nematode (SCN) in a sort of one-two punch that makes it so something always seems to go wrong. SDS is a disease that arises from cool, wet springs while SCN is exacerbated by hot, dry conditions. Like SDS, SCN takes up permanent residence in a field once it arrives.

One important difference between the two is that SDS is a root rot disease, caused by the *Fusarium virguliforme* pathogen, whereas SCN is caused by a plant-parasitic roundworm. The SDS pathogen infects the roots early after germination (two to three weeks) and continues to colonize the roots, often without visible above-ground symptoms. The foliar symptoms of SDS may be found early in the season under stressed conditions (such as water stress) but in most cases becomes noticeable in mid- to late July to early August.

These foliar symptoms are the result of a toxin produced by the SDS pathogen and is helped by late rain events to translocate from the roots.

In the U.S. Midwest, SDS has become a particular problem, known by some as

"the Fair Disease" since it coincides with the late-summer county fairs across the region. It's hard to determine its impact in late-July or early August, but Rodney Tocco, SeedGrowth technical service representative with Bayer, concedes he was expecting an average to above-average year based on the start of the season conditions, combined with rainfall they had early in August.

"I have fields that won't make it past first trifoliolate — they'll be gone," says Tocco, adding that on average, the majority of fields will be in a 20 to 40 per cent disease index, a measure that pathologists use on foliar symptoms. "But you can get to the point with pressure that you have total devastation and total yield loss. That's dependent on the conditions and the pathogen's virulence, but I do have some areas where it's one of the most prominent diseases."

On this side of the border, Albert Tenuta, field crops pathologist with the Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA), echoes Tocco's statement about SDS's late-season appearance. He says in the past five years, the disease has become more prevalent in a larger swath of the province.

"From an Ontario perspective, we are seeing more SDS over a larger geographical area, not just in Essex-Kent but farther into the greater southwest region," says Tenuta, noting that he could see signs of the disease on drive-bys in mid-August. "Our surveys show that from the Niagara region and up in the Guelph area, then down to Windsor, you can get SDS."

Unlike SCN, it has yet to reach Eastern Ontario and Quebec to any extent, but Tenuta adds that SCN has yet to become well-entrenched in that region. In areas where you start to see more SCN, he says, you usually see more SDS build up too.

As for the southern portions of the province, there's at least some good news. Tenuta says more soybean varieties are now tolerant to SDS.



What makes SDS harder to deal with is its association with SCN.

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A NEW SEED TREATMENT HELPS

Another weapon in the battle against SDS is ILeVO, a seed treatment from Bayer that was new for the 2017 growing season in Canada, and for which the company is looking for expanded use for 2018.

David Kikkert, crop and campaign marketing manager with Bayer, says for Ontario, SCN is still the No. 1 yield-robbing disease in soybeans, and SDS is now No. 2. Part of that rise, he says, comes from ability of the fusarium pathogen to overwinter.

“Some people also say the best way to get rid of SDS is not to grow soybeans, but that’s not really an option, nor to rotate with corn,” says Kikkert. But that’s an extreme.

According to Tocco, opting out of soybeans isn’t a solution — period. Part of the challenge in convincing growers of the urgency and the devastation the disease can cause is the “out-of-sight, out-of-mind” characteristic. And with SCN, it’s possible to opt out of soybeans in the rotation, but with SDS, the virulence of its pathogen is the key to its survival.

“When we talk about soybean cyst nematode, we can rotate to corn for two years in a row and significantly knock back that population, but you can’t do that with SDS,” Tocco says. “It still keeps wreaking havoc... we don’t really have a methodology, and even with our new product, it’s not going to eradicate the pathogen.”

Yet the new seed treatment is a step in the right direction, and for a number of reasons. First, ILeVO’s active ingredient is fluopyram, a succinate dehydrogenase inhibitor (SDHI) which is a respiratory inhibitor, and Tocco says that SDS was the No. 1 reason for bringing this to market. But fluopyram is also a pure nematicide in terms of a broad-spectrum activity: it’s one of the most active nematicides in the U.S., so it will have an impact on SCN feeding on soybeans.

In five years of data (with 2017 being a sixth year in the study), in the absence of foliar symptomology, growers could see an approximate 2.0 bu./ac. yield

bump when using ILeVO. In the U.S. says Tocco, that will pay for the use of the product.

“If you have foliar symptomology in late season, combined with SCN, we’re looking at four to 10 bu./ac. And a return on investment, 90 per cent of the time,” Tocco says.

ADDED BENEFIT

Where ILeVO is an added advantage is in its ability to stretch the longevity of established sources of resistance in SCN-resistant varieties. Right now, 90 to 95 per cent of SCN-resistance comes from the PI 88788 genetic source, and Tenuta says it’s been that way for more than 10 years, and until breeders impart Peking or PI 437654 Hartwig sources, growers need to stretch the efficacy of 88788.

“That’s the most important part, to develop that base background and maintain it over time,” Tenuta says. “We can’t afford to lose those varieties because it takes a long time, particularly with the PI 88788 source of resistance in so many SCN-resistant varieties in Ontario, as well as the north-central U.S. These seed treatments can provide us with a couple of different things — where those populations are extremely high in those pockets, you’re probably looking at 6,000 to 7,000 eggs per 100 g of soil. Even with a resistant variety, we get hurt just by the injury to the roots.”

In fields with SDS, a product like ILeVO doesn’t alleviate the symptoms, but it delays the onset of those SDS symptoms at a critical time — the first week of August, during that four-week time period when the plants are in pod-fill. With a seed treatment like ILeVO, there’s a two-week delay, so instead of six weeks of the disease affecting the soybeans, now there’s a two- or three-week window at the back end of the plant’s development stage, so the potential yield and health of that crop is better protected.

ADDED SUPPORT

In the U.S., ILeVO has had some important proponents, including the North Central Soybean Research Program (NCSRP), and Tenuta is an active participant in that group. The NCSRP garners

its funding from farmer check-offs in 12 states, including Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota and Wisconsin, as well as participation from Ontario. There, the participation is supported by the Grain Farmers of Ontario and Growing Forward 2 funding. The NCSRP and GFO funding has resulted in large regional multi-year co-operative research projects with OMAFRA participation with Michigan State University, Ohio State University, Purdue University, University of Wisconsin and Iowa State University. Tocco points to ILeVO and calls the impact “phenomenal,” a finding that’s been well-supported by the NCSRP.

Tenuta notes one of the group’s newest research projects is to determine the role corn may play as a host or as an overwintering source for the SDS fusarium fungus.

If there is one thing to know about ILeVO, it’s that it’s a very slow-moving molecule, so it stays longer in the seed zone and that’s where its activity is, which is why it’s so impressive. However, it’s not fully systemic in the plant: it won’t cover all the way down to the newest growing roots. That, adds Tocco, is the other reason for choosing a resistant variety.

“We don’t want to choose a variety that might be susceptible or doesn’t have 88788 now,” Tocco says. “But that is my *modus operandi*, to choose a good genetic background and then apply ILeVO on top of that — that’s the best use of both technologies.”

From an agronomic base, Tenuta advocates scouting, as with any other disease, pest or weed species. Every field is different and growers need to assess their varieties according to conditions year to year.

“The field tells you a story in many cases and every year, it’s a little bit different story,” says Tenuta. “Overall, it’s the same storyline. You might just have some different players from year to year. You have to know what the players are, so SDS, SCN in one year, because of the environment one group of them takes a lead role. Other years, another group takes a lead role, but they’re always there, in the background. They’re part of the crowd.” **SG**



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Good crops, but prices?

With record production everywhere you look, the outlook for prices is challenging to say the least. But keep your eye on those demand numbers too. They're incredible

By Philip Shaw



I have been growing soybeans all my life. It just so happens that I grew up on a farm in Chatham-Kent, Ont., part of the deep Southwest where soybeans were first introduced to Canada in the 1940s. I have hoed soybeans, planted soybeans and harvested soybeans for what seems like forever.

Of course, this is 2017. The world has changed, and soybeans have long moved out of our small corner of Canada. With 2017 soybean harvest ongoing and 2018 in the offing, soybeans have come to dazzle much of Canadian farm country.

The expansion of soybean production in Canada has been astounding, both in geographic scope and in speed. In 2017, according to Statistics Canada, Canadian farmers are expected to produce 19.8 per cent more soybeans than 2016 (7.7 million tonnes) based on a 36.4 per cent increase in harvested area.

Genetics and science count for something, and increasingly this is manifesting itself in a greater soybean production across Western Canada.

This western Canadian expansion into soybeans is nothing short of breathtaking. For instance, in 2017 Manitoba farmers are expected to have a harvested soybean area of 2.3 million acres, which is 44.8 per cent higher than 2016. Production is set to come in at 27 per cent above 2016, reaching 2.2 million tonnes.

In Saskatchewan, soybean harvested area has more than tripled in 2017 from 2016 to 845,000 acres. Clearly, the Canadian soybean economy is changing and Western Canada is set to outstrip Eastern Canada in production in future years.

Despite those impressive numbers from Western Canada, Ontario is still the leading province in soybean production. According to Statistics Canada, in 2017 the harvested area is 3.1 million acres, up 13.3 per cent up from 2016, and in Quebec, soybean farmers are expected to increase production 10.6 per cent from 2016.

Clearly, soybeans have become a go-to crop for many Ontario farmers across a huge geographic region.

Of course, being a soybean veteran from way back, I know that this is not the end of the story. Soybean prices have been volatile through the years and in 2017 that is likely to continue.

There are myriad factors in late 2017 that Canadian soybean farmers should consider as they adjust their marketing plans. What are the fundamentals of soybean demand and supply that will affect soybean futures prices into harvest and beyond? Will soybean prices be affected by the general bearishness in the corn and wheat market? How will South American production continue to have an impact on the fundamentals of soybean supply going into late 2017 and 2018? Will the Canadian soybean production stampede continue unabated, based on the soybean price fundamentals?

At the start of harvest, cash prices for soybeans in Ontario were about \$10.90 per bushel. There will be basis differentials across Canada, with especially lower values in Western Canada. These prices are reflective of a general bearishness in the soybean economy over the last year as big crops both in South America and North America have weighed on futures prices.

Soybean markets over the last year have been bearish for a reason. South American soybean production has been at record levels and as they begin to plant their new crop in October 2017, record soybean production in the United States is again weighing in on soybean prices.

For instance, on September 12 the USDA weighed in with their latest estimate of 2017 soybean production. This is projected at 4.431 billion bushels, with an average yield of 49.9 bushels per acre. This represents the largest soybean crop on record based on acreage of 88.731 million acres.

Soybean ending stocks in the U.S. for the 2017-18 crop year are projected at 475 million bushels, which is a burden on the market. On a global level, the



"Yes, the world's producers are having tremendous soybean crops, but demand for those crops remains dynamic."

USDA in that September 12 report also pegged global production at 348.44 million tonnes. Brazil's soybean production this past year was 107 million metric tonnes of soybeans, another record.

Simply put, there are soybeans everywhere, or at least so it seems. South American production continues to be robust, and we will be watching Brazil's soybean planting closely when it begins in earnest in October 2017, pointing toward a crop to be harvested in February and March 2018.

However, the supply side of the market is not the only story about soybeans. Yes, the world's producers are having tremendous soybean crops, but demand for those crops remains dynamic. Global soybean demand continues at record levels.

Of course the elephant in the room with regard to world soybean demand is China. Over the last three years China has increased its soybean imports to 95 million metric tonnes, up from 92 million metric tonnes in 2016-17 and 83.23 in 2015-16. China gets most of their soybeans from Brazil and Argentina, but also gets many of them from the United States. This soybean buying usually is seasonal. The U.S. and South America trade off their export shipping to China depending on when supplies are available, mostly in opposite seasons.

These supply and demand dynamics have created a futures price for soybeans of \$9.50 a bushel as of September 12. As stated earlier, the cash price in southwestern Ontario was approximately \$10.90 a bushel. Of course, the difference is the basis.

Basis is the value which determines when grain is moved. For soybeans it's positive mainly because the Canadian dollar was trading at approximately 82 U.S. cents at that point.

Key in the cash price determination for the price of soybeans in Canada is the value of the Canadian dollar. Converting the U.S. futures price of soybeans into Canadian currency means that a lower Canadian dollar means a higher Canadian cash price, and vice versa. It represents a second level of marketing for the Canadian soybean farmer to manage. On the one hand, farmers have to look at futures prices, but they also have to watch the Canadian dollar as it has such a direct affect on the cash price to producers.

Case in point is the meteoric rise in the value of the Canadian dollar through the middle of 2017. On May 2, 2017, the loonie was trading at approximately 72 U.S. cents. However, on September 13, the Canadian dollar was trading in the 82 U.S. cent range. That 10 cent increase in the value of the Canadian dollar corresponded to a \$1.40 decrease in basis val-

ues over that time. This happened even though the futures price for soybeans was virtually the same in May and September.

The value of the Canadian dollar is determined on world currency markets but it generally moves in an inverse fashion from the U.S. dollar. On September 12 the U.S. dollar index was at 91.856, falling from the 100 levels in late April. At the same time, the loonie has been ascending, helped by rising interest rates from the Bank of Canada and a healthy economy. Canadian soybean prices, of course, have fallen on this rising loonie.

The road ahead for Canadian soybean producers will surely be challenging. South American planting is ramping up. At the same time, the North American harvest will be in full swing. Prices will flex, partly because of the abundance of supply and partly because of the gyrations of the Canadian dollar.

On the plus side, there is that record soybean demand, which continues almost unabated. Someday, there will be a supply production or trade hiccup, and price will have to move up to ration demand.

It's quite a global soybean market now that includes South America and China. For the constantly expanding family of Canadian soybean producers, it should be quite a ride. **SG**



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New for 2018

The bar is being raised on new soybean genetics, with better varieties than ever

By Ralph Pearce,
CG Production Editor

Soybean production is definitely gaining momentum in Eastern Canada. For the second time in four years, soybean acres eclipsed the three million mark in Ontario, with nearly one million acres planted in Quebec and the Maritimes.

In 2017, the crop had its expected run-ins with sudden death syndrome, soybean cyst nematodes, aphids and weed management issues. But 2017 has also been a year that saw some growers expanding the limits of soybean production, with double-cropping or underseeding soybeans to winter wheat.

In an attempt to give you a jump on your 2018 planning, we offer this glimpse at the latest soybean varieties. In all, 10 companies are participating with more than 70 new varieties.

As you would expect, because the varieties are so early in their life cycle, we are relying heavily on the companies for their descriptions. Be sure to talk to your local dealer or agronomist and check yield trials for more details on maximizing production on your farm.

(Legend — CHU: crop heat units; RM: relative maturity; SCN: soybean cyst nematode.)

CROPLAN (BY WINFIELD UNITED)

RX00797 (00.7 day, 2475 CHU): This is an early introduction that features Roundup Ready 2 Xtend technology allowing better weed control. It's a branchy and aggressive variety with great vigour at the start of the season and it finishes with good standability. It prefers wide rows and has a good disease package.

RX0247 (0.2 day, 2600 CHU): This exciting new soybean variety features the new Roundup Ready 2 Xtend trait. It's the first biotech-stacked soybean trait with both dicamba and glyphosate tolerance. This is a shorter variety that stands very well. It is a consistent performer in most soil types and has excellent white-mould tolerance, and prefers narrow rows and conventional tillage.

DEKALB

DKB003-29 (00.3 RM): This is a medium-to-tall, branchy variety with resistance to SCN and excellent tolerance to white mould. It is a Roundup Ready 2 Xtend variety that is well suited to tough, low-productivity growing conditions, as well as high yield environments.

DKB006-29 (00.6 RM): This is a very branchy, Roundup Ready 2 Xtend variety that has excellent standability and tolerance to white mould. It is well suited to highly productive loam soils.

DKB03-95 (0.3 RM): This is a very tall, Roundup Ready 2 Xtend variety that has

excellent seedling vigour and emergence. It also brings excellent tolerance to brown stem rot, very good field tolerance to Phytophthora root rot, and performs well in tough growing conditions including no-till situations and heavy clay.

DKB06-43 (0.6 RM): This Roundup Ready 2 Xtend variety has resistance to SCN and excellent field tolerance to Phytophthora root rot. It is a medium statured, branchy variety with excellent standability, well suited for all soil types and wide rows, and fits well in no-till systems.

DKB10-54 (1.0 RM): This is a medium statured, branchy variety with very good standability. With Roundup Ready 2 Xtend technology, it has excellent field tolerance to Phytophthora root rot, and is suitable for all row widths and yield environments.

DKB12-57 (1.2 RM): This is a medium statured, branchy variety. With Roundup Ready 2 Xtend technology, it has resistance to SCN and very good tolerance to white mould and Phytophthora root rot. It is suitable for all soil types and agronomic situations but fits best in wide rows.

DKB17-34 (1.7 RM): This is a medium statured Roundup Ready 2 Xtend variety with resistance to SCN, excellent field tolerance to Phytophthora root rot and very good tolerance to white mould. It is well suited to all soil types and row widths, and will perform well in both tough growing conditions as well as productive soils.

DKB20-14 (2.0 RM): This is a tall, Roundup Ready 2 Xtend variety that has excellent seedling vigour and emergence. It has resistance to SCN and very good field tolerance to Phytophthora root rot and brown stem rot. It is suitable for all growing conditions including no-till clay situations.

DKB22-31 (2.2 RM): This medium statured, Roundup Ready 2 Xtend variety with resistance to SCN has excellent standability and excellent field tolerance to sudden death syndrome and brown stem rot. It is well suited to wide rows and tougher growing conditions.

DKB24-97 (2.4 RM): This is a medium-to-tall statured, Roundup Ready 2 Xtend variety with resistance to SCN and excellent standability. It has very good field tolerance to Phytophthora root rot, charcoal rot, and brown stem rot. It is suitable for all agronomic situations including no-till environments.

DKB33-54 (3.3 RM): This is a medium statured, Roundup Ready 2 Xtend variety with resistance to SCN. It has excellent field tolerance to Phytophthora root rot, sudden death syndrome, and brown stem rot. It is suitable for all soil types and yield environments but excels in very tough growing conditions.

DOW SEEDS

DS0099B1 (CHU 2525, RM 00.9): This new, high-yielding RR2 soybean from Dow Seeds gets off to a good start with strong emergence and stays strong throughout the season. It has good white mould tolerance and good lodging tolerance.

DS031M1 (CHU 2625, RM 0.3): This is an RR2 soybean with excellent emergence and standability. It performs well in the field and boasts a good defensive package including *Rps* 1c for Phytophthora root rot.

DS095D1 (CHU 2775, RM 0.9): This new RR2 soybean has built-in SCN resistance and provides good white mould tolerance that helps it maintain excellent standability throughout the season.

DS198T1 (CHU 3025, RM 1.9): This is an excellent choice for excellent yield. This RR2 soybean provides solid all around agronomics and very good sudden death syndrome, brown stem rot and Phytophthora root rot field tolerance.

DS250H1 (CHU 3175, RM 2.5): This

medium-tall RR2 bean has good standability and a robust disease package. It will provide strong performance even in low-yielding environments.

DUPONT PIONEER

P005A27x (2400 CHU): This is a very early variety with Roundup Ready 2 Xtend technology. It is a taller plant with average canopy width. It has excellent field emergence, harvest standability and shattering tolerance.

P007A90R (2450 CHU): This is a new product for early-maturity areas with built-in SCN protection and *Rps* 1c gene for Phytophthora resistance. It has great yield-to-maturity and stable performance in many growing environments.

P04A60R (2625 CHU): This is a new product for maturity with glyphosate tolerance. It is a taller plant with moderate canopy width and great yield to maturity performance.

P05A40X (2650 CHU): This early Roundup Ready 2 Xtend variety has very good field emergence and plant stature.

P06A13R (2675 CHU): This variety brings very short yields. It is a shorter plant height with moderate canopy width. It has excellent harvest standability and widely adapted for stable performance across a wide geography.

P09A53X (2750 CHU): This new Roundup Ready 2 Xtend variety has very good field emergence and excellent harvest standability. It also has moderate plant height with narrow canopy width.

P11A10 (2800 CHU): This is a new conventional variety with excellent harvest standability. It is a short plant with narrow canopy width.

P11A67 (2800 CHU): This is another new conventional product with very good harvest standability. Its widely adapted genetics are suitable for a range of growing environments.

P15A63X (2900 CHU): This new Roundup Ready 2 Xtend variety has very good branching and moderate plant height with very strong yield-to-maturity performance. It may be one to watch.

P19A14X (3000 CHU): This Roundup Ready 2 Xtend variety has excellent field emergence and great yield-to-maturity performance. It has Peking source of SCN resistance.

P21A28X (3050 CHU): This is a new

Roundup Ready 2 Xtend variety with Peking SCN resistance. It has excellent field emergence and shattering resistance, and very good white mould tolerance.

P21A20 (3050 CHU): This new conventional variety with built-in SCN protection has great yield to maturity performance and excellent harvest standability.

P24A80X (3125 CHU): This is a new Roundup Ready 2 Xtend product with excellent harvest standability and resistance to shattering, plus widely adapted genetics with stable performance.

P25A65R (3150 CHU): This variety is a taller plant with average white mould tolerance making it suitable for clay soils. It has great yield-to-moisture performance.

P26T07L (3175 CHU): This new Liberty Link product with very good field emergence and above average sudden death syndrome tolerance is suitable for seeding in wide rows.

P31A22X (3300 CHU): This exciting new full-season Roundup Ready 2 Xtend variety has excellent sudden death syndrome tolerance and good Phytophthora field tolerance. It has moderate plant height with narrow canopy width and excellent yield potential.

P31T02L (3300 CHU): This is a new Liberty Link product for maturity with excellent anti-shattering and great harvest standability. It has great yield performance and is suitable for wide rows.

ELITE SEEDS

Saga R2X (2850 CHU, 1.2 RM): This is one of the few Xtend introductions for the 1.2 maturity range. It is very well out-fitted with SCN resistance, *Rps* 3a Phytophthora resistance, an impressive branched canopy and rapid spring establishment leading to great performance in all situations and especially for wide row spacing and no-till management.

MAIZEX SEEDS

RX ACRON (CHU 2450, RM 00.6): This Roundup Ready 2 Xtend variety, with strong seedling vigour, aggressive early growth and branched plant type, makes it ideal for heavier soil types and reduced tillage scenarios. Its very good Phytophthora field tolerance and SCN resistance contribute to high yield potential. It

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prefers row spacing greater than 15 inches for optimum performance.

RX DEFENDER (CHU 2550, RM 0.1): This Roundup Ready 2 Xtend variety is a tall aggressive plant type, ideal for heavier soils and reduced tillage scenarios. It has a robust disease package with very good tolerance to early-season diseases combined with resistance to SCN. Plants have above-average brown stem rot tolerance and average white mould tolerance. For optimum performance, position on heavier soils. If positioning on fertile soil, reduce population and increase row width.

RX ELDON (CHU 2775, RM 0.9): This Roundup Ready 2 Xtend variety has excellent seedling vigour, ideal for no till and heavy soils. Its plants are aggressive with medium-to-tall height and branched plant type. Stacked Phytophthora genes provide excellent field tolerance. For optimum performance, position in wider rows (15-inch) on heavier soils or no till.

RX RESPONSE (CHU 2775, RM 1.0): This Roundup Ready 2 Xtend variety has medium plant type with a semi-branched canopy. It has very good field tolerance to seedling diseases, combined with SCN and brown stem rot resistance, plus above-average tolerance to white mould. For optimum performance, position on medium soil textures.

RX TITUS (CHU 2900, RM 1.3): This Roundup Ready 2 Xtend variety has very good seedling vigour combined with excellent standability. Its tall branched canopy is ideal for no till or wide rows. This variety has stacked Phytophthora genes, SCN and brown stem rot resistance, and above average white mould tolerance. Position it on variable soil types and row widths.

RX VORTEX (CHU 2900, RM 1.3): This Roundup Ready 2 Xtend variety with medium plant height and semi-branched canopy is ideal for medium soil textures. It has very good seedling disease tolerance and SCN resistance, and exceptional standability for ease of harvest. Position it on medium-textured soils on row widths of 15 inches or greater.

RX COLUMBIA (CHU 2975, RM 1.6): This Roundup Ready 2 Xtend variety is a medium plant height with a slender plant

type. It is SCN resistant with excellent late-season appearance and standability. Position it under conventional tillage on all soil types for optimum yield.

RX STACATTO (CHU 3025, RM 1.8): This Roundup Ready 2 Xtend variety with aggressive seedling vigour and early-season growth aid crop establishment. It has tall plant height with slender plant type, plus SCN resistance and excellent late-season appearance and standability. Position it on heavier soil types under narrow row widths.

RX OPTIMUM (CHU 3150, RM 2.4): This Roundup Ready 2 Xtend variety with very good seedling vigour and tall-branched plant type aid crop establishment in tough conditions. Excellent Phytophthora tolerance combined with SCN and brown stem rot resistance. Position it on clay soils in wider row spacing. It also has a preference to reduced tillage.

RX REGATTA (CHU 3275, RM 2.8): This Roundup Ready 2 Xtend variety has medium to tall plant height with robust, branched plant type. It has impressive seedling vigour, stacked Phytophthora genes, combined with SCN resistance, plus impressive fall appearance and standability. It's adapted to all row widths and soil types.

PRIDE SEEDS

PS 0044 XRN*: This introductory PRIDE Seeds XRN Roundup Ready 2 Xtend variety presents an opportunity for the early-to-mid MG 00 maturity market areas. It has very good stress tolerance and white mould resistance, with value-added SCN and Phytophthora *Rps* 1k root rot protection. It features strong emergence and vigour, and provides tolerance to dicamba and glyphosate herbicides. **Pending registration.*

PS 0777 XRN*: This is an introductory PRIDE Seeds XRN Roundup Ready 2 Xtend variety, adapted to the mid-to-late MG 0 maturity market zones. It has value-added SCN and Phytophthora *Rps* 3a protection, and provides tolerance to dicamba and glyphosate herbicides. This variety features excellent agronomic and defensive traits to maximize productivity, strong white mould resistance, and exceptional emergence and early seedling vigour. **Pending registration.*

PS 1888 XRN*: This new launch of PRIDE Seeds XRN Roundup Ready 2



Xtend variety is ideally suited to the mid-to-late MG 1 maturity areas. It has value-added SCN and *Rps* 1c Phytophthora root rot protection. It provides tolerance to dicamba and glyphosate herbicides, plus outstanding emergence, rapid canopy and early seedling vigour. **Pending registration.*

PS 3033 XRN*: This very impressive PRIDE Seeds XRN Roundup Ready 2 Xtend variety is ideally suited to the early MG III and late MG II maturity market areas. It has value-added SCN and *Rps* 1c Phytophthora root rot protection and it provides tolerance to dicamba and glyphosate herbicides. With a tall, bushy plant it is well-suited for no-till practices, and well-suited to all soil types. Its excellent height is a big advantage in tighter soils. **Pending registration.*

PROSEEDS

2735R2C (2725 CHU): This Roundup Ready 2 Yield variety with the *Rps* 1k gene has very good Phytophthora root rot field tolerance. Add in R3 resistance for SCN, and this would be a great variety on lighter soils with higher fertility. It offers a medium-short height with medium-thin plant type and excellent standability.

PRO 03X74 (2625 CHU): This Xtend bean has strong performance in moderate to poorly drained soils. White mould resistance is built into background, and

it's adapted to all row widths. Best performance will be on the highly productive acre where white mould and Phytophthora root rot may be an issue.

PRO 03X73N (2625 CHU): This medium branchy Xtend variety stands well. It also does well in fertile lighter soils in conventional tillage, plus has a great disease package with SCN protection.

PRO 07X76N (2725 CHU): This tall branchy Xtend variety has excellent emergence and is great for reduced tillage and heavier soil conditions. It has early spring vigour and is ideal for SCN fields in no-till situations.

PRO 17X73N (2975 CHU): A plant with medium height, this Xtend variety stands well. Consistent yield across all environments, it's a good all around bean with good white mould tolerance. It has great Phytophthora root rot disease resistance and has SCN resistance.

PRO 18X76N (3075 CHU): There is good early season vigour in this Xtend variety. It prefers wide rows and reduced tillage and is also moderately resistant to brown stem rot and is a tall branchy variety with SCN resistance.

PRO 22X76N (3125 CHU): This tall and slender Xtend variety stands well in heavier soils in narrow rows. It can move to lighter soils with its good white mould tolerance. It has SCN resistance and moderate resistance to sudden death syndrome and brown stem rot.

PRO 26X76N (3225 CHU): This Xtend variety will prefer sticking to the heavier soils and narrow rows. It has an impressive yield even when pushed on the tougher soils. It has a nice disease package which includes SCN resistance and moderate resistance to brown stem rot and sudden death syndrome.

SECAN

SeCan welcomes the addition of four new soybean varieties to its Roundup Ready 2 Xtend soybean portfolio. Ranging in maturity from 2600 to 3200 CHUs, these varieties combine dicamba tolerance with the yield potential, agronomic characteristics and glyphosate tolerance that growers have come to expect from Roundup Ready varieties. Executive R2X, Excellence R2X, Edge R2X and Electra R2X are now available to drive growers' weed control and yields forward in 2018.

SYNGENTA CANADA

Genuity Roundup Ready 2 Xtend S01-C4X (CHU 2525, RM 0.1): This new NK brand Genuity Roundup Ready 2 Xtend soybean variety's key features include high yield potential, excellent performance across a variety of soil types and good plant height — even when moved south of zone. It's also bred with the *Rps 1c* genetic package for excellent field tolerance to Phytophthora root rot.

S07-K5X (CHU 2700, RM 0.7): This new NK brand soybean variety is bred for performance and top-end yield in a grower's toughest acres. It is a tall plant type with excellent standability, and a disease package that includes very good Phytophthora root rot tolerance with strong sclerotinia (white mould) tolerance.

S09-C3X (CHU 2775, RM 0.9): Excellent yield performance across soils makes this Genuity Roundup Ready 2 Xtend soybean variety a great option for growers who want the flexibility to grow north and south of their zone. This variety is a taller plant with a solid disease package and good branching that allows it to quickly fill in rows.

S14-B2X (CHU 2850, RM 1.4): This new Genuity Roundup Ready 2 Xtend soybean variety combines strong yields with an outstanding disease package. It delivers good stress tolerance for less productive acres, with strong tolerance to white mould and sudden death syndrome, as well as the *Rps 1c* gene for resistance to Phytophthora root rot.

S18-G4X (CHU 2925, RM 1.8): This new Genuity Roundup Ready 2 Xtend soybean variety provides outstanding standability, good emergence and very good stress tolerance. These features, along with the *Rps 1c* Phytophthora gene, give it the flexibility to perform well across many different soil environments.

S20-L8X (CHU 3025, RM 2.0): This is a new Genuity Roundup Ready 2 Xtend soybean variety that is bred to excel in lower-yielding environments. It emerges fast under tough soil conditions, and offers outstanding stress tolerance as well as strong sudden death syndrome tolerance.

S22-J4X (CHU 3075, RM 2.2): This new Genuity Roundup Ready 2 Xtend soybean variety offers top-end yield and excellent performance across most soil types. It is best suited for planting in nar-

row rows, and provides strong sudden death syndrome tolerance.

S25-B6X (CHU 3150, RM 2.5): High performance across many yield environments, outstanding drought tolerance and strong tolerance to sclerotinia (white mould) are three key features of this Genuity Roundup Ready 2 Xtend soybean variety. It is a tall, bushy plant that provides fast canopy closure and is well suited for wider row widths.

S27-M8X (CHU 3225, RM 2.7): This new soybean variety gives growers outstanding yield stability to perform consistently across most yield environments. It emerges strong for early planting in conventional or no-till systems, and offers excellent standability for a clean-cut harvest. This variety also provides very strong tolerance to sudden death syndrome and high SCN resistance.

S29-K3X (CHU 3275, RM 2.9): An excellent yield stability across many areas, a sturdy plant structure and good disease package make this Genuity Roundup Ready 2 Xtend variety excellent for highly productive environments. It emerges strong to start the season, and offers good standability to drive performance through to harvest. This variety is rounded out by a balanced disease package that includes strong sudden death syndrome tolerance and excellent brown stem rot tolerance.

S31-Y2X (CHU 3300, RM 3.1): This new Genuity Roundup Ready 2 Xtend soybean variety boasts solid emergence and very good sudden death syndrome tolerance. It is a medium-height plant that features very good standability and excellent performance on poorly drained soils.

Genuity Roundup Ready 2 Yield S006-W5 (CHU 2350, RM 0.05): This new Genuity Roundup Ready 2 Yield variety offers exciting top-end yields and is well suited for highly productive soils. It also offers solid standability and includes a unique *Rps* gene stack for superior Phytophthora protection.

S05-F9 (CHU 2675, RM 0.5): This new Genuity Roundup Ready 2 Yield variety offers top-end yield with excellent stress tolerance for a grower's toughest acres. It provides SCN protection and outstanding Phytophthora root rot field tolerance in an early 0.5 maturity group, along with excellent early-season vigour for quick canopy closure. **SG**

One farm's challenge

Protecting soil isn't easy when you're trying to protect farmland

By Ralph Pearce, CG Production Editor

It's like farming between some rocks and a hard place for Steve Sickle, but he manages in the space between the challenges he finds in the soil and those presented by his urban neighbours.

Sickle farms about 700 acres outside of St. George, Ont., working in the shadow of the southern reach of the city of Cambridge. In fact, housing developments are already encroaching his property, and he endures complaints about the loudness of his combine, queries about what he's spraying and jibes about farming.

Yet for all those exterior challenges, Sickle is more concerned with what's going on beneath his feet when standing in his fields. In addition to managing his farm and the corn-soybean-wheat rotation he employs, Sickle also has 20 beef cows and finishes his own calves. He tries to keep one-fifth of his acres in wheat, and also grows 30 to 40 acres of forages — mostly an alfalfa-hay mix with some that's a grass-hay blend.

The soil on his farm is sandy loam with lots of stones, which is why he and his dad began no tilling their wheat in the early 1980s. No-till soybeans followed shortly after that, and by 1995, the farm was all no till, including their corn. Today Sickle considers "tillage" to be profanity, and he has carefully nurtured his fields, returning exposed knolls to productive tracts and stretches of flatter portions of his land into well-aggregated, worm-rich soil.

A third-generation farmer, Sickle had an early start with his farming, and is now working the operation that his grandfa-

ther originally owned. "I had money in the farm when I was 10, and when I say that, I mean that I had a couple of pigs," he says. "Then I started accumulating equipment, and rented my first piece of ground, all when I was in high school."

He's already cultivating a love of farming in a fourth generation with his daughter Kara, who's 13, and his son Ethan, who's six. Kara is Sickle's main herdsperson — she moves the cows every day, in addition to a list of other chores. Ethan's not involved much — yet. But he has planted corn on his own, "because auto-steer is wonderful thing", according to Sickle. His wife Dr. Amanda Brown, is an optometrist in Cambridge, and helps out on the farm when she's not at the office, volunteering on behalf of Kara and Ethan's schools or activities, or in a local arena.

Sickle's transition to straight no-till farming has come from listening to and learning from like-minded farmers, researchers and advocates all dedicated to improving soil health. He firmly believes plowing and aggressive tillage expose the soil and its microbiology to wind, water and sun.

"We're hurting our microbiology in the soil by tilling it, and we're losing organic matter," Sickle says, adding that tillage only levels the earth. "We have 20 per cent slopes in places, and I remember as a kid plowing it. I did strip tillage because I had wavy coulters on my no-till drill, back when we transitioned to no till. I planted all three crops with a no-till drill, and had



a blower unit on it and pulled a nitrogen tank behind it. Now all of that equipment is at the back of the shop, because I saw that when we got heavy rains, we washed that strip till right out."

With the work he's done on his soils in the past 20-plus years with no till, Sickle knows that when the top inch of soil is fit, the six inches below the surface are also fit. For those who insist that their ground is "too tight" for no till or that

PHOTOGRAPHY: DAVID CHARLES WORTH



the soil is too heavy, Sickle counters that the soil's likely tight because of the impact of too much tillage.

He and Kara had what he refers to as his "eureka" moment about three years ago, when they were inspecting a corn field with a cereal rye cover crop. He'd been warned that rye would have an allelopathic effect on the crop.

"We looked at the corn and there was no leaf difference — with eight-leaf corn

— and it had rained the night before," says Sickle. "The first thing Kara noticed was that she could get the shovel to the bottom of where the cereal rye was, without jumping on it, where she had to jump once or twice where there was no cover crop. Then we banged the soil off the shovel, and her eyes became as large as saucers because of the slurping sound of all the worms moving."

He adds that there are more than

enough growers out there who've made the transition, who've committed to improving their soils and their crops. And yes, there are challenges that come with no-till management, including higher-than-normal slug damage in Sickle's crops, this year. But he puts that down to the cool, wet weather he's endured, part of what he calls "the 2017 effect."

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CHALLENGES NEAR AND FAR

Asked about some of the other challenges he deals with on his farm, Sickle confides that his biggest is time, as in “there’s not enough of it!”

“Managing data and time spent dealing with that (is a huge challenge), because I’m variable-rate seeding with my soybeans and corn, so you have to deal with that paperwork,” Sickle says. “I’d love to be putting down variable-rate nitrogen, but again, it’s more a matter of how to manage that data and put it into a prescription form, and give it to someone who can do it properly.”

He’s working to reach that point, but as with no-till farming, it all takes time. Yet he believes there’s tremendous value, and not just to his wallet, but to the environment as well.

The other challenges he sees first-hand are those from outside of farming: consumers and those involved in animal rights or non-GMO movements. He’s always prepared with necessary documentation or nutrient analysis when applying manure and complaints from

“We’re hurting our microbiology in the soil by tilling it, and we’re losing organic matter,” says Sickle

neighbours prompt visits from the Ministry of the Environment and Climate Change (MOECC) or the Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA). But Sickle’s concerned that information is readily available to consumers, yet few seem interested in learning and listening.

“It’s not getting any better,” he says. “They seem to say, ‘I want non-GMO’ or they love organic, but they also want their seedless grapes.”

It’s the dedication to no till positioned against the need to provide better information — not just to consumers but to everyone — that was one of the drivers that convinced Sickle to join the Ontario Soil Network, a collective of growers, conservation authority personnel and select OMAFRA personnel.

“It’s more to talk among us, and yes, we’re networking, but it’s also what we’re doing, and what works and what doesn’t work, and doing more public speaking,” explains Sickle. He adds that much of the effort within the network is

to get farmers comfortable with speaking in front of a camera. “We can preach to the converted, with a quick, to-the-point presentation, without offending them while trying to change their mentality. And maybe get them to try this cover crop thing and cut back on tillage a little bit.”

The network also helps find common ground with growers: Sickle thought he was alone with slug pressure this year, but through his connection, has found other growers with similar difficulties. Coming together through the network provides new, unique opportunities to learn from each other. It also helps with the larger issue surrounding public perception, and that’s where Sickle believes the network could help.

“We’ve talked about that, so instead of going to the farm groups, let’s go to the Optimist Club or the Kinsmen Club if they’re looking for a speaker,” he says. “Let’s jump on that and tell our story of what we’re trying to do to protect the soil and the water.” **SG**

A different picture in Maritimes

Soybeans are still relative newcomers in the East, which brings lots of challenges — and surprises

**By Ralph Pearce,
CG Production Editor**

In the past six or seven years, much of the talk surrounding soybean production outside of Ontario has focused on what's happening in the West. In 2017, Statistics Canada reported 2.3 million acres of soybeans seeded in Manitoba and 850,000 acres in Saskatchewan, where there was a whopping 254.2 per cent increase over 2016.

Yet soybeans are also on the radar for growers in the Maritimes. Interest in growing them as a rotational crop for potatoes seemed to take off in 2008, when Pioneer DuPont had an exhibit at the International Potato Technology Expo in Charlottetown. Concerns that year among potato growers centred on pollution issues plaguing the Island, and growers were urged to reconsider some of their high fertilizer application practices, including opting out of potatoes in favour of something else.

Within three years of that event, interest in soybeans increased, with the

realization that it was a relatively easy crop to grow — at least compared to potatoes. Now it has morphed into something similar to Western Canada's evolutionary progress, with more growers trying soybeans.

In 2017, Maritime growers planted 83,500 acres of soybeans, up from the 79,074 acres planted in 2016, which yielded 76,500 tonnes (2.8 million bushels).

Harry Vanden Broek is regional sales manager in the Maritimes for PROSeeds Sevita International, with more than 25 years experience in agronomy in Ontario and now six years on the Island. He agrees that soybeans are something of a novelty in the Maritimes, although this is rapidly changing in many respects. On one hand, he is encouraged by younger farmers who are returning from college with new ideas for new crops, and an eye on expanding their family's farming operations. On the

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The challenge in the Maritimes, particularly P.E.I., is that they must use what they grow to save on shipping costs.

PHOTO COURTESY OF HARRY VANDEN BROEK



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other hand, he has potato growers who look at crops like soybeans — or cereals — as simply rotational crops that interrupt their primary focus on potatoes.

“I’m trying to get them to think about their soybean crop the way that they do about their potato crop, as far as agronomics, and it’s a hard sell,” says Vanden Broek, who’s based at Belle River, P.E.I., southeast of Charlottetown.

“The growers I have the most luck with are the guys who don’t mind change, that look at new opportunities and new techniques to either increase their yields in soybeans or whatever they

grow, and who pay attention to the agronomics of their land.”

When he joined the soybean industry, he adds, there was a perception among some agronomists who had contracts with potato growers that soybeans don’t need any fertilizer. But as Vanden Broek notes, according to a booklet containing crop nutrient utilization published by A&L Laboratories, soybeans take as much potash out of the ground as potatoes, if not more.

The risk then is that one of the crops in a rotation will pay for that imbalance, whether it’s soybeans, potatoes or the cereal.

But the tide is beginning to turn. In

the past, yield was half a tonne per acre (about 18.4 bu./ac.) in Vanden Broek’s export (identity preserved (IP)) program. Now they’re at 0.93 tonnes per acre (or 34.2 bu./ac.), average yield on 7,000 acres. Vanden Broek’s goal when he started was to get the average yield to 1.25 tonne (43.4 bu./ac.). There are some growers he knows who are getting 1.3 tonnes per acre on 500 acres.

“They’re starting to pay attention to the little things and every meeting I run for growers, I’ve been focusing on yield,” says Vanden Broek. “If you don’t get a tonne per acre, minimum, then you should probably start looking at something else. There’s no reason why you cannot get a minimum of a tonne an acre on soybeans on P.E.I. We have varieties that are suitable for the climate in the Maritimes — the seed companies have sat up and taken notice and said, ‘Okay, let’s give them 2400 heat unit beans that will yield as much as 2600.’”

Growers are also learning they can’t plant seed at nine miles per hour and ensure even emergence. Vanden Broek has listened to them complain about concentrations of soybeans emerging with spaces between clusters.

“Since they understand potatoes, I say, ‘Do you plant your potatoes at nine m.p.h.?’ — and they say, ‘No, I’d never get an even stand then,’” says Vanden Broek. “Well, it’s the same thing with soybeans, so now they’re starting to slow down.”

The yields are coming up because the companies are providing the varieties and the growers are learning how to grow them better. Another factor is maintaining the pH in the soil, which is historically acidic. Vanden Broek has dealers in Nova Scotia’s Annapolis Valley and Greenfield, N.B., who are finding the same thing. The added focus is beginning to show positive results, and soybean acres have grown three to three-and-a-half times in the last six or seven years, according to Vanden Broek.

On the fertility side, he says growers need to understand that pH is important. Corn and soybeans grow well with pH levels between six and seven, but an emerging trend in potato production is based on the observation that neutral soils promote scab, so many growers want to keep their pH lower, around 4.5 to 5.5 in order mitigate scab in their older varieties.

“I’m trying to get them to think about their soybean crop the way that they do about their potato crop.”

— Harry Vanden Broek, PROSeeds, Sevita International



Some growers are yielding more than 45 bu./ac. in their soybeans on Prince Edward Island.

PHOTO COURTESY OF HARRY VANDEN BROEK

“Again, if you want to stay in that, then soybeans won’t be a crop you want grow to make money, unless you address the liming situation, and there are growers who are doing that too,” Vanden Broek says. He has done fertility work in past years to show growers the benefits of liming and fertilizer on soybean production. “Soybeans need fertilizer and that’s important, and they’ve seen the response in their cereal crops, as well, when their pH is closer to six or more, so they’re getting better yields in cereals.”

There’s also the perception that it’s easier to grow GMO beans in preference to food grade. Vanden Broek agrees that growing food grade or export beans is riskier, particularly with regard to weed management practices.

Most of these practices are nothing new to growers in Ontario but, again, much like the Prairie provinces, it’s part of an evolutionary process, and it’s still fairly early in the game. Vanden Broek

points out that weed control has been another significant hurdle in soybeans. There are pre-emerge products now that will provide very good broadleaf and grass control in export or food-grade soybeans. And while maturity was a problem five or 10 years ago, the seed companies have addressed that issue, much the same as they have in Western Canada. Vanden Broek praises those efforts for providing early-maturity, high-yielding varieties that do very well under Maritime conditions.

In terms of using a fungicide, he’s been encouraging more growers to consider a proactive treatment, not just to deal with white mould, which can be a problem, but also with septoria, rust and other soybean-related diseases.

And the effort is paying off. When Vanden Broek came to the Island, he was practically by himself when it came to field trials on soybeans. In the past two years, he’s seen six different

companies conducting field-scale trials on soybeans.

As with anywhere in Canada, Vanden Broek is trying to get growers to pay stricter attention to what’s happening on their own farms. Don’t be as concerned with what’s happening on your neighbour’s farm, he advises, and realize that your farm is different than your neighbour’s.

If there’s one aspect in the Maritimes that’s similar to the Temiskaming, Cochrane and New Liskeard area, it’s the lack of infrastructure for processing crops. Whatever’s grown in the near north stays in that region, and much the same tends to be true for the Maritimes.

“They’re trying to do different things to cut down the cost of freight,” says Vanden Broek. “In soybeans, there’s not enough livestock left on P.E.I. to utilize all of the soybeans grown here, so you do have to ship them, and shipping to Quebec is \$65 per tonne.” **SG**



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