MANITOBA PULSE & SOYBEAN GROWERS

pulse beat

Issue 83 • Spring 2018 • manitobapulse.ca

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Publisher Manitoba Pulse & Soybean Growers

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Design and Production Imprint Media Services Inc.

Manitoba Pulse & Soybean Growers thanks the authors who have taken the time to contribute to this publication.

Publications Mail Agreement #40016070

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Pulse Beat is the official journal of and published by Manitoba Pulse & Soybean Growers (MPSG) – a farmer organization funded by sales of pulse (beans, peas, lentils and faba beans) and soybean crops grown in the province of Manitoba. Circulation is approximately 4,200 distributed to farmers, government, researchers and industry involved in pulses and/or soybeans.

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In This Issue

Cover photo by Laura Schmidt, MPSG

Manitoba Pulse & Soybean Growers – 2018 Board of Directors and Staff

Elected Farmer Directors

Chair – John Preun – *St. Andrews*
Vice Chair – Calvin Penner – *Elm Creek*
Hailey Jeffries – *Glenboro*
Bryce MacMillan – *Marquette*
Ben Martens – *Boissevain*
Brendan Phillips – *Hartney*
Frank Prince – *Deloraine*
Melvin Rattai – *Beausejour*
Ernie Sirski – *Dauphin*
Rick Vaags – *Dugald*

Advisory Directors

Anfu Hou, Agriculture and Agri-Food Canada – Cereal Research Centre
Dennis Lange, Manitoba Agriculture
Yvonne Lawley, Department of Plant Science, University of Manitoba

Staff

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Production Specialist – West Laryssa Stevenson – *laryssa@manitobapulse.ca*
On-Farm Specialist – Greg Bartley – *greg@manitobapulse.ca*
On-Farm Technician – Brent Wiebe – *brent@manitobapulse.ca*
Extension Coordinator – Laura Schmidt – *laura@manitobapulse.ca*

2018 Annual General Meeting Highlights

MANITOBA PULSE & Soybean Growers (MPSG) welcomed two new directors to its board at the association's Annual General Meeting held on Feb. 14 during the CropConnect Conference at Winnipeg's Victoria Inn. Brendan Phillips, a farmer from the Hartney area and Glenboro farmer Hailey Jefferies were elected by acclamation, following the resignation of MPSG Chair Jason Voth and the term expiry of Director Albert Turski. Directors Rick Vaags and Ben Martens were re-elected by acclamation.

There was an estimated 140 people in attendance at the meeting, a slight albeit noticeable increase from last year's AGM.

Following the acclamation of the new directors and a report from the nominating committee, Dale George from George & Associates Chartered Professional Accountants Inc., presented MPSG's audited 2017 financial statement, after which his firm was reappointed as auditor. **Financial reports are available online at www.manitobapulse.ca.**

MPSG's new Director of Research and Production, Daryl Domitruk, walked attendees through the association's plans for the year ahead, highlighting focus areas such as increasing market demand, improving soil health, reducing reliance on pest control and improving yield and quality.

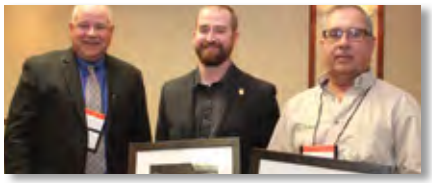
He briefed the farmers in the room on MPSG's commitment to working with Roquette on pea production in Manitoba. And he took the time to introduce Laryssa Stevenson as MPSG's production specialist focused exclusively on issues related to western Manitoba.

Domitruk also spoke about the important work MPSG does in the area of communications and extension, emphasising that those areas will remain a priority in 2018.

Executive Director François Labelle gave his report, paying special attention to some of the key files the association is watching closely – transportation, MRLs, Roquette, excess moisture and much, much more. He also spoke briefly about amalgamation.

"I won't spend a lot of time talking about amalgamation," he said. "I just want to encourage everyone here to listen and be heard. Now is the time. Tell us what you think."

Following this, MPSG Director John Preun thanked outgoing directors Jason Voth and Albert Turski for their service and presented them with a parting gift.



Jason Voth then presented a brief slide show on the amalgamation process before opening the floor to questions. Farmers showed support. Farmers raised good questions and, in some cases, opposition. Overall, the conversation was balanced and revealed that MPSG and the other groups involved need to keep in close contact with their farmers throughout this process.

"Thanks for coming, and have a great growing season," the final words of outgoing Director and Chair Jason Voth. ■

Manitoba Pulse & Soybean Growers 2018 Committees and Representatives

MPSG COMMITTEES – *The first named is chair*

Executive – J. Preun, C. Penner, E. Sirski, B. MacMillan, F. Labelle

Governance/HR – F. Prince, B. MacMillan, F. Labelle

Finance/Audit – M. Rattai, M. Denys-Roulette, F. Labelle

Resolutions and Nominations – B. MacMillan, H. Jefferies, B. Phillips

Communications/Member Relations/Market Development – E. Sirski, R. Vaags, C. Penner, B. MacMillan, F. Labelle, T. Dyck, H. Jefferies, B. Phillips, D. Domitruk, S. Robinson, L. Schmidt

Research – F. Prince, B. Martens, M. Rattai, C. Penner, H. Jeffries, B. Phillips, R. Vaags, F. Labelle, D. Domitruk, L. Stevenson, G. Bartley, C. Tkachuk, L. Schmidt, B. Wiebe, W. Voogt, S. Robinson, industry advisors

MPSG REPRESENTATIVES

Canadian Grain Commission Pulse Sub-Committee – F. Labelle

Grain Growers of Canada – B. Martens, M. Rattai (alt)

Keystone Agricultural Producers – C. Penner, F. Labelle, R. Vaags, M. Rattai

- **General Council** – F. Labelle
- **Pulse/Oilseed Sub-Committee** – M. Rattai, F. Labelle (alt)
- **Commodity Group** – R. Vaags, C. Penner
- **Safety Group** – R. Vaags

Pulse Canada – R. Vaags, B. Martens (alt), H. Jefferies (alt)

- **Sustainability** – F. Prince

Soy Canada – E. Sirski

MCVET – D. Domitruk, D. Lange

PGDC/PRCPSC – B. Martens, D. Domitruk, D. Lange

Western Canadian Pulse Growers Association

- **WGRF** – C. Loessin (SPG)
- **CGC Western Grain Standards Committee** – E. Sirski (exp. 2018)
  This is a four-year term that rotates between APG, SPG and MPSG.

Amalgamation – F. Prince, F. Labelle, J. Preun, R. Vaags (alt)

Message from Board Chair

Jason Voth, Chair

The future of commodity groups; flax council; the importance of commodity groups; crop insurance; and much much more – there is a lot happening right now.

Below is my take on what's going on at MPSG. But it's also my goodbye. Following the MPSG AGM at CropConnect in February, I will have resigned as chair of the board of directors. I will also have resigned from the board, entirely. I plan to devote more attention to the growth of my family and my farm.

Thank you for what has been a very rewarding experience! It has been an absolute honour to represent you. You're a great bunch. I firmly believe in the value of MPSG and I will continue to advocate on behalf of the association as a contributing member. Thanks again!

MPSG HAS SUCCESSFULLY worked with the province of Manitoba to update some crop insurance policies and rates related to soybeans. It has been our mandate to represent the interests of our farmers at these meetings, and I think we've done a great job of effecting positive change at them.

How does being a member of a commodity group benefit your farm? This is the question we ask ourselves at the board table at every meeting. The check-off we collect needs to be invested towards something that either helps you on the field to grow the crop or helps you have a market for your crop. At MPSG, we feel we are doing a tremendous job of first matching and then multiplying your check-off dollars with government programs. We also feel that we are investing your check-off wisely. Our strategic plan outlines exactly where to invest the dollars, with the highest priority being research. We are funding projects in-house through our On-Farm Network, through government research farms and Manitoba universities.

Our On-Farm Network program has been growing since we started it. We are expanding the program in 2018 to include Manitoba Corn Growers and Manitoba Wheat and Barley Growers. We're working on some plots together. These are very exciting trials that will

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include some crop rotation studies, as well as others.

MPSG's funding commitments earmarked to support research trials across the province are also important. We are working closely with highly qualified researchers across the province on varieties that are best suited for the diverse growing conditions in Manitoba. It is through MPSG's work with universities that we are able to fill in the blanks. We can offer funding and agronomic support and they can do the same. When we compliment each other, we're doing something of great value delivering results on potential projects related to insects, crop residue, tillage, etc.

This brings me to my next point. What does the future hold for Manitoba's commodity groups? There is work being done on amalgamation. Some of the feedback is positive and some is negative. One of the most popular feedback comments so far has been that the small crops will lose their voice. And that with one large group, the small acreage crops have their funding cut and will not have any more research done on them.

As someone who was involved in this at the board level, I believe that this will not be the case at all. Take the flax council, for example. With minimal check-off being brought into the organization, it was forced to close its doors. It doesn't matter how many acres there are, you still need to pay a staff person or two and have a well-equipped office for them to work out of. After that is paid, you can now divert money to research or market development. However, if there is no money left over, it's a downward spiral with nothing being accomplished.

I feel that in a larger group with highly qualified staff being funded by all the groups, there would be more money able to be put into the small crops. This is what happens at our board table all the time. We represent soybeans, edible beans, peas, lentils and chickpeas. If peas alone were to be in a group by themselves, that group would not draw enough investment dollars to operate. This is even more of a big deal now that Roquette will be operating out of Portage la Prairie and looking for peas.

Another topic of conversation that has come up as a response to the amalgamation discussions is if there needs to be a grower on the board that represents every crop. Or is it okay if the board of 15 maybe doesn't have a specific group represented?

The argument is that if there is not someone growing a certain crop that means there is no expert on the board to champion that crop. I can say from experience on our board that none of us are experts in our crops yet we still get to make decisions on research funding. We use actual experts when it comes down to it.

When sending out the call for proposals and reviewing research ideas at the board table, we bring together experts from across Canada on specific crops. We bring in experts from Pulse Canada for anything related to nutrition and health. Our research staff deals with these topics on a daily basis and are there to give their opinions and ideas. Together as a team we decide what to fund and which direction to head. To be honest, when you start talking about a research proposal regarding genes, carbon, Health Canada claims, etc., it's all above most of us. As I said earlier, we make decisions as a team.

Going forward, we need to ask ourselves what our commodity groups will look like in the future. Farming operations are getting bigger and the number of small single farmer-run operations is declining. We need to have highly functioning grower groups with forward thinking directors to make this sustainable. We need to work together to tackle the larger issues and keep our farms profitable in the future.

Have a great late winter. Hope we get some more snow yet before spring.

– Jason ■

Soybean Scout

What is the cause of each injury symptom?

Photos: Cassandra Tkachuk, MPSG

A

B

Answers can be found on page 47

Do you have a production question related to pulse or soybean crops? Maybe you're looking for an opinion or advice? Write to us!

Email cassandra@manitobapulse.ca or laryssa@manitobapulse.ca

Message from Executive Director

François Labelle, Executive Director

SPRING IS COMING and planning for the year ahead is in full swing, on your farms as well as here at Manitoba Pulse & Soybean Growers, your organization.

There continues to be a buzz of excitement in the ag sector. There are so many issues, programs, crop developments and policies, all of which are constantly changing. How can agriculture be anything but exciting? It keeps us on our toes.

A lot has happened in last few months. We've experienced trade issues with India, TPP, NAFTA negotiations, amalgamation discussions, staffing changes and much more.

STAFFING

I am excited to announce two additions to our staff: Daryl Domitruk, as director of research and production and Melissa Denys-Roulette, as finance manager.

Laryssa Stevenson is taking on a new role as production specialist in the western side of the province. Thanks, Laryssa, for leading the charge in the research program over the last year and for all the work you did on the cluster programs.

TRANSPORTATION

Five years ago a forward-looking director motioned MPSG contribute funds to Pulse Canada targeted towards improving our transportation system. Our funds along with financial commitments from other ag groups really got the Ag Transportation Coalition (ATC) off the ground and this has had a tremendously positive impact.

The coalition's first real project was performance measurement. Some of you may be receiving this report, either daily or weekly, on how the railways are doing moving grain.

The parts we do not see is how this report has influenced government policy. This report has empowered the government to look into the Transportation Act and make a number of changes to it. The act is aimed at making the railways work in partnership with shippers and to become less monopolistic.

Unfortunately, we are still waiting for this bill to be passed through the senate. The wheels move slowly, but they are moving.

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Introducing...

Melissa Denys-Roulette

Manitoba Pulse & Soybean Growers is honoured to announce the hiring of Finance Manager **Melissa Denys-Roulette**, CPA, CGA.

Melissa was born and raised on a mixed grain and cattle farm in Ste. Rose du Lac, Manitoba. She received a Bachelor of Commerce, Honours Degree majoring in finance from the University of Manitoba in 2008.

She resided and worked in Kenora, Ontario for several years, working at the local BDO Canada office. Later, she moved to Winkler – where she currently lives – and began working at the Pembina Valley BDO office.

Melissa obtained her CPA, CGA designation in 2015 and has more than 15 years of accounting experience. She will oversee the accounting functions at MPSG with the goal of providing comprehensive, reliable and up-to-date financial information.

Melissa has re-adapted to Manitoba life, though she is going through fishing withdrawal since moving away from Lake of the Woods. If you see her around, be sure to say hi. We're happy to have her on board.

Daryl Domitruk

Manitoba Pulse & Soybean Growers is also honoured to announce the hiring of **Dr. Daryl Domitruk**, the association's new director of research and production.

He joins MPSG after about 22 years working for the Manitoba Department of Agriculture, where he conducted extension in sustainable farming practices; managed crop extension programs; and directed a variety of research programming under the Agriculture Policy Framework, *Growing Forward* and *Growing Forward 2*.

Daryl holds a B.S.A. and a M.Sc. from the University of Manitoba. And he acquired a Ph.D. in plant breeding and agronomy from the University of Saskatchewan.

Daryl and his wife Rhonda live in the Darlingford area, where they have been active coaching and supporting youth sports. They are involved in their community. Daryl and Rhonda have two university-aged children.

Daryl is passionate about the role of agriculture in building Canada's rural communities. Don't hesitate to say hi. He's always good for a chat.

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Looking to the future, the ATC needs to continue producing reports for at least three more years and possibly longer. The act has begun to form one strong monitoring system that is timely, accurate and available to everyone, but it will take time to get fully developed. Until this happens, ATC will still need funding. MPSG will continue funding ATC, but it's time for all the other commodity groups to belly up and pay their share. This work benefits all crops and all crops should pay. Ask your other commodity groups if they are paying and if not, why.

TRADE – INDIA

This one jumped out and hit us hard in the pulse industry. With a 50 percent duty plus unreasonable demands for fumigation on peas, all trade going into India slowed way down. As a result, prices have dropped, forcing growers to re-evaluate their seeding plans for 2018.

It's interesting, though, that there is discussion that trade is continuing into India, but at a lower price.

I think there are a few things at play behind India's pulse tariff. The Indian government has wanted to become self-sufficient on pulse production for decades and after two good crops, they felt they could do it. These two profitable crop years were the result of timely rains and lots of high government subsidies. If we look back at the last 30 years, they have had more poor crops than good ones, so we will be surprised if self-sufficiency is within their grasp.

What happens if they have a poor crop and Canada does not plant many peas this year?

India, in the long run, has been a very important market for Canadian pulses and we expect it to continue to be. I have watched the Indian market for more than 30 years. It has been a roller coaster and I expect the ride to continue.

CHINA

China is a huge market with a seemingly insatiable appetite for protein. How much more can its population grow? It's tough to say, but it seems like its population will continue to rise for a while. They need to import protein, as meat and/or feed and/or vegetables. This is good for Canada all around. They consume our soybeans, and our pork producers send protein. Now, we just need them to eat pulse proteins.

CROP INSURANCE

MPSG board and staff have effected very positive changes to MASC's crop insurance programs, lowering rates and increasing coverage. For more details, please read the MASC articles in this issue of *Pulse Beat*. The changes staff and board have lobbied for are real, tangible examples of your check-off investment returning value to your farm. It's a positive step, but our work is not done. We get calls about issues, research them and discuss them with MASC. Crop insurance is a great risk-management tool and we want to work on continuing to improve it.

OPPORTUNITY TO INFLUENCE

I was reading an article about our ability to influence change. How as individuals most of us have little ability to make something happen, but as groups we have much greater influence. In agriculture, we have a challenge. All producers are fiercely independent business people and many have a hard time putting that independence aside to work collectively in order to become more influential. Associations, such as MPSG, provide you with an opportunity to influence change. Your input will make it to the board table and it will get discussed.

AMALGAMATION

Speaking of change and opportunity to influence it. There has been lots of discussion on the amalgamation of producer commodity groups over the last year. It's not a done deal. It's still a work in progress. You still have lots of opportunity to comment on it and you as members in good standing will have the final say. For this to go ahead, there will be a vote of all members present at an AGM or special meeting.

I strongly encourage everyone to get involved and be heard. It's important to listen to the facts and not just the rumour mill or the vocal few. Make a decision and let your voice be heard.

As we consider what remains of 2018, let's look forward and not dwell on the past. It's important to learn from the things we did yesterday, but it's what we do next that really matters.

– François ■

Thank you!

University of Manitoba Scholarship Recipient – Alex Griffiths

I grew up on a mixed cattle and grain farm in Crawford Park, just west of Clear Lake, Manitoba. I am currently a fourth-year agronomy student at the University of Manitoba. On my family's farm, we grow mainly cereal crops and run a cow-calf operation. Music, agriculture, sports and the community are all passions of mine and ones I attribute to having grown up in rural Manitoba. I'd like to thank Manitoba Pulse & Soybean Growers for their generosity and support in awarding me this scholarship. It has helped me focus on my studies, and it has given me the opportunity to spend time educating myself outside of school on the complexities of the agricultural industry. Once I finish my degree, I hope to find work as an agronomist close to home while still helping out on the family farm. Thank you!

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MANITOBA Pulse Soybean GROWERS
Working for You

A Reformed AgriInsurance Program is Coming in 2018

FOLLOWING YEARS OF working together with the province on crop insurance rates and policies that better represent and support farmers, Manitoba Pulse & Soybean Growers (MPSG) is pleased to share with their growers the news of a reformed AgriInsurance program heading into the 2018 growing season.

It's a good news story and another concrete, tangible example of the association using grower check-off investments to deliver more value to Manitoba's soybean and pulse farmers. It also speaks to the positive relationship MPSG has cultivated with the provincial government.

The province has removed the 15 percent pre-harvest (Stage 2UH) claim deductible for soybeans, a change MPSG has advocated for on behalf of their farmers for more than five years.

"Since 2011 or so, we've been a broken record on advocating for these changes," says MPSG Director Rick Vaags. "I'd attend every crop insurance meeting with the same speaking notes. We are thankful to Manitoba Agriculture for this great news. Our farmers will benefit. We were very pleased to receive this news."

Previously, a complete write-off of either crop prior to harvest would result in only 85 percent of the farmer's eligible loss recovery. Now, in such cases producers are able to receive their full eligible coverage.

The soybean coverage test areas have also been reduced, resulting in the addition of more than 200,000 permanent-insurance acres, according to the government release, which also announced changes to soybean AgriInsurance rates and premiums.

Premiums have gone down an average of about seven percent, according to MASC. For example, in risk area 12, soybean area one, one farmer's rates were reduced from $15.91 per acre in 2017 to $11.09 per acre in 2018. These numbers will vary depending on crop history and area.

More than 8,400 farms are enrolled in AgriInsurance, which is a risk management program administered by MASC. Manitoba has the highest level of AgriInsurance participation in Canada, covering more than 70 different crops and over 90 percent of annual crop acres, according to the news release.

Under AgriInsurance, premiums for most programs are shared 40 percent by participating producers, 36 percent by the Government of Canada and 24 percent by the Manitoba government. Administrative expenses are paid 60 percent by Canada and 40 percent by Manitoba.

"AgriInsurance continues to be an essential risk management tool that acts as the first line of defence for Manitoba farmers," said Agriculture Minister Ralph Eichler in the news release. "The improvements planned for 2018 reflect the changes in our industry, ensuring coverage remains comprehensive and responsive to the needs of producers."

MPSG will continue to attend crop insurance meetings where it will continue to represent the interests of its farmers. ■

Manitoba Flax Growers Association Relocation

MAN FLAX

EFFECTIVE MARCH 1, 2018, Manitoba Flax Growers Association (MFGA) is pleased to announce that it will be moving to Carman, MB, where Manitoba Pulse & Soybean Growers (MPSG) will administer its operations and programming. The relocation follows the recent closure of the Flax Council of Canada's Winnipeg office, where MFGA operations were being run.

"We believe this is a great opportunity for us to continue to provide good service to members and create operational efficiencies to ensure best use of our financial resources," says MFGA Chair Eric Fridfinnson. "We want to thank François Labelle, his staff and the board of Manitoba Pulse & Soybean Growers for providing this opportunity. We look forward to working with them in this new arrangement.

"We also want to thank Monika Haley, who has administered our organization for the past several years. She has done a tremendous job for us, and we wish her the best in her new endeavours. As MFGA faces declining acres, this arrangement offers us a great opportunity to join the "hub" of commodity groups already in Carman."

The addition of MFGA to the Carman office, which currently houses four other commodity groups, is a seamless and logical move and is unrelated to the amalgamation MFGA, MPSG, Manitoba Wheat and Barley Growers, Manitoba Corn Growers and the National Sunflower Association of Canada are currently exploring.

"We assessed MFGA's needs, and with MPSG hiring Financial Manager Melissa Denys-Roulette, we felt we could handle the additional workload on a cost recovery basis without any major increase in staffing," says MPSG Executive Director François Labelle. "We have also been working on improving some of the reporting functions such as check-off collection, which will decrease data-inputting demands and be more efficient." ■

Farmers React to Amalgamation

IT'S HEAVY STUFF. It's tricky stuff. It's a work-in-progress. And it's ultimately up to you, the farmers. The five commodity groups currently prospecting their memberships for feedback on amalgamating into one organization have come to appreciate the nuances involved in what would be a natural shift in how Manitoba serves its agriculture sector.

The groups involved – Manitoba Pulse & Soybean Growers, Manitoba Wheat and Barley Growers, Manitoba Corn Growers, Manitoba Flax Growers and the National Sunflower Association of Canada – conducted member feedback meetings across the province over January and February.

What the group has heard has revealed a multitude of attitudes, some of which were anticipated and some of which were not. The process has forced these five groups inward, forcing the farmer-led steering committee to respond to not only the suggestions and/or concerns of fellow farmers but also the ones that have bubbled to the surface among the various directorships.

It has stirred in some farmers an almost primal fear – perhaps of loss; perhaps of change. It has stirred in others a sense of progress and efficiency. Others believe it needs to happen. And a handful are adamantly opposed. A few have said that whether it happens now or five years from now, it's inevitable.

In January, members of the steering committee presented the amalgamation proposal at St. Jean Farm Day, at special meetings in Dauphin and Stonewall and during Ag Days. These meetings were open to farmers and were part of an optimistic campaign conceived by the steering committee through which the proposal it had worked tirelessly to produce would be presented to farmers for feedback.

Every comment was noted. Every suggestion was recorded. And following every meeting, Rob Hannam, the consultant tapped to help facilitate the process, adapted the next presentation to reflect the comments made in the last. Hannam's methods reflect the groups. Amalgamation is a work in progress that is entirely guided by farmers.

This is a point worth stressing, as it has come up often. Farmers don't want consultants driving change. Farmers don't want the interests of industry and the influence of corporate titans spending their check-off dollars.

The amalgamation working group is sensitive to this and has shielded itself entirely from such pressures. A consultant's value in this process has been paramount, though. Hannam has listened, distilled and produced a proposal that only contains content put forward by farmer-directors.

The feedback meeting yielded lots of questions, and, as mentioned, they will all be considered, but the following are a few questions/concerns that the working group has heard from a variety of farmers:

Will a 15-person board create "professional" directors and limit opportunities to cultivate young directors/leaders?

This is a challenge for the steering committee to work through. And it's been brought up more than once during the group's sessions. Policies surrounding board term limits serve to answer this, as well as the possibility of creating programs geared towards developing young farm leaders across the province. In some cases, it may mean piggybacking off of existing leadership programs. In other cases, it may mean writing into policy new initiatives. A range of ideas have been

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considered including information sessions at post-secondary ag schools, more proactive recruiting and a diversity plan to encourage more women to become involved.

How will this amalgamated commodity group make sure smaller acreage crops get attention they require?

This question requires context, as there are examples in which smaller acreage crops will lose 100 percent of their support without some shift in the commodity group structure. While it is conceivable that on a 15-person board, a few crops may not be represented. And, while this is a concern that the steering committee is taking seriously, there are some possible solutions/models to emulate. MPSG, for example, represents more than one crop. Its structure allows the commodity group to support research and agronomy related to smaller acreage crops, such as some market classes of dry beans. Barley is another such example. As is flax. Another solution may be to write representation into policy.

At the Dauphin meeting, a farmer responded to this question. He said when his local RM went from a ward to a wardless system, constituents were concerned that their unique interests would be lost. But they weren't. Under a wardless system, the councillor took it upon themselves to learn how the whole municipality operated as a single unit and, on their own volition, successfully represented the interests of everyone. It worked.

Will the new association become too large and bureaucratic?

The steering committee is sensitive to this and will ensure that the amalgamated group maintains a grassroots connection to the farmers it represents. The plan will not be to increase the staff size compared to the current organizations, but some positions can be realigned to allow even more focus on regional research and agronomy efforts.

How will this amalgamate group deal with the various crop-specific research commitments?

Research funding commitments in place prior to this amalgamation will be honoured and remain intact. However, the connection between check-off investments and the dollars available to crop-specific projects is something that the steering committee is working and accepting feedback on. The steering committee wants the new organization to have flexibility to invest in the best research and market development projects. Details surrounding this question will be available in the next proposal to farmers.

For information related to this process, visit www.mbcrops.ca. And please direct all questions and/or concerns to the commodity group of your choosing or to facilitator Rob Hannam at: rob@mbcrops.ca

We want to hear from you. This is your association. This is your process. ■

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Pulse Canada

Marketing the Pulse Category in North America

PULSE CANADA IS doubling down on efforts to grow new markets for pulses and pulse ingredients. In June 2017, Pulse Canada and the US Dry Pea and Lentil Council jointly launched the Half-Cup Habit, a campaign encouraging consumers in Canada and the US to eat a half-cup serving of pulses three times per week.

The Half-Cup Habit is part of a broader strategy to grow the North American market for pulses. By 2025, Pulse Canada aims to double North American consumption of pulse-containing food products and triple their use by the foodservice industry. North American food companies, foodservice providers and ingredient suppliers have indicated that the pulse industry can support their efforts to sell more pulse ingredients and pulse-based food products by marketing pulses to consumers, and by gathering market intelligence regarding consumer awareness and perceptions of pulses.

IDENTIFYING KEY MESSAGES

Pulses have several marketable benefits – including nutrition, taste, environmental sustainability, versatility and affordability. Between 2015 and 2017, Pulse Canada conducted several surveys and focus groups to identify the marketing messages that resonate best with consumers. Participants identified taste, nutrition and convenience as the primary motivators for choosing to consume pulses. Specifically, consumers were interested in how pulses can provide them with protein and fibre.

The Canadian pulse industry first began promoting pulses to consumers during 2016, the International Year of Pulses (IYP). Messaging during this initial stage of the campaign focused on introducing the term *pulses* to consumers and providing easy ideas for eating pulses more frequently. Promotional materials such as social media posts and online advertisements positioned pulses as delicious ingredients that enhance the flavour, texture and nutrition of everyday dishes. Marketing activities during IYP achieved a combined total reach of more than 4 billion people.

THE HALF-CUP HABIT

The Half-Cup Habit campaign represents the second stage of the pulse industry's consumer promotion

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Looking Ahead to 2018

Jeff Nielsen, President, Grain Growers of Canada

OUR INDUSTRY HAS seen a tremendous amount of change since the day 18 years ago when a group of grain farmers met in Calgary with a goal of bringing their unified voice directly to the steps of Parliament Hill. Created in 2000, Grain Growers of Canada's (GGC's) mission remains the development of sound federal policy that allows grain farmers to prosper and grow. Throughout the years we have come to be one of the most respected advocacy voices in Ottawa.

But just as the number of soybean acres in Manitoba continues to change, the landscape in farm advocacy continues to change, as well, and GGC is taking the opportunity to conduct a strategic review. This is an opportunity to build a truly national organization that represents grain growers from all provinces and all commodities. As a mature organization, we must also ensure that we have the right tools in place to work for our members and get the wins that matter to them. The review will take place winter 2018 and we expect to come out of it with a clear path forward and strong member engagement. Groups like GGC are only strong when our members see themselves in our work.

That being said, time stops for no one and we've constantly engaged on files that cover all our key policy areas. Given how important it is for our bottom lines, I want to focus on key developments on the trade file.

The week of January 22 saw negotiations on both NAFTA (Montreal) and the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP, Tokyo), formerly TPP-11. We know that trade is essential for a strong farm gate and we work hard to make sure government knows this, too. As members of the Canadian Agri-Food Trade Alliance (CAFTA) we are fortunate to have the opportunity to take active part in the events surrounding the NAFTA negotiations in Montreal. I attended the negotiating round and was joined by farmers from the US and Mexico as we highlighted the benefits of NAFTA and our strong support for successfully concluding the negotiations.

Positive news came on January 23 when it was announced that Canada would a signatory for the CPTPP agreement. This is an exceptional opportunity for Canadian agriculture as we work to meet our target of $75 billion in exports by 2025. The nations involved in the CPTPP represent some of our most lucrative and fastest growing markets. With the potential that exists for increased soy and pulse acres in Manitoba, the tariff reductions and trade rules that have

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strategy. The campaign aims deepening consumers' understanding of pulse benefits beyond protein and fibre, while maintaining an emphasis on taste and simplicity. Consumers who sign up for the Half-Cup Habit on pulses.org receive monthly newsletters containing simple recipes with enhanced nutritional information, ingredient lists and cooking tips. Those who visit pulses.org can also access information about where to find pulses, how to cook them, and how to store them.

The Half-Cup Habit campaign is being promoted to consumers through social media, online advertisements on popular health and wellness websites, and partnerships with bloggers and consumer influencers. Articles referencing pulses and their benefits have also appeared in online publications such as Buzzfeed, Women's Health, NPR and the Huffington Post. In late 2017 and early 2018, pulses were also featured on Breakfast Television, CNN, the Today Show and other popular programs. Since its launch, over 50,000 people have signed up for the Half-Cup Habit and over 1 million have visited the campaign's website, pulses.org. The Half-Cup Habit will continue through the first half of 2018.

MEASURING SUCCESS

Growing demand for pulses in North America to meet the industry's 2025 goals is a long process. Prior to beginning consumer promotion activities, Pulse Canada measured pulse consumption in North America in both retail and foodservice and in a number of food product categories. This has provided the industry with a benchmark that will help track changes to demand and utilization.

The pulse industry is also conducting regular consumer research to assess changes in consumer awareness and perceptions of pulses as a shorter-term indicator of success. In a September 2017 survey of Half-Cup Habit participants, 86% of respondents indicated they are eating more pulses since taking the challenge and 99% indicated they plan to continue eating pulses after completing the challenge. 64% of respondents noticed an increase in satiety and energy and 44% reported improved regularity as a result of taking the challenge.

As consumer knowledge of pulses increases and consumption trends shift over time, continuous evaluation of marketing messages and positioning will be required to keep consumers engaged. The pulse industry will continue to measure changes in consumer awareness of pulses and their benefits as well as pulse consumption rates over time to ensure marketing efforts continue to have an impact. ■

Toward Another Doubling of Soybean Production by 2027

Ron Davidson, Executive Director, Soy Canada

NOTWITHSTANDING UNUSUAL WEATHER patterns during the summer of 2017, last year marked the ninth consecutive year of record-breaking soybean production. Looking forward, the 2018 crop will be the first milepost in the pursuit of the new goal of yet another doubling of production, this time to 13 million tonnes, by 2027.

Whether functioning independently or as part of industry alliances, the pursuit of progress toward the attainment of the strategic plan is the focal point of Soy Canada initiatives. The paragraphs that follow include current examples of some of these activities.

In partnership with the Canada Grains Council and others, Soy Canada is advocating for the assurance of risk-based and internationally aligned regulatory policies for the assessment of products that result from plant breeding innovation. In cooperation with CropLife and the International Soybean Growers Alliance, representations are being made to foreign governments on behalf of the approval of new traits that are important to the Canadian soybean sector.

Data obtained on pesticide use in Canada supports advocacy to foreign governments and international standards-setting bodies (e.g., Codex alimentarius) for the approval of maximum residue levels aligned with those in Canada. On a monthly basis, Soy Canada circulates foreign proposals for new or changes to maximum residue levels to Canadian exporters for comment or action. Representations to regulatory officials are seeking commercially viable allowances for the low level presence of unintended seeds of other crops or of genetically modified grains in non-genetically modified shipments.

In collaboration with the Canadian Agri-Food Trade Alliance, Soy Canada is advocating for an outcome of the North American Free Trade Agreement (NAFTA) negotiations that includes provisions on biotechnology as well as for signature of the Comprehensive and Progressive Trans-Pacific Partnership (CPTPP). When implemented fully, the CPTPP will offer preferential access to Canada by eliminating Japanese, Malaysian, Singaporean and Vietnamese import tariffs on all soy products. Similarly, Soy Canada is urging renewal of Canada-China negotiations and supports negotiations with the Association of Southeast Asian nations. The latter includes non-CPTPP soybean importing countries Brunei Darussalam, Cambodia, Indonesia, Philippines and Thailand.

A Soy Canada led trade mission to Taiwan and Japan in April will include meetings with members of local industry associations and visits to local soybean importers and processors.

Soy Canada continues to advocate for the inclusion of soybeans in the Bill C-49 (Transportation Modernization Act) list of crops governed by the maximum revenue per tonne-mile that railways are permitted to charge exporters of western grains. Unless this omission is addressed, the fastest expanding crop in western Canada will be vulnerable to increases in rail transportation rates that could disproportionately impact the cost of transporting soybeans compared to that of other crops.

A formal submission to the federal government on the draft national Clean Fuel Standard framework for reducing greenhouse gas emissions advocated for a doubling of the minimum volumetric requirement for the inclusion of biofuels.

Responsibility for the federal government-industry Collaborative Research and Development Agreement on soybeans has been transferred recently from the Canadian Soybean Exporters' Association to Soy Canada. A proposal for the renewal of government-industry collaboration is being developed.

The current federal-provincial *Growing Forward 2* program will be replaced by the Canadian Agricultural Partnership (CAP) effective April 1. Soy Canada has provided a letter of support to the Canadian Field Crop Research Alliance for a long list of soybean-related research proposals. In addition, and particularly as initiatives supported by the CAP program will be vital to the realization of the goals contained in the strategic plan, Soy Canada has requested suggestions of proposed initiatives from all members. ■

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been negotiated in this historic trade agreement will create the demand that will help your industry grow. A date for final signature has not been set but we will be working with the government to ensure speedy introduction.

While we in agriculture understand how important these deals are for our economic livelihood and for the health of our rural communities and the entire country, unfortunately not everyone sees it that way. There are a small number of very vocal voices who have been opposing the government's trade agenda and putting our economic gains at risk. It is becoming increasingly clear to me that we as grain growers need to be more vocal in our support for trade, in the benefits it brings and the impact that not being part of these deals would have on our livelihoods. I encourage all pulse and soybean growers in Manitoba to reach out to their Members of Parliament, to the Ministers from Manitoba and to their friends and family to get the message out. Grain growers need trade, it's good for growers, for our economy and for all Canadians. ■

Crop Coverage Plus

FOR OVER A decade, the Manitoba Agricultural Services Corporation (MASC) has offered Crop Coverage Plus (CCP) to producers in Manitoba.

As a whole-farm risk management, CCP provides more coverage (up to 90 percent) and more compensation than traditional AgriInsurance in disaster years, and comes with the possibility of a premium discount.

"CCP is quite different than regular AgriInsurance," said David Van Deynze, Vice-President of MASC Insurance Operations. "There's a different philosophy behind [CCP], where you want your whole farm to come out ahead, and forego some of your smaller per-crop claims."

With traditional AgriInsurance, your coverage is applied at a per-crop level, which can result in a claim for that crop if your actual production falls below an assigned probable yield (PY) for that crop.

But with CCP, the way coverage, premium and how claims are determined is quite different, and worthy of clear explanation.

HOW DO I SIGN UP FOR CROP COVERAGE PLUS?

CCP is available to insured producers, including landlords on a crop share basis, who insure all eligible crops at AgriInsurance's 80 percent coverage level. In addition, a producer must grow more than one eligible crop, one of which must be a CCP 'basket crop.' Producers must sign up for CCP by March 31 to have CCP coverage for the next crop year.

ELIGIBLE CCP CROPS AND 'BASKET CROPS'

All crops insurable under AgriInsurance must be included in the CCP option, except for table and processing potatoes, broccoli, cabbage, cauliflower, carrots, parsnips, rutabagas, sweet corn, winter squash, pumpkins, peppers, leeks, cooking onions, other onions, Select Hay, Basic Hay, greenfeed, silage corn, pasture and organic crops.

Your cropping selection must also include at least one 'basket crop', which can be thought of as a crop grown that is representative of most acres grown in your MASC Risk Area. Basket crops are used to determine positive and negative correlations between the performances of other eligible crops. A good example is Red Spring Wheat, which is designated a basket crop in all Risk Areas, though each Risk Area has its own set of representative basket crops.

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CALCULATION OF COVERAGE AND PREMIUM

CCP coverage and premiums can only be calculated once you submit your Seeded Acreage Report (SAR). From the SAR, MASC performs a complex calculation to determine CCP coverage, which includes your Individual Productivity Index (IPI), historical risks associated with growing your specified combination of crop acreages, and more. Typically, the more diverse your crop mix and acres are, the better your CCP coverage will be.

Most importantly, the complex calculation determines your calculated whole-farm coverage level, which will be 80 percent or higher, to a maximum of 90 percent coverage, though you'll still only be charged premium at the 80 percent coverage level.

Once your coverage level is calculated, the dollars of coverage you have for each crop are added together to determine your CCP coverage (or 'Production Value Guarantee').

The CCP calculation often results in a whole-farm coverage level above 90 percent, and sometimes even over 100 percent! When this occurs, a premium discount is applied.

CCP PREMIUM DISCOUNT

By regulation, MASC is not allowed to offer insurance coverage above the 90 percent level. When the CCP calculation produces a result above 90 percent, MASC limits your coverage to 90 percent, but also gives you a premium discount.

"The premium discount a producer will get roughly corresponds to how high their CCP coverage was calculated to be," explained Van Deynze. "Typically, though, we see a lot of producers that receive the full 90 percent coverage, but only be charged the premium they would pay for 70 percent traditional AgriInsurance coverage."

CCP CLAIMS VS. AGRIINSURANCE CLAIMS

By now, most producers in Manitoba are quite well versed in how MASC determines an AgriInsurance claim. If you don't produce as much Red Spring Wheat as what MASC guaranteed, you're paid a claim on the difference multiplied by the crop's dollar value. A CCP claim, however, works differently, due to the 'whole-farm' nature of your CCP coverage.

Typically, only one crop producing below average won't result in a CCP claim, because the production strengths of your other crops will negate this relatively minor shortfall.

"A CCP claim is more likely to trigger in years when there's a significant yield or quality loss across the board," Van Deynze explained. "And in those years, CCP coverage will result in a claim that's significantly larger than your regular AgriInsurance coverage."

CCP claims are calculated by first determining the value of your production (per crop production multiplied by the MASC dollar value for that crop). The value of all your crops are then added together, which is then, in turn, subtracted from your Production Value Guarantee. The remainder of this calculation is your CCP claim amount.

With the exception of reseed claims, no claims can be paid for CCP until all eligible crops are harvested, as the production of a still unharvested crop may offset the losses of another crop.

"We sometimes have a few issues explaining CCP to producers," said Van Deynze. "It's a bit more complex than the per-crop coverage of AgriInsurance, and the benefits of CCP are somewhat obscured because you don't get the smaller per-crop payments that you do with AgriInsurance."

"But the CCP claims you do get paid on are often larger," added Van Deynze. "And quite often, they're coming in years when it's really needed, and you're typically paying less premium for the CCP coverage."

ANY QUESTIONS?

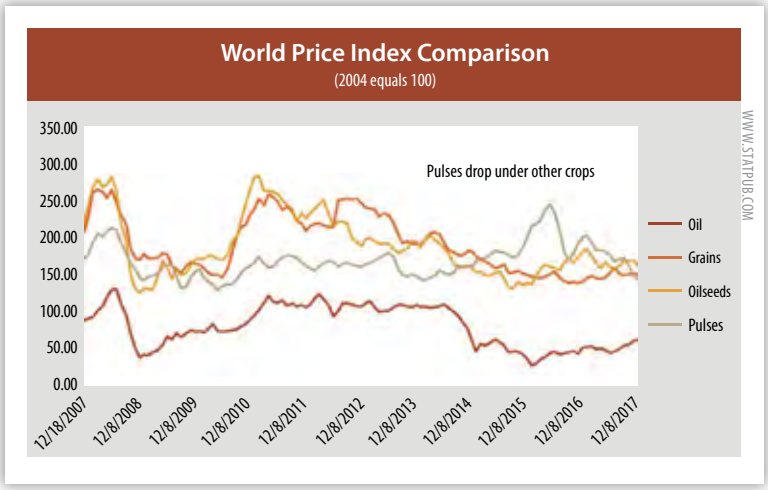
The ins and outs of Crop Coverage Plus is a big topic, hard to fit into a single article, and perhaps even harder to grasp through its main points. For more information about Crop Coverage Plus, contact your local MASC Insurance Office.

Users of MASC Online Services at www.masc.mb.ca also have access to a CCP Calculator, which can use your last year's production data to simulate CCP coverage, premiums and claims. ■

Clancey's Stats

Pulse market analysis

Brian Clancey, Senior Market Analyst and Publisher, STAT Communications



CANADA AND THE United States will have no shortage of pulses to market in the coming marketing year even though total area is expected to drop 21% to 10.6 million acres.

Most of the drop will be in yellow peas and red lentils. That is because demand from the Indian subcontinent is not expected to recover any sooner than the last half of 2019.

India's rabi season plantings have set a new record this year, with production of chickpeas expected to reach a record 9.71 million metric tons.

If yields drop back to their recent five-year average, total pulse output for the 2017–18 production cycle could drop from 22.95 to 21.57 million metric tons.

If India consumed all the pulses available that would mean that imports need to rise during the last half of the year to cover the difference. One problem is imports reached epic proportions.

Looking at pulse supply in India on a calendar year basis makes more sense than thinking about the country's fiscal year production cycle. On that basis, it looks like the available supply of pulses during 2017 approached 28 million metric tons. That suggests there was a surplus of almost 2.2 million metric tons.

Even if the available supply of domestic pulses drops from 22.5 to around 21 million metric tons in 2018, India will not have a fundamental shortage and could finish 2018 with a residual surplus of around 735,000 metric tons.

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Ironically, imports probably spiked in 2017 because some speculators and importers may have accumulated stocks in hopes of a windfall profit once steps were taken to limit imports. The key moves were imposing import quotas on tur, pigeon peas and mung beans; penalties if pulses were not fumigated with methyl bromide at time of shipment; and eliminating the import duty exemptions for peas, lentils, and chickpeas.

While 2016 was a year in which India's needed to import over five million metric tons of pulses to cover its domestic needs, imports in 2017 were higher than necessary. That demand was the key reason global pulse output set recent records in both 2016 and 2017. But, combined with rising production in India, it was clear during the first quarter of 2017 that global trade should decline after the third quarter of 2017 and not recover unless there were production problems in a key consuming region in 2018.

That forecast was not fully realized until India eliminated the import duty exemptions for pulses. On November 8, the duty for peas returned to 50%, while it was not until December 21 that duties for lentils and chickpeas returned to 30%. Some of the loss in prospective demand from India has been offset by rising pea purchases by India and desi chickpeas by Pakistan.

Even so, pulses prices have been on a general decline since January of 2017. Historically, the global price index for pulses was almost always lower than the indices for cereal grains and oilseeds. But between April of 2015 and July of 2017 the global price index was above grains and oilseeds, encouraging farmers to shift into pulses.

With prospective returns returning to a more normal relationship to grains and oilseeds and unsold stocks rising, world pulse output could drop from 55.7 million metric tons to around 52 million. While just below the recent five-year average of almost 56 million, output is still well above the average 50 million metric tons harvested between 2011 and 2015.

Significantly, the decline is in net exporting countries. Current weather patterns suggest this year's monsoon will be close to normal. But, if rainfall is uneven and the main rabi production states start the 2018–19 seeding campaign with moisture deficits, global demand could improve in 2019. Unfortunately, exporters may not be in a position to respond and, unless prices become more competitive with other crops during the first quarter of 2019, seeded area would not be expected to recover in the northern hemisphere.

There is an old saying, "Be careful what you wish for. You might get it."

Demand for pulses from food and pet food manufacturers is growing rapidly. That has resulted in significant investment in pulse fractionation plants close to the production areas in Canada.

Rapid growth in this market is a direct result of efforts leading up to International Year of Pulses and recent increases in production. The first helped raise the profile of pulses in developing countries and the second made manufacturers confident about continuity of supply.

Rising competition from domestic buyers in net exporting countries is changing global demand fundamentals and, over the long term, leaving net importing countries in a more vulnerable position. While exporters can respond to unexpected increases in demand, the price shocks could be more extreme than in the past because of more widespread competition for available sources of supply. ■

Meet Jeff and Sheila Elder

On-Farm Network Participants

Toban Dyck, Director of Communications, MPSG

> "2017 was the first year we had an On-Farm Network trial and plan to do so again this year. It's all about learning how things work on our farm and not on a farm 50 miles away."
>
> — Jeff Elder

UNPACKING WHAT THE word 'value' means is a tricky undertaking. For some, it has a material definition. For others, it's something else entirely. Sitting around the dining room table at Jeff and Sheila Elder's house, the definition of value was as clear as the home-cooked food on my plate.

To Jeff and Sheila, the things in life that matter would endure a drought, a flood, a storm. They farm together, and that's valuable to them. They enjoy and are very grateful to be able to live and work on their family farm, and that has value to them, despite the crop conditions.

"I'm just happy to have the opportunity to be here, and that we can be here together," said Sheila, who has an identical twin, which, for Jeff, had its challenges in grade school.

They first met when Jeff was in Grade 3 and Sheila Grade 2.

Recalling old memories, Jeff said, "Sheila and her sister Shelley dressed and looked the same. I would never know who I had just said hello to, or if I'd be repeating myself. They were beyond identical."

Jeff and Sheila's farm was founded in 1881. They think about the toil that went into making their farm what it is today. And they are grateful for it.

To some it's just an old nail protruding dangerously from a piece of old wood, but for Sheila (and Jeff, too) it's a spike representing the dedication and sacrifice of a previous generation and it's beautiful and worth preserving. It has value.

Those spikes and more make up the bones of a large, 130-year-old barn preserved under tin cladding just east of their house.

"If you look inside, you can see all the manual labour that went into making it – timbers and rafters. I'd like to see that all cleaned up. It's not about the money. It's about keeping up the things that matter."

I first met Jeff and Sheila at MPSG's On-Farm Network appreciation dinner, an event honouring the famers who participated in the program – a program giving growers the tools to conduct significant and relevant research on their own farms, empowering them to make the best decisions possible in their unique situations.

The Elders participated in the On-Farm Network last year and plan to do so again in 2018. They farm nearly 2,000 acres near Wawanesa, Manitoba. And the genuine and applicable discovery that accompanies this MPSG program is valuable to them.

"2017 was the first year we had an On-Farm Network trial," said Jeff. "I've done trials with different entities in the past, so I wasn't afraid to get into it. I knew what it was going to be about. It's all about learning how things work on our farm and not on a farm 50 miles away."

"I think the main value is seeing results on your soil, in your conditions, under your management. You get a general idea from a trial somewhere else, but when you see it on your own farm, you know whether or not there is value in the thing you're testing."

on-farm network
PARTICIPATORY • PRECISE • PROACTIVE

Last year, Jeff and Sheila ran a seeding-rate trial and it confirmed what Jeff had already found to be true on their farm. "I'm now confident that we're doing the right thing. We'll be doing another one this year – single vs. double inoculant trial."

And seeing these trials through to harvest is not a big deal, according to Jeff, who said, "Any of the agronomists or companies that I've worked with on any trial, they are really trying to not

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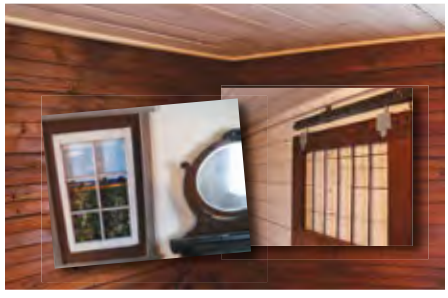

Jeff and Sheila Elder are passionate about breathing new life into old things. Jeff enjoys working on vintage trucks and Sheila has been restoring a heritage building on their farm.

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hold you up. MPSG and others fully realize that it's combining time and they don't want to interfere with your business."

The Elders invited me into their home for supper following the Getting it Right crop production meeting in Brandon, one of the flagship events MPSG puts on for its farmers.

They enjoy attending ag-extension events – together, of course – and they walk away with something important almost every time they do. Because Jeff and Sheila are interested in many things. And because Jeff and Sheila are pretty smart.

Until they moved back to the farm in 1998, Jeff worked for Manitoba Hydro as an electrical technologist in Gillam, Manitoba. There, Sheila – medical lab technologist and registered cardiology technologist – worked as a substitute teacher and was flown around filling brief vacancies at various medical centres.

After 10 years at Hydro, Jeff asked for a three-year leave of absence, at which time they moved to Wawanesa to try out this whole farming thing.

"I guess it worked out," said Jeff. "We're still here."

Since moving back on the farm, Sheila has completed additional schooling in the sciences. In 2010, she completed a bachelor of science degree with a major in zoology (branch of biology) and a minor in chemistry.

But, that's not all.

One fateful day, Jeff asked a rhetorical question to Sheila: how hard would it be to make a grain moisture app?

Sheila said she would try it. Jeff said, don't bother. Sheila took this as an issued challenge.

Grain Moisture was released on the App Store in April of 2016 and to date is approaching 700 sales.

In 2014, Sheila learned how to use a Mac computer. And in 2015 and 2016 – a difficult period when Sheila cared for her mother as she fought a losing battle with cancer – she sunk her mourning mind into learning how to write computer code. Sheila made the app, from start to finish.

"We've grown faba beans and edible beans – sat in on a faba bean session today at Getting it Right," said Jeff. "And we currently grow a lot of soybeans."

Jeff and Sheila's son is 20 and is studying at Brandon University and their daughter is 23, "working in Calgary to support her horse habit," said Jeff. "Farming has taught them a lot of lessons – economics, hard work."

For the last few growing seasons, there have been three generations of Elders helping out on the farm, they said. This is important to them.

The Elders are enjoyable company. And I found hanging out with them to be a grounding experience. It was valuable. ■

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MARCH 31 DEADLINE

March 31, 2018 is the last day to apply for AgriInsurance or change your coverage or crop selections.

To learn more about how to protect your investment through a customized insurance plan, contact your MASC insurance office today or visit **masc.mb.ca**.

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Getting it Right — Got it Right Once Again

CROP PRODUCTION MEETING

That is, according to the 80 or so farmers who braved cold, blustery weather conditions to attend the event.

On January 30, Manitoba Pulse & Soybean Growers (MPSG) held its fourth annual Getting it Right (GIR) crop production meeting at the Victoria Inn in Brandon.

MPSG received excellent feedback from participants who found the discussion and exchange of ideas valuable. And thanks to everyone who attended. It was a great event, and we hope to see you all next year!

This farmer-exclusive event was an opportunity for MPSG to share results from its investment in soybean and pulse research. In addition to being educational, GIR also provided participants and presenters an opportunity to network. Thank you to Top Crop Manager for sponsoring the GIR networking session.

Participants spent the day learning about soybean and pulse agronomy and pathology. In an effort to provide participants with unbiased, reliable production information, MPSG invited speakers from public institutions to present their research results and recommendations.

After the morning presentations where attendees heard from AAFC's Dr. Debra MacLaren, Dr. Syama Chatterton and Dr. Ramona Mohr, as well as the University of Manitoba's Dr. Ivan Oresnik, participants had time to attend four of the seven Table Talk stations of their choosing.

Each Table Talk ran for 30 minutes and offered an introduction or demonstration on one particular topic led by experts from MPSG, U of M and elsewhere. Many topics were covered including iron deficiency chlorosis, soybean aphids and discussions on potential commodity group amalgamations. This year's Table Talks offered a comfortable, engaging environment where farmers could learn and ask questions or initiate conversation with others in their group.

"Knowledge transfer and extension are priorities to MPSG," says Extension Coordinator Laura Schmidt, "It was great to see so many farmers, presenters and researchers engage in agriculture under one roof. Thanks!"


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on-farm network
PARTICIPATORY • PRECISE • PROACTIVE

Call for Farmers to Participate

Are you interested in testing the use of potash, inoculants, fungicides, or seed treatments on your soybean fields this year?

Join the MPSG On-Farm Network...

A network of on-farm research related to soybean and pulse crops that is fully funded and directed by Manitoba Pulse & Soybean Growers (MPSG). All research in this network is based on three important principles:

1. **Participatory** – Conducted on-farm with farmers, involving you in the research process
2. **Precise** – Data produced is unbiased, accurate and robust
3. **Proactive** – Results delivered to guide management decisions and improve profitability of farmers in Manitoba

BENEFITS

As a farmer, you benefit from producing results directly on your farm and applying the knowledge to guide management decisions that will increase your profitability. MPSG benefits from producing reliable results across a wide range of environments, allowing us to make robust production recommendations for all pulse and soybean farmers.

REQUIREMENTS OF THE FARMER

- Keep in contact with the research partner on timing of field operations and field records
- Be equipped with GPS technology
- Establish replicated strip trials comparing the treatments as outlined in the protocol
- Harvest strips into MPSG weigh wagons for accurate results
- Must be a member in good standing with MPSG

RESPONSIBILITIES OF THE RESEARCH PARTNER

- Provide technical and logistical support to farmer
- Be present at seeding (or spraying) and harvest
- Take all field measurements required
- Provide the farmer with a full report
- Keep data confidential
- Minimize work for farmers

2018 TRIALS

All trials listed have been approved for 2018 and are open to farmers to participate. These trials are replicated, randomized strip trials where yield differences are measured using an MPSG weigh wagon.

1. Soybean Rolling Trial
- Compare rolled vs. non-rolled strips
- This trial is targeted towards fields that do not have stones and are rolled for harvest management

2. Soybean Potassium Fertility Trial
- Compare sideband (60 lbs/ac K_2O) or broadcast (120 lbs/ac K_2O) potash vs. no potash
- Fields must have soil test K level <150 ppm

3. Soybean Inoculant Trial
- Compare inoculated vs. uninoculated seed
- To participate in this trial, you must have a field that has had at least three well-nodulated soybean crops, with the most recent soybean crop in 2015 or later

4. Soybean Inoculant Trial – Western Manitoba
- Compare seed applied vs. seed applied + in-furrow inoculant
- To participate in this trial, you must have a field that has had at least two well-nodulated soybean crops, with the most recent in 2014 or later

5. Soybean Seeding Rate Trial
- Compare three different seeding rates: 190K seeds/ac vs. 160K seeds/ac vs. 130K seeds/ac.

6. Dry Bean Foliar Fungicide Trial
- Compare pinto or navy beans sprayed at R2 (early pin bean) vs. unsprayed

7. Field Pea Foliar Fungicide Trial
- Compare field peas sprayed at early flower vs. unsprayed

8. And more!
- Dry Bean Fertility Trial
- Faba Bean Fungicide Trial
- Soybean Foliar Fungicide Trial
- Soybean Seed Treatment Trial

› To participate in the trials, sign up at www.manitobapulse.ca

For more information, please contact
Greg Bartley 204.751.0219 • greg@manitobapulse.ca

On January 2, 2018 MPSG welcomed a new Director of Research and Production – Dr. Daryl Domitruk comes to MPSG as Laryssa Stevenson steps up her commitment to grain farming along with a part-time appointment as MPSG's Production Agronomist for western Manitoba.

A Few Words from MPSG Director of Research and Production, Daryl Domitruk

"I CAN GROW wheat or I can grow weeds. …I get in trouble when I try to do both." It's part sage advice, part firm warning – these words were sent my way by a thoughtful farmer a quarter-century ago, as I settled into employment with a producer-owned research organization. Appropriately, that farmer is now in the Manitoba Agricultural Hall of Fame joining many inductees noted for their wisdom.

In close to 30 years of research and extension in university, private business and government, I've retained several of these wise nuggets to guide my day-to-day decisions. I like to think they've grounded me in things that matter. They also happen to compliment another source of inspiration – the light-speed advances in science and technology that continue to challenge the imagination and drive agriculture forward.

WISDOM AND SCIENCE. SCIENCE AND WISDOM

People whom I consider my mentors have made useful contributions to agriculture by connecting these concepts – scientific advances blended with wisdom gained behind the farm gate. I'll be the first to admit that for me that's easier said than done. However, in my way of thinking, if anyone is forging that link it's today's producer-owned commodity organizations. And so, it is with an earnest commitment to that mission that I assume the duties of Director of Research and Production with MPSG.

Fortunately, I'm joining a fine work in progress. Laryssa Stevenson maintained things in very good order during her tenure in this position. Plus, your MPSG has a young, eager staff with the science and communication smarts to directly assist growers and to develop the larger pulse and soy industries on behalf of its farmers. The staff compliments MPSG's producer directors and executive director, who collectively represent a remarkable depth of farming wisdom earned in all corners of the province. The entire effort is tied together by a compact cadre of financial and administrative professionals, who keep things lean, transparent and accountable. MPSG is a very capable organization of which I am proud to now be a part.

Consider the programs offered by MPSG: They speak to the connection between scientific discovery and practical wisdom. MPSG's highly-regarded guides, website, in-season bulletins and extension events draw on innovative on-farm research and variety evaluation programs to deliver unbiased and current production knowledge to MPSG members – just what you'd expect from a grower-owned organization.

Of course, it starts with investments in scientific research. With a committed group of researchers (including the MPSG-funded Research Agronomist at University of Manitoba) already immersed in pulse and soy, we've got the opportunity to expand and diversify the research community serving MPSG members. All of us in the MPSG office know there are challenges and opportunities in every crop in every district. We embrace that diversity. And we strive to create projects that match the range of issues and conditions in which MPSG members live and work.

In doing so, we're holding firm to the idea that research should be practical but should also stir ideas and challenge pre-conceived notions. It's how progress is achieved.

Now that I'm working for MPSG members, I'll have to refine the choice between wheat or weeds to something like peas-or-portulaca, or, maybe, beans-or-bindweed. Whatever new nuggets of wisdom I'm fortunate to receive, I hope they will continue to guide my decisions in linking science and wisdom in the service of MPSG's efforts to support its grower members. ■

Spring Input Decision-Making: Applying Research to the Farm

The Bean Report
Your source for soybean and pulse crop agronomy and research

Cassandra Tkachuk, MSc, PAg, Production Specialist, MPSG

DO YOU FEEL confident in your spring input decisions? Growing a successful soybean crop involves more than managing spring inputs. But starting your soybean crop off strong in spring is important for success, despite the ability of soybean plants to compensate for growth later on.

There currently exists a range of soybean growers in Manitoba, from brand new to very experienced. Expertise aside, confidence in our ability to grow successful crops stems from an interest to learn more and a willingness to incorporate these findings into management decisions. We have seen a steady output of soybean research results at the university, government and farm levels in Manitoba, in response to the expansion of soybean acres. It is from this continuing flow of research that Manitoba-specific, best management practices are developed. And from which we can add confidence to our decision-making in the spring.

What is the best seeding rate for my soybeans? Should they be single or double inoculated? Is seed treatment necessary and how effective is it? If you are asking these questions, we have data for that in Manitoba.

SEEDING RATE

It is first important to distinguish between target plant population, seeding rate and actual plant population. The target plant population is the number of plants per unit area (plants/ac) that you need to establish in the field for maximized yield and competitive ability against weeds. The seeding rate is the number of seeds per unit area (seeds/ac) that are planted to achieve the target plant population. And finally, the actual plant population is the number of live plants established per unit area (live plants/ac) in the field.

What should your target plant population be for soybeans? Farmers are becoming more interested in reducing seeding rates due to high soybean seed costs. However, crop competitive ability, yield potential and economic return should all be considered in this decision. Research conducted by Dr. Ramona Mohr of Agriculture and Agri-Food Canada (AAFC) determined that 160,000 live plants/ac resulted in maximum soybean yield across 13 site-years in Manitoba. This research has been built into a seeding rate calculator found in the MPSG Bean App to calculate your economic optimum plant population and seeding rate. Most often, the economic optimum ranges from 140,000 to 160,000 plants/ac according to the app, depending on grain price, seed cost and expected yield.

To calculate seeding rate, expected seed survival, or percentage emergence, must be factored in. This means that seeding rates are typically greater than the target plant populations. Seed survival may include seed quality factors such as percentage germination, moisture or seed coat cracks, expected loss from equipment and handling, seedbed conditions and pest pressure. Assessing actual plant population each season and good record-keeping will then give you an indication of accuracy, so you can adjust future seeding rates and save money down the line.

INOCULANT

Many questions surrounding soybean inoculation continue to be asked in Manitoba. Research is currently underway at the University of Manitoba by Dr. Ivan Oresnik, examining the effects of crop rotation and overwintering on the persistence of *Bradyrhizobium japonicum* in Manitoba soils. Preliminary results show that *B. japonicum* populations decline as the number of years without inoculation increase; however, bacterial populations are not reduced to zero. Stay tuned for more results on this project.

Other research results on soybean inoculation are available in Manitoba from the farm-level. An On-Farm Network project was initiated to answer the question: Is double inoculation necessary for fields with a history of soybeans? Only fields with at least a two-year history of soybeans were included in this study, located mainly in the eastern half of Manitoba from 2013 to 2015. Out of 25 site-years collected throughout this project, only two resulted in a significant positive yield response to double inoculation (Figure 1). This means that a significant

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CHECKLIST FOR SINGLE INOCULATION

- ☐ Field has had at least two previous soybean crops
- ☐ Previous soybean crops have nodulated well
- ☐ Most recent soybean crop within the past four years
- ☐ No significant flooding or drought
- ☐ All four above criteria have been met

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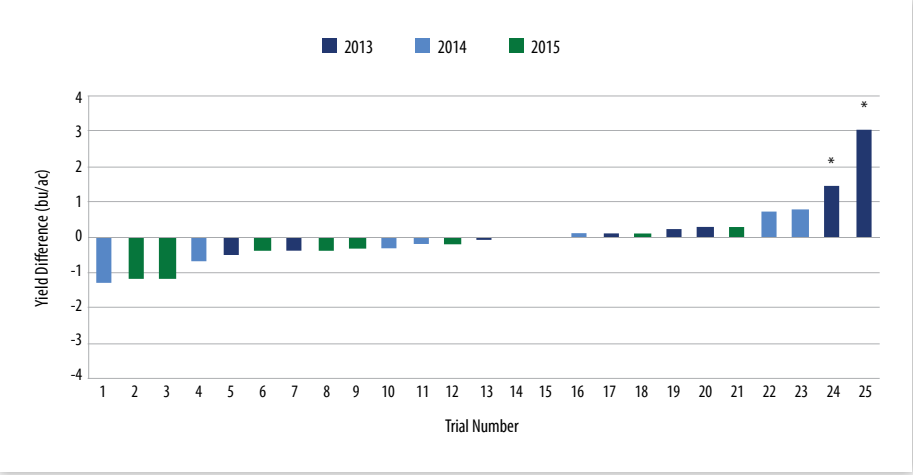
*Figure 1. Soybean yield response to double versus single inoculation across 25 site-years from On-Farm Network research in Manitoba. *Denotes statistical significance.*



yield bump from double inoculation occurred only 8% of the time, compared to single inoculation. This project is planned to continue into western Manitoba, as more fields develop a history of soybeans.

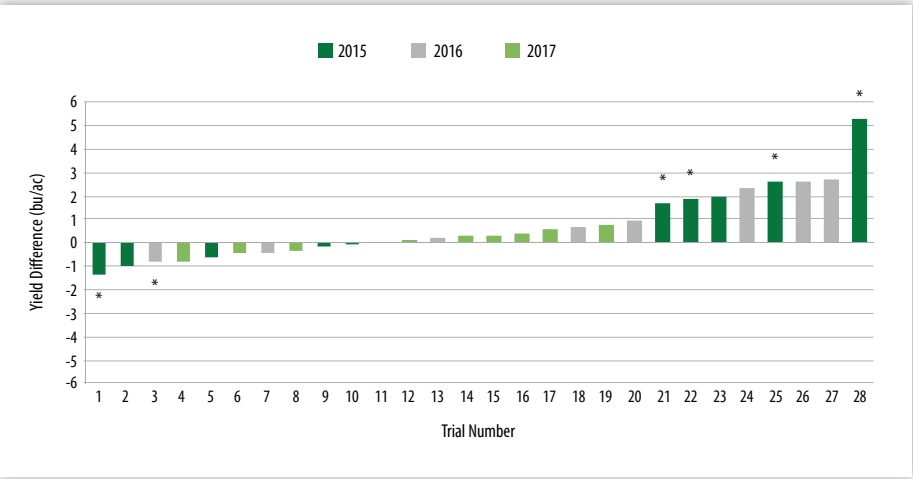
Consider these results and refer to the MPSG *Soybean Fertility Fact Sheet* for recommendations on double versus single inoculation. The single inoculation checklist on the previous page, provides a conservative set of criteria to help guide your decision.

SEED TREATMENT

Seed treatments are an important production tool for protection of fields at an elevated risk of early-season disease and/or insect pests. As the neonicotinoid insecticide component of seed treatment (i.e., thiamethoxam) is under re-evaluation by the PMRA, it is important to ensure responsible use of these products. Further, questions surrounding the need for seed treatment have arisen, including the economic impact and risk of early-season soybean pests in Manitoba.

Research results are available from an On-Farm Network project that examined treated versus untreated soybeans. This project involved a combination of soybean crops that received fungicide plus insecticide or fungicide-only seed treatment. Out of 28 site-years examined from 2015 to 2017, only four resulted in a significant positive soybean yield response to seed treatment (Figure 2). Therefore, seed treatment produced a significant yield bump only 15% of the time. Interestingly, significant responses were seen only in 2015. This suggests that environmental conditions specific to 2015 may have contributed to these responses at select locations.

*Figure 2. Soybean yield response to treated versus untreated seed across 28 site-years from On-Farm Network research in Manitoba. *Denotes statistical significance.*



It is likely that the need for seed treatment may increase over time with increasing pest pressure from frequent soybean production. Therefore, field scouting each year is essential to determine the changing level of risk associated with early-season pests. But over the short term, these On-Farm Network research results should be considered when making spring input decisions.

SUMMARY

Discussed in this article are three examples of spring input decisions faced by soybean growers and the best management practices for each, derived from Manitoba-based research. It is recommended to follow these and other best management practices for improved productivity, profitability, efficiency and sustainability. With more research comes more information added to the pool of knowledge. In some cases, this may change our best management practices. Therefore, it is important to be willing to adapt your management decisions over time with the most current information. For example, MPSG plans to combine soybean plant population research from the University of Manitoba with the research from AAFC.

To learn more about individual sites included in the inoculation and seed treatment projects discussed here, refer to the new On-Farm Network database of single-site research reports found at www.manitobapulse.ca. This easy-to-use database allows you to sort and search for reports according to crop, year, trial type and region. Each report includes field and crop management information as well as individual site results. ■

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The Quest to Maximize Soybean Yield and Profitability in Manitoba

ULTIMATE SOYBEAN CHALLENGE

2017 RESULTS ARE HERE!

THE ULTIMATE SOYBEAN CHALLENGE (USC) was initiated to compare the yield and profitability of three, unique soybean management strategies. The goal of this challenge was not to develop new recommendations, but to serve as a foundation for discussing current, research-based best management practices (BMPs) and how to apply them to the farm.

The USC was located at the Agriculture and Agri-Food Canada research farm in Portage la Prairie. Replicated and randomized treatments were sown on May 24, 2017 across 11 acres, dedicating approximately three acres for each team. This field was deemed appropriate for soybean production based on field history and soil test criteria. The previous crop was tillage radish, which grew as a vigorous volunteer weed in 2017. Other management practices were similar for all teams, including tillage – two passes with a high-speed disc prior to seeding, land rolling immediately after seeding and harvest on October 4, 2017.

The Teams and Their Strategies

TEAM A **Cassandra Tkachuk,** MPSG and **Kristen Podolsky MacMillan**, U of M

Strategy – Follow best management practices to maximize both yield and net return.

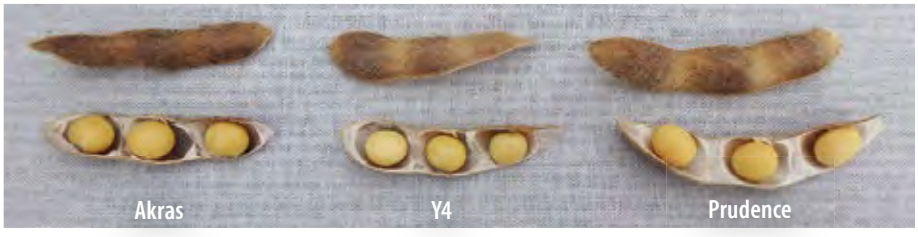
TEAM B **Terry Buss** and **Dennis Lange**, Manitoba Agriculture

Strategy – Maximize yield and net return by reducing the cost of seed and spending more on smaller ticket items.

TEAM C **Curtis Cavers**, AAFC and **John Heard**, Manitoba Agriculture

Strategy – Use novel or alternative management practices to ensure differences in management and maximize yield and net return.

	TEAM A	TEAM B	TEAM C
Variety	Akras R2	S007-Y4	OAC Prudence
Inoculant	Liquid + granular *Cell Tech + Nodulator Granular*	Liquid *Nodulator PRO*	Pea *Nodulator XL*
Seed Treatment	None	Fungicide + insecticide *CruiserMaxx Vibrance + Heads Up Plant Protectant*	Fungicide *EverGol Energy*
Seeding Equipment	Air seeder 9" spacing	Planter 30" spacing	Planter 30" spacing
Seeding Rate (seeds/ac)	190,000	150,000	150,000
Weed Control	2 glyphosate passes	3 glyphosate passes	1 Treflan pass + incorporation 1 rotary hoe pass 6 inter-row cultivator passes 1 Basagran pass
Other	None	Growth hormone *Radiate*	None



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Results

PLANT POPULATION

Soybean plant populations were assessed at the V4 stage in early July. Due to lower seeding rates chosen by Teams B and C, resulting plant stands were much lower than Team A plots. Plant stands were 163,200 plants/ac on average for Team A compared to 60,700 and 60,200 plants/ac on average for Teams B and C, respectively (Table 1).

Team A met the target plant population of 160,000 plants/ac, by factoring expected seed survival into the seeding rate calculation. Actual seed survival (86%) was very close to Team A's prediction. One major contributing factor to reduced seed survival for Teams B and C (40%) was shallow seed depth in dry soil, without timely rains after seeding. It is likely that some seeds germinated then desiccated or did not germinate at all without adequate soil moisture.

NODULATION

Nodulation was assessed at the early R2 stage in mid-July by counting the number of live root nodules/plant on 5 plants/plot. All teams achieved adequate nodulation (>5 nodules per plant), according to research. Results were 14, 7 and 5 nodules/plant on average for Teams A, B and C, respectively. At first glance, we might conclude that double inoculation by Team A resulted in double the nodules. However, there was no significant difference in nodulation between teams. This is likely due to the variability in nodule number across the field. For reduced variability and better accuracy, more nodule counts per plot would have been beneficial.

Overall, double inoculation is still recommended for first-time soybean fields. Refer to the MPSG *Soybean Fertility Fact Sheet* for more information.

POD HEIGHT

Pod height was measured at the R7.5 stage in early September on 10 plants/plot, as the distance from the soil surface to the first pod-bearing node.

Table 1. Summary of Ultimate Soybean Challenge results from 2017.

TEAM	Plant Population (pl/ac)	Seed Survival (%)	Nodulation (nodules/pl)	Pod Height (in)	Yield (bu/ac)
A	163,200	86	14 A	5.4 A	47 A
B	60,700	41	7 A	4.9 A	35 B
C	60,200	40	5 A	4.4 A	24 C

Different letters within a column denote statistically significant differences.

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Table 2. Economic assumptions for the USC profitability comparison, including input and fuel consumption costs, revenue and marginal return over input plus fuel cost.

	TEAM A	TEAM B	TEAM C
Seed	$79.39/ac *$58.50/unit*	$57.86/ac *$54.00/unit*	$31.83/ac *$29.67/unit*
Inoculant	$7.74/ac	$3.60/ac	$3.65/ac
Seed treatment	–	$12.50/ac	$5.64/ac
Herbicide	$8.98/ac	$13.47/ac	$43.92/ac
Fuel for herbicide application	$0.78/ac	$1.17/ac	$0.78/ac
Fuel for in-season tillage	–	–	$16.08/ac
Growth hormone	–	$5.00/ac	–
Total Assumed Cost	**$96.89/ac**	**$93.60/ac**	**$101.90/ac**
Yield	47 bu/ac	35 bu/ac	24 bu/ac
Grain price	$11.50/bu	$11.50/bu	$13.50/bu
Total Assumed Revenue	**$534.75/ac**	**$400.20/ac**	**$288.90/ac**
Marginal return over input + fuel cost ($/ac)	**$437.86/ac**	**$306.60/ac**	**$187.00/ac**

Sources: Ag retail quotes, *Farm Machinery Custom and Rental Rate Guide* 2016/2017

▼ *Soybeans at the R2 stage on July 19, 2017.*

Team A, B and C pod heights were not significantly different at 5.4, 4.9 and 4.4 inches, respectively. Plant spatial arrangement, influenced by plant population, row spacing and other environmental factors, likely played a role in the lowest pod height.

And the winner of the 2017 Ultimate Soybean Challenge is…

TEAM A/BMPs

Crowned the winner in both yield and profitability.

Read on for details.

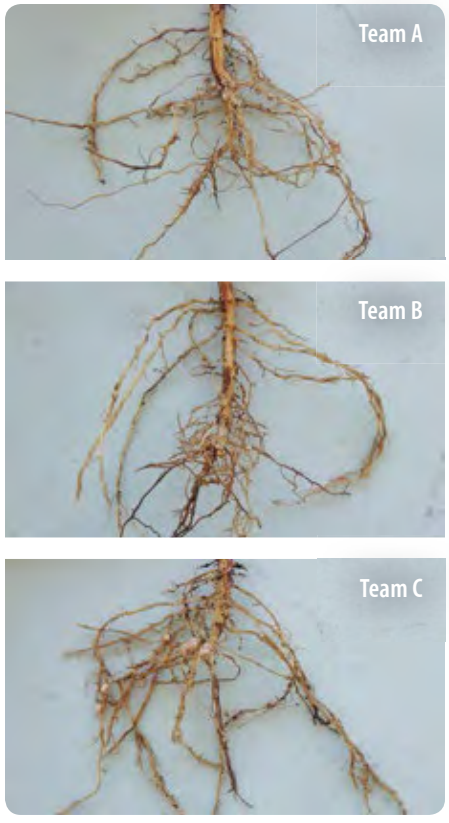
YIELD

Yields weighed in at 47 bu/ac for Team A, 35 bu/ac for Team B and 24 bu/ac for Team C (Table 1). The greatest influencing factors on yield were likely plant population and weed competition. Both Teams B and C had reduced plant populations, but Team C plots also suffered from heavy competition from volunteer tillage radish within rows. Soybeans are relatively poor competitors against weeds. Coupled with reduced plant populations, yields can take a big hit. The big lesson from the Ultimate Soybean Challenge? Follow your BMPs and get your soybean crop off to a good start.

PROFITABILITY

Several economic assumptions were made to compare the profitability of each team (Table 2). These assumptions were based on quotes from ag retails and the Farm Machinery Custom and Rental Rate Guide. The cost of fuel consumption from weed control was included in this comparison, due to the number of passes required for inter-row cultivation. In the end, $/ac costs were similar for all teams (Table 2). Revenue assumptions included yield and expected grain price ($11.50/bu for Teams A and B, $13.50/bu for Team C assuming a $2.00/bu premium for organic marketing. However, the overall marginal return over input plus fuel cost (i.e., profitability) differences came down to yield, leaving Team A and BMPs the winner in both categories! ■

▼ *Nodulation at the R2 stage on soybean roots from Team A, B and C plots (top to bottom).*



Yield and Maturity of Late-Seeded Soybean in Manitoba

Kristen Podolsky MacMillan, MSc, PAg, Research Agronomist, University of Manitoba

HOW LATE CAN soybeans be planted in Manitoba? Many of you are probably more curious about how early we can plant soybeans? Rest assured, that work is being done too. The purpose of this project, however, was to evaluate the late extent of the soybean seeding window. Soybean seeding deadlines have not been reviewed since 2005, and a lot has changed in that time. In 2012, only four out of 52 varieties tested in Manitoba would be considered early or short season, maturing in <115 days. Today, nearly half of the 80+ soybean varieties tested are short season. This has been important for soybean expansion in northern and western Manitoba but also presents the question of how these early maturing soybeans can be utilized when seeding is delayed in spring?

From 2015–2017, three soybean varieties (very early, early and mid-season) were planted in three seeding windows (late May, early June, mid-June) at Arborg, Portage and Morden. These locations vary in growing season and latitude and also represent three distinct insurance areas. The seeding dates tested ranged from May 24 to June 24. To evaluate the potential of late-seeded soybeans, data was collected on plant population, plant height, plant productivity, maturity, yield and seed quality. In regards to decision-making, yield and maturity are the most important variables and are presented here.

Soybean maturity (R8) is presented as days + or – the normal first fall frost date (-2°C). At Portage and Morden, this date is September 25 and in Arborg is September 23. Therefore, if the number is <0, the soybeans matured before the fall frost date and if the number is >0, soybean maturity occurred after the normal fall frost date (= higher risk). All the main factors (seeding date, site-year, variety) significantly affected soybean maturity, in an expected way. Site-year accounted for the majority of the total variation observed and the effect of seeding date sometimes varied by site-year (Figure 1). At both Portage site-years, soybeans matured within at least one day of the normal frost date regardless of seeding date. At Morden in 2017, all soybeans matured prior to the normal frost date but in 2016, late- and very late-seeded soybeans matured beyond the normal frost date, which can be explained by delayed seeding. As expected, Arborg showed the highest risk with seeding soybeans late; soybeans there matured 5+ days after the normal frost date and at Arborg in 2017, two of the varieties planted at the very late seeding date did not mature.

Yield of soybeans was most strongly affected by site-year, and ranged from 24–53 bu/ac. The effect of seeding date and variety on yield sometimes

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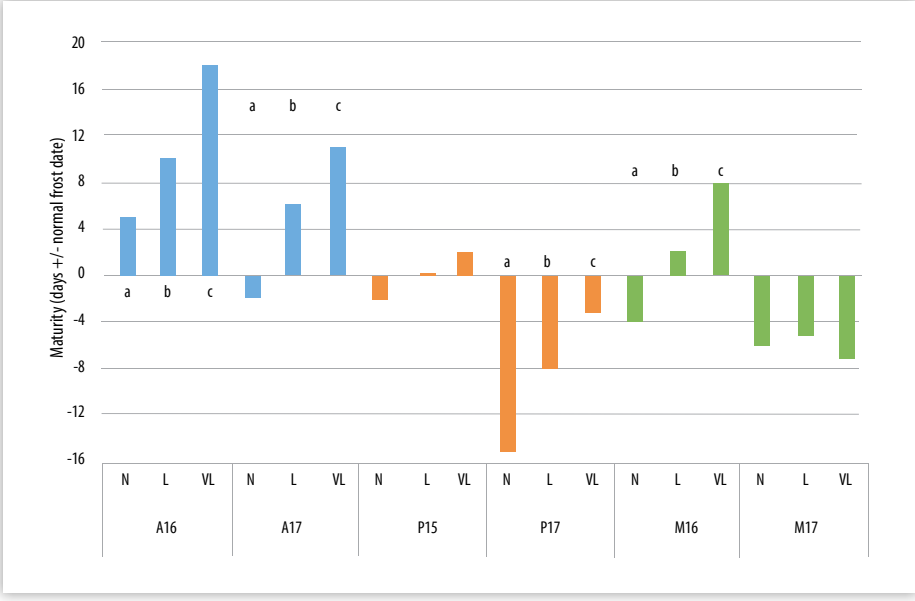
Figure 1: Soybean maturity by seeding date (N = normal, L = late, VL = very late) within site-year (Arborg, Portage and Morden 2015 – 2017). Seeding date means within site-year followed by the same letter are not significantly different (p<0.05).



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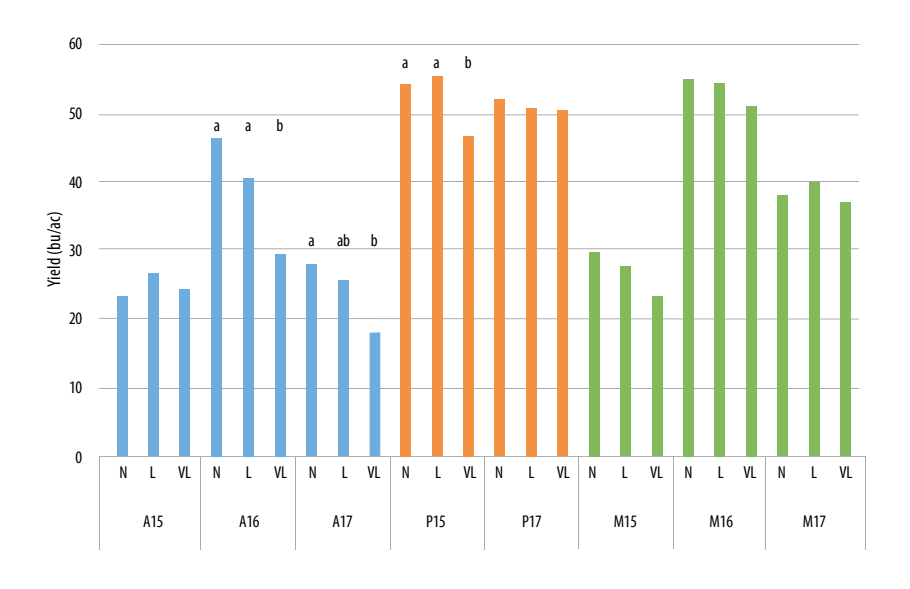
varied by site-year. Overall, the very early variety and very late seeding date tended to reduce yield. Historically, seeding dates and deadlines have considered 80% yield potential an acceptable benchmark. In other words, can late seeded soybeans maintain 80% yield potential compared to a normal seeding date? To answer this question, we explore the effect of seeding date within site-years (Figure 2). Soybean yield across seeding dates was statistically similar at most site-years, except Arborg in 2016 and 2017, where soybean yield at the very late planting date was reduced to <80% of the normal planting date. Yield was reduced with very late seeding at Portage in 2015 as well, but maintained 84% yield potential compared to the normal seeding date.

▼ *Figure 2. Soybean yield by seeding date (N = normal, L = late, VL = very late) within site-year (Arborg, Portage and Morden 2015 – 2017). Seeding date means within site-year followed by the same letter are not significantly different (p>0.05).*



In summary, based on soybean maturity and yield potential, Portage and Morden site-years demonstrate good yield potential and little risk for seeding soybeans up to about June 12. At Arborg, seeding soybeans beyond June 6, we typically saw a decline in yield potential and increased risk for not reaching maturity. Although variety did not account for a large portion of the total variance observed, the varieties each differed in maturity by four days, and a significant interaction with site-year suggests that risk can be mitigated with appropriate variety selection when soybeans are seeded late. An additional note of interest is the soybean yield from the latest seeding dates (June 20–24) tested in this study were 23–51 bu/ac, despite maturing beyond the normal frost date.

The results of this research project will be submitted to MASC to support a review of soybean seeding deadlines. By reviewing the late extent of seeding soybeans in Manitoba, opportunities for cover crops and fall cash crops can also be explored, and crop phenology and productivity data that was collected will provide new insight for soybean production in western Canada. ■

Funding for this project was provided by Growing Forward 2 and Manitoba Pulse & Soybean Growers.

▼ *Soybeans seeded May 25, June 1 and June 9 (L – R) in Portage, picture showing maturity on September 18, 2017.*

▼ *Soybeans seeded June 6, June 13 and June 20 (L – R) in Arborg, picture showing maturity on September 26, 2017.*

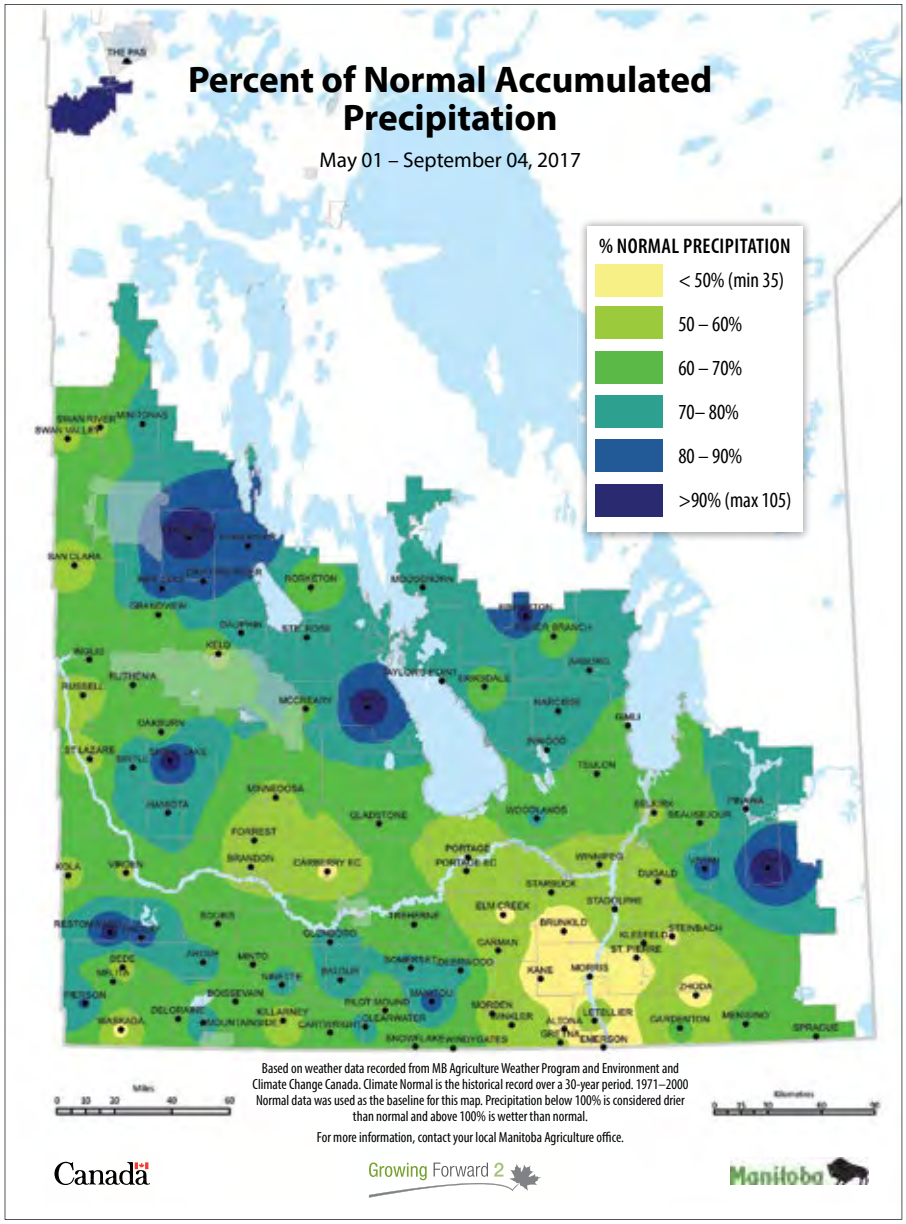
Wetting from the Bottom: A Lesson from the 2017 Growing Season

Timi Ojo, Ag Meteorology Specialist, Manitoba Agriculture

WATER AVAILABILITY IS one of the main factors that determine crop yield. However, the amount of precipitation received during a typical growing season in Manitoba does not often meet crop water demands. Longer season crops like soybean and grain corn face a larger crop-water deficit risk than shorter season crops due to higher crop water requirement. Soybean requires about 400–500 mm (16–20 inches) of water and corn requires 500–600 mm (20–24 inches), depending on the maturity group, planting date and environmental conditions. In contrast, shorter season crops like spring wheat require 300–400 mm (12–16 inches).

The climate normal precipitation from May to September for most agro-Manitoba regions is between 300–350 mm (12–14 inches), which results in seasonal water deficit with the risk being more acute for longer season crops. Climate normal is the historical average weather condition of an area over a 30-year period. The 2017 growing season precipitation was generally below

▼ *Figure 1: May 01 – Sept 04, 2017 map showing the Percent of Normal Accumulated Precipitation.*



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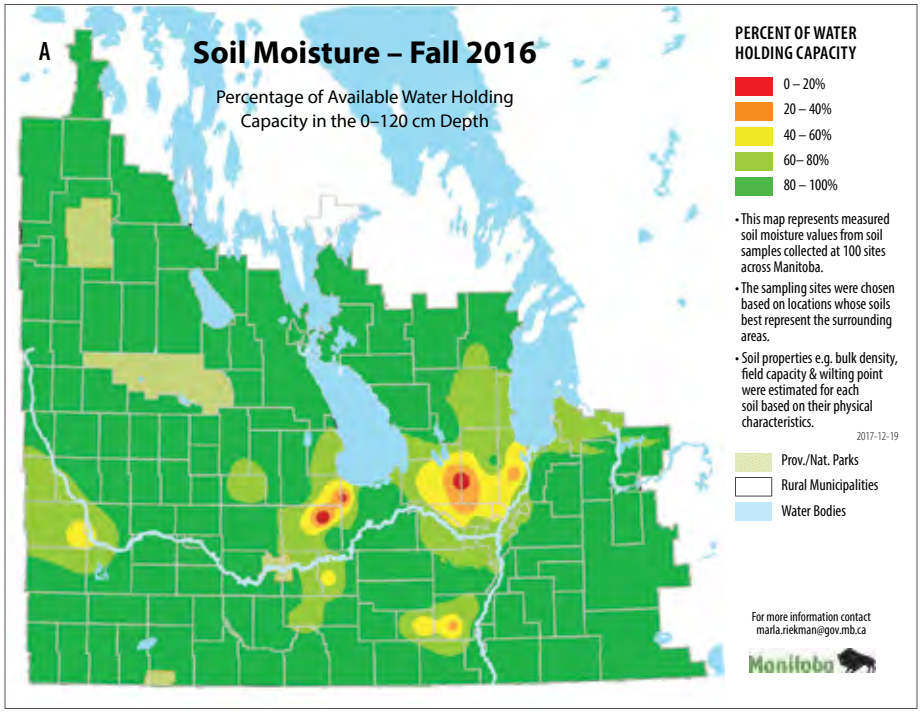
normal, especially the months of July and August. About two-thirds of agro-Manitoba had less than 70% of normal precipitation and areas around the Red River received less than half of historical precipitation (Figure 1). The 3-inch rainfall received mid-September was a little too late to improve crop yield.

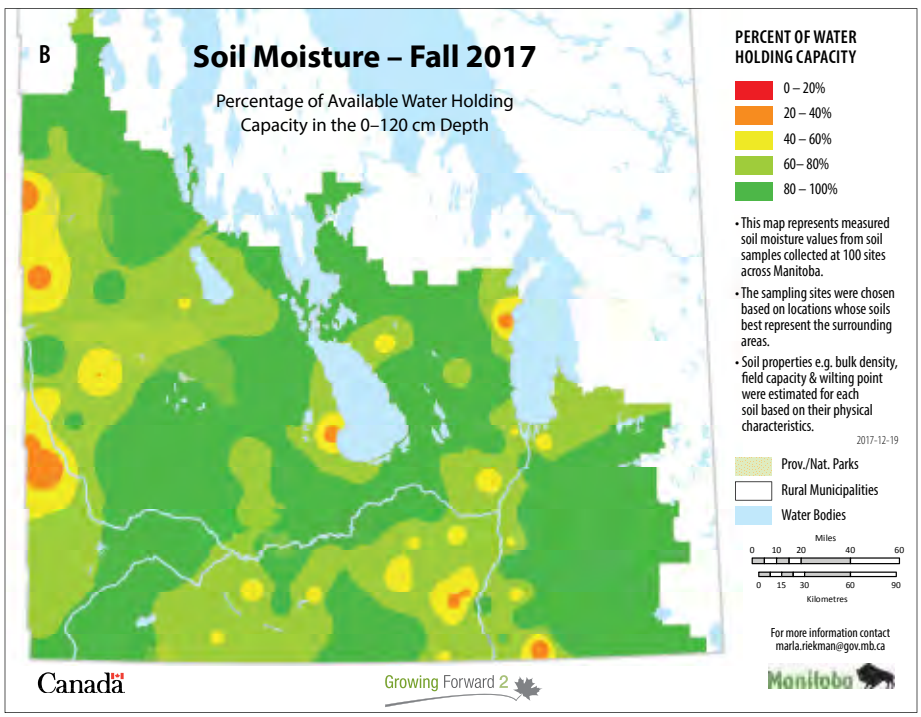
In addition to the growing season precipitation, the amount of moisture held in the soil from the previous fall contributes to the water available for plant use. Like a soaked sponge, the soil is at saturation level when the pore spaces are completely filled with water. This water can drain from the soil under the force of gravity. Field capacity is the maximum amount of water the soil can hold once drainage ceases and the permanent wilting point is the moisture content that the soil holds tightly and is unavailable to plants, causing the plants to wilt. The soil water that is held between field capacity and the wilting point is the plant available water holding capacity. The water holding capacity of Manitoba sand, loam and clay soils are about 100, 246 and 314 mm of water/120 cm of soil (1, 2.46 and 3.14 inches of water per foot of soil), respectively.[1]

Manitoba Agriculture conducts an annual soil moisture survey at about 100 locations across agro-Manitoba prior to soil freeze-up each fall. The fall 2017 map showed that only half of the areas in agro-Manitoba had percent of water holding capacity between 80–100% compared to the fall 2016 map that showed much wetter conditions. The soil moisture maps prior to soil freeze-up from 2004 are available at *gov.mb.ca/agriculture/environment/soil-management/manitoba-fall-soil-moisture-survey.html*.

There is no doubt that the 2017 crops benefitted from the high soil moisture reserve from 2016, especially during the early part of the growing season. However, as the season progressed, crop water demand exceeded supply from both precipitation and soil moisture storage from the previous fall. One of the main reasons for the difference in soybean yield (provincially lower than average) and corn yield (provincially higher than average) in 2017 could be that the corn's tap-root system was able to use groundwater.

▼ *Figure 2: Fall Soil Moisture Survey conducted late October/early November (a) 2016 and (b) 2017.*





Groundwater levels in Manitoba started to increase approximately in 2005 and have been on a high cycle since the turn of the decade (Figure 3). This pattern is similar to that for aquifers monitored in Saskatchewan[2] and appear to represent a widespread hydrological trend on the prairies. At the Oak Lake monitoring well located west of Souris, MB, the fall 2016 level going into 2017 was at one of the highest levels ever recorded in 50 years

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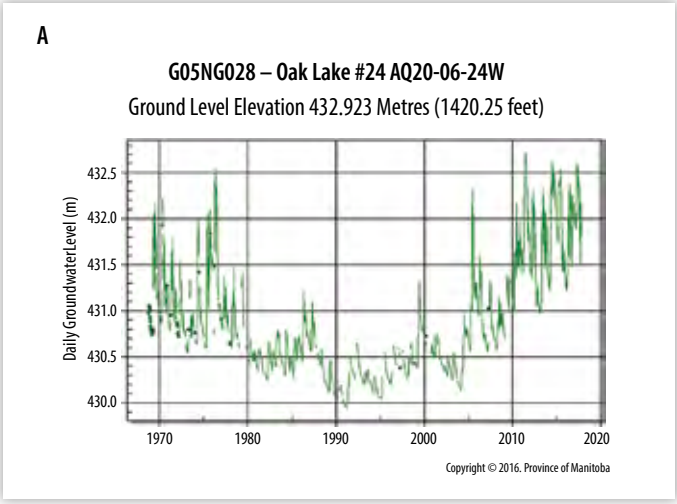
▼ *Figure 3: Groundwater level trends from (a) 1968 – 2017 and (b) 2009 – 2017. Note the difference in scale.*



(Figure 3a). When the soil in the root zone is dry, high groundwater can become a source of crop water to wet the dry soil above it. Clay loam soils with smaller pore spaces can draw up groundwater from greater depth via capillary action than in sandy soils with larger pores. In a year when wetting the soil from the surface was not sufficient to meet crop water demand, wetting from the bottom was likely a factor that helped to minimize the yield loss that could have been experienced in Manitoba.

As for what the 2018 growing season will bring, we know that fall 2017 soil moisture levels were less than we had in 2016 and groundwater levels were also slightly lower heading into 2018 compared to the same time in 2017. For the sake of good crop yields, let us hope for better precipitation in 2018, not just in the amount but the timing, intensity and duration.

The province of Manitoba continues to increase weather monitoring across the region with thirty-one newly installed weather stations in 2017 to bring the network up to 109 weather stations. All the new stations have soil moisture and soil temperature sensors buried at 5, 20, 50 and 100 cm depths. Manitoba is one of the few provinces that automates the monitoring of root-zone soil moisture and will use the data from these sensors to estimate crop water balance. Manitoba Agriculture has recently released an online map viewer designed to provide current weather data across the agricultural regions of the province at a glance. The map viewer can be used on any computer, tablet or mobile device and it updates weather information on an hourly basis to display air temperature, relative humidity, average wind speed and direction, maximum wind speed, rainfall (past hour and since midnight), solar radiation and soil temperature (at 5 and 20 cm). The weather map viewer can be found at: *manitoba.ca/agrimaps*. ■

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Photo: Jordan Bannerman

Can Soybean Seed Treatments Protect Against Soybean Aphid in Manitoba?

Dr. Alejandro Costamagna, Department of Entomology, University of Manitoba

SOYBEAN APHIDS, *Aphis glycines*, are an exotic species that can cause population outbreaks resulting in severe yield losses in North America. In Manitoba, sporadic outbreaks requiring foliar insecticide applications to protect yield were observed in 2006, 2008, 2011 and 2017. A common question from producers is whether soybean insecticide-treated seeds provide protection against aphid outbreak in soybeans. Several years of research in the upper Midwestern USA suggest that little, if any, protection from aphids will be provided by seed treatments and the use of this method of control is discouraged.[1]

The primary reason for this is that the concentration of neonicotinoid toxins in the plant tissues decreases to ineffective levels before soybean aphid populations occur in the field. Moreover, soybean aphids tend to arrive later to soybean fields in Manitoba than in the Midwestern USA, as they are unlikely to survive winter conditions in the province. In Manitoba, soybean aphids are usually detected for the first time in the season between mid-July and mid-August, when soybean plants are well beyond the V2 stage at which neonicotinoid seed treatments are still active. Recent results of field experiments performed by Krupke et al.[2] in Indiana, Iowa, Wisconsin, Minnesota, South Dakota and North Dakota, showed no difference in the concentration of the neonicotinoid thiamethoxam in the leaves of seed-treated versus untreated soybeans at the V2 growth stage. Their results are just another corroboration of previous results from field experiments conducted in South Dakota,[3] Iowa,[4] and various states with standardized research protocols that suggest that the best integrated pest management strategy for soybean aphids is to scout fields and apply foliar insecticides to control populations only if they reach the economic threshold level of 250 aphids per plant. This means more than 80% of the plants infested and growing aphid populations. An even better alternative is to combine plant resistance with the scouting technique mentioned above, but soybean aphid resistant varieties are not yet available in Manitoba.

There are several disadvantages of utilizing insecticide-treated seed in an attempt to mitigate injury from soybean aphids. First, the economic cost of the seed treatment is not recovered by the producer, since there is no measurable yield gain. In addition to the research already mentioned in the USA,[2, 4-5] studies conducted in 18 replicated Manitoba On-Farm Network strip trials during 2015 and 2016 also support this conclusion. Second, the widespread use of insecticide-treated seed will eventually lead to the selection of insecticide-resistant aphid populations, preventing the use of these type of insecticides in foliar applications. Resistance of soybean aphid against pyrethroid insecticides has now been reported in the upper Midwestern USA, highlighting the importance of employing insecticide resistance management practices that minimize misuse of insecticides. Third, the use of neonicotinoid seed treatments has been associated with a decrease in the abundance of beneficial insects, including predators of soybean aphid, which may lead to a reduction in aphid natural control and an increased chance of aphid outbreaks later in the season.

In summary, the use of insecticide-treated seeds in soybean production should be limited to cases in which pests that are controlled by them, such as wireworms and seedcorn maggot, have been historically present in the field. The use of insecticide-treated seeds as a preventative measure against soybean aphid is not economically or biologically effective, particularly in Manitoba. ■

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Weed Management for Long-Term Sustainability of Soybean in Manitoba

Jon Rosset, M. Sc. Student and Dr. Rob Gulden, University of Manitoba

SOYBEANS HAVE BEEN widely adopted by Manitoba producers and are also making in-roads into Saskatchewan and Alberta. As local recommendations are being developed, production practices from regions where soybean are the break crop from corn production are being used in Manitoba. However, in all regions where Roundup Ready (RR) soybean production is high and corn-based management practices such as wide-row spacing have been used extensively, serious herbicide resistance problems are common, making weed management difficult and costing producers money.

Soybean, like most other legumes, are sensitive to many herbicides and only a limited number of herbicide modes of action may be used (specifically groups 1, 2, 6 and 14). In traditional soybean growing areas, high reliance on these herbicides has led to the development of weeds resistant to many of these herbicides. This has been particularly problematic where, prior to the introduction of RR soybean 20 years ago, herbicide resistance to other modes of action had already become a serious production issue. RR soybean provided a solution to these resistance issues. Glyphosate's high efficacy and simplicity resulted in the rapid adoption of RR production systems. As glyphosate is not a residual herbicide and soybeans are slow growing, multiple in-crop applications are necessary to prevent yield loss from weeds. Unfortunately, repeated use of the same single herbicide mode of action throughout the growing season imposes the highest selection pressure for development of resistant weeds. In response to such high selection pressure in RR soybean, weeds such as ragweed and other species have developed resistance to glyphosate in as few as four years.

In Minnesota and North Dakota, five glyphosate-resistant weed species (giant ragweed, common ragweed, tall waterhemp, Canada fleabane and kochia) have developed over the last 10 years. The same has occurred in Ontario, with the exception of kochia, since it is not present there. These weeds are often also resistant to other herbicide modes of action and, in some cases, they can no longer be controlled with herbicides in soybean. As an example, tall waterhemp in Illinois is resistant to five different modes of action. This weed now occurs at densities of several thousand seedlings per square metre in some farmers' fields with no remaining herbicide options for control in soybean. No new herbicides to deal with this problem are on the horizon.

Corn-based management practices and the assumption that herbicides alone will provide all necessary weed management have contributed to this rapid development of herbicide resistance in soybean and other legume crops. These practices include wide-row spacing, reduced planting densities and varieties with unknown competitive potential, all of which make soybean less competitive. If western Canadian producers choose to adopt the same management practices, we should not expect a different outcome. In fact, glyphosate-resistant kochia was first discovered in Manitoba in wide-row production systems three years ago. To prevent this, the main question we are addressing with this research is the following – *Can we improve the competitive ability of soybean enough to eliminate the need for additional in-crop herbicide applications?* – This project aims to reduce the risk of developing more glyphosate-resistant weeds in Manitoba so that soybean remains a viable crop option over the long term.

To answer this question, we examined whether the critical weed-free period in soybean can be shortened using three different cultural weed management tools (row spacing, crop density and choice of variety). An earlier end to the critical weed-free period in soybean will reduce the number of in-crop herbicide applications required to prevent yield loss, thereby greatly reducing the risk

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for development of herbicide resistant weeds. Using simple management practices that make the crop more competitive with weeds should go a long way towards accomplishing this.

This research was conducted over two years at three locations. During the 2016 and 2017 growing seasons, experiments were conducted at sites representing the Red River valley, west-central Manitoba, and the northeastern regions of southern Manitoba. The base treatment for all experiments were Dekalb 23-60 soybean in 15" rows at a target density of 180,000 plants/ac. The target density experiment determined the end of the critical weed-free period at lower (0.75x = 135,000 plants/ac) and higher (1.5x = 270,000 plants/ac) target densities. The row spacing experiment compared Dekalb 23-60 at 180,000 plants/ac in narrow (7.5") and wide (30") rows. The variety comparison study examined two additional varieties (DKB22-60 and DKB24-10).

ROW SPACING

Row spacing, target density and choice of variety all affected the end of the critical weed-free period in soybean to varying degrees. Of the three cultural practices, reducing soybean row spacing had the greatest and most consistent effect on shortening the critical weed-free period. At five of the six site-years and across a broad spectrum of weed densities and species composition, the critical weed-free period ended earlier in narrow-row plantings (Fig. 1a). In fact, narrow-row soybean never required more than one in-crop application of glyphosate to limit yield losses to less than 10%. In four of six cases, an in-crop herbicide application was not even necessary if 10% yield loss was acceptable. Relying on pre-seed herbicide applications alone greatly lowers the risk of developing herbicide resistance as only a small portion of the total weed seedlings emerging during that season are exposed to the pre-seed glyphosate application. Narrow-row spacing shortened the soybean weed-free period by up to three development stages compared with wide-row spacing. This technique was particularly effective at moderate to heavy weed pressures.

TARGET STAND DENSITIES

Decreasing soybean target densities below 180,000 plants/ac lengthened the critical weed-free period in many instances, while increasing soybean target densities to 270,000 plants/ac generally had little effect on the end of the critical weed-free period, (Fig. 1b). Soybeans clearly were more sensitive to yield loss from weeds at lower densities and provided little biological

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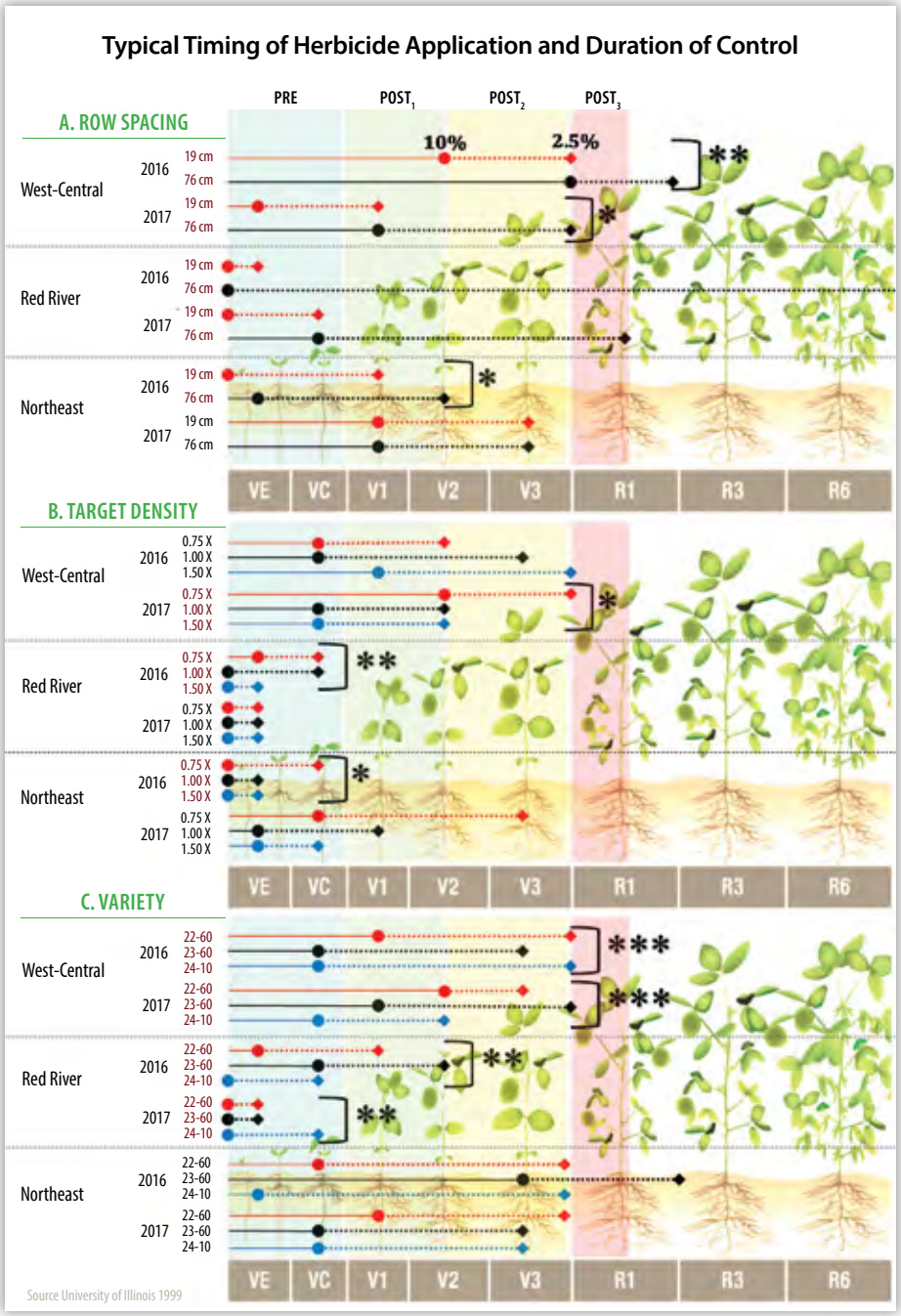
*Figure 1. End of the weed-free period (WFP) in soybean for row spacing, target density, and variety at each site-year. Solid lines represent the end of the WFP at 10% acceptable yield loss while dotted line extensions represent the end of the CWFP at a 2.5% acceptable yield loss. Shaded, coloured areas (PRE, POST1 – POST3) indicate the typical timing of herbicide applications and duration of weed management assuming limited residual activity. Significant differences within sites-years are indicated (p-value: * <0.05, ** < 0.01, *** <0.001).*



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insurance to yield protection at these densities. In these experiments, the highest density soybean stands yielded three bushels more on average than the lowest stand densities under weed-free conditions. The target density effect was less pronounced than the row spacing effect but occasionally contributed to fewer necessary in-crop herbicide applications. These results demonstrate that reductions in target densities below 180,000 plants/ac may lead to additional in-crop herbicide requirements.

VARIETY

Choosing the right soybean variety for the growing environment also plays an important role in reducing the number of in-crop herbicide applications required to limit yield losses (Fig. 1c). At the west-central location, the taller-statured Dekalb 23-60 and the mid-height Dekalb 24-10 soybean varieties had shorter critical weed-free periods than the short, and therefore presumably less competitive, Dekalb 22-60. At both the Red River and northeastern sites in 2016, Dekalb 23-60 had a longer weed-free period than the other varieties. In 2017, Dekalb 24-10 had a longer critical weed-free period in the Red River valley while at the north-eastern location Dekalb 22-60 tended to have a longer critical weed-free period. Choice of variety lengthened the critical period by up to two developmental stages requiring at least one additional herbicide application. The variety effect however, was difficult to predict, likely related to differences in growing season environment and weed pressure, and requires further investigation.

SUMMARY

In these experiments, soybean responded well to cultural weed management practices. Narrowing the row spacing, maintaining adequate soybean stand densities and growing a locally more competitive variety all contributed to reducing the duration of the critical weed-free period. This led to significant reduction in the number of in-crop herbicide applications required to limit yield losses due to weeds. Individually, using these tools reduced the risk of developing herbicide resistant weeds in soybean and reduced herbicide costs. Their efficacy could be improved even more when used in combination, as these tools tend to act synergistically. ■

DATES TO REMEMBER 2018

- **CANOLAB / SOYLAB**
  March 14 *Assiniboine Community College Brandon, MB*
  March 15 *Credit Union Place, Dauphin, MB*
- **Great Tastes of Manitoba**
  March 24 *Pulses. Protein. Power.*
- **SMART Day**
  July 18 *Location TBA*
- **Cropsapalooza**
  July 25 *Portage la Prairie, MB*

2017 Survey of Soybean Root Rot in Manitoba

Dr. Debra McLaren,[1] Holly Derksen,[2] Dr. Robert Conner,[3] Yong Min Kim,[1] Waldo Penner[3]

[1]Brandon Research and Development Centre, Agriculture and Agri-Food Canada,[2] Manitoba Agriculture,
[3]Morden Research and Development Centre, Agriculture and Agri-Food Canada

SOYBEANS ARE A relatively new crop to western Canada, and many of the root diseases that are prevalent in traditional soybean growing areas of the country are just starting to appear here in Manitoba. Throughout Canada, new root diseases of soybeans continue to emerge and spread. Additionally, pathogens that cause persistent diseases continue to evolve in response to the development of control measures implemented by growers. For these reasons, it is vital that the prevalence and severity of the different root diseases be monitored throughout the soybean production areas of Manitoba in a systematic way.

Soybean production continues to increase in Manitoba with 2.3 million acres (930,800 ha) seeded in 2017 – this represents the tenth consecutive annual increase in soybean production in the province. Root rot is a serious constraint in other areas of Canada where soybean production has been well-established and this disease complex is becoming more of an issue in Manitoba as soybean production continues to expand.

In 2017, soybean crops were surveyed for root diseases at 106 different field locations in Manitoba. Randomly chosen fields were selected for the survey. This year the survey was expanded beyond the south-central and southwestern regions of Manitoba to include fields from non-traditional soybean areas into which the crop is expanding. The survey of root diseases was conducted during mid- to late-July when most plants were at the early pod stage. At least ten plants were sampled by uprooting them at each of three random sites in each field surveyed. Root diseases were rated on a scale of 0 (no disease) to 9 (death of plant) for all 106 fields. In 40 soybean fields, 15 symptomatic roots were collected for fungal isolation and identification and fifteen additional roots were frozen for future PCR analysis of root rot pathogens. The same 40 fields were re-assessed for Phytophthora rot in mid-August when most plants were at the pod yellowing (R7) stage. An additional 49 fields were also included in the Phytophthora survey with samples collected by staff at Manitoba Agriculture, MPSG, Brandon University and the U of M. Approximately 360 stems were placed on different selective media to identify the *Phytophthora* spp. infecting them based on morphological characteristics. Tissue samples from symptomatic plants also were frozen for molecular detection of pathogens at a later date.

Root rot was observed in all 106 soybean crops surveyed in July 2017 with root rot severity ratings that ranged from 1.2 to 8.0 with a mean of 4.2. Sixty-three crops (59%) had average root rot severity ratings above 4 (i.e., symptoms were present on 50% of the root system and plants were stunted). An average severity rating above 4 is believed to have a detrimental effect on yield. The microorganisms most frequently isolated from roots of infected plants (Figure 1) from the 40 soybean fields belonged to *Fusarium* spp. Rhizoctonia root rot (*Rhizoctonia solani*) was not confirmed in any of these 40 crops surveyed in 2017. The low or lack of recovery of *R. solani* in recent years suggests that this fungus may not be as important a root rot pathogen of soybean as are *Fusarium* spp. in Manitoba, in contrast with other regions in western Canada. Pythium root rot was not detected in any of the 40 soybean crops surveyed in 2017 either.

Phytophthora rot, caused by *Phytophthora sojae*, was identified in

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▶ *Figure 1. Soybean roots infected with* Fusarium *species (R) compared with roots from a disease-free control (L).*

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▼ *Figure 2. Phytophthora root rot in a soybean field.*

▼ *Figure 3. Phytophthora rot symptoms on the stem of a soybean plant.*

28% (11/40) of fields surveyed in mid-August (Figure 2). Each symptomatic plant that was positive for *P. sojae* had a discoloured taproot with lesions that progressed up the stem (Figure 3). Plant samples were also obtained from the additional 49 fields, and *P. sojae* was identified in 41% (20/49) of these fields. A total of 35% (31/89) of Manitoba soybean fields were positive for the presence of Phytophthora rot. Molecular detection methods confirmed the presence of *P. sojae* from these surveyed crops. A program to pathotype isolates of *P. sojae* for their virulence has been established at AAFC-Brandon and AAFC-Morden. This work on race identification is ongoing.

New information about the distribution and abundance of these root pathogens will result in future benefits to growers in the deployment of available resistant soybean varieties and appropriate crop rotations. This also will allow breeders to target resistance towards the known genetic races of the pathogen. With the changes in pathogen genetics and distribution of these pathogens, it is increasingly more important to continually monitor root diseases for their severity and geographic range to implement suitable and sustainable control measures. ■

2017 Soybean Acres by Municipality

20 0 20 Kilometers

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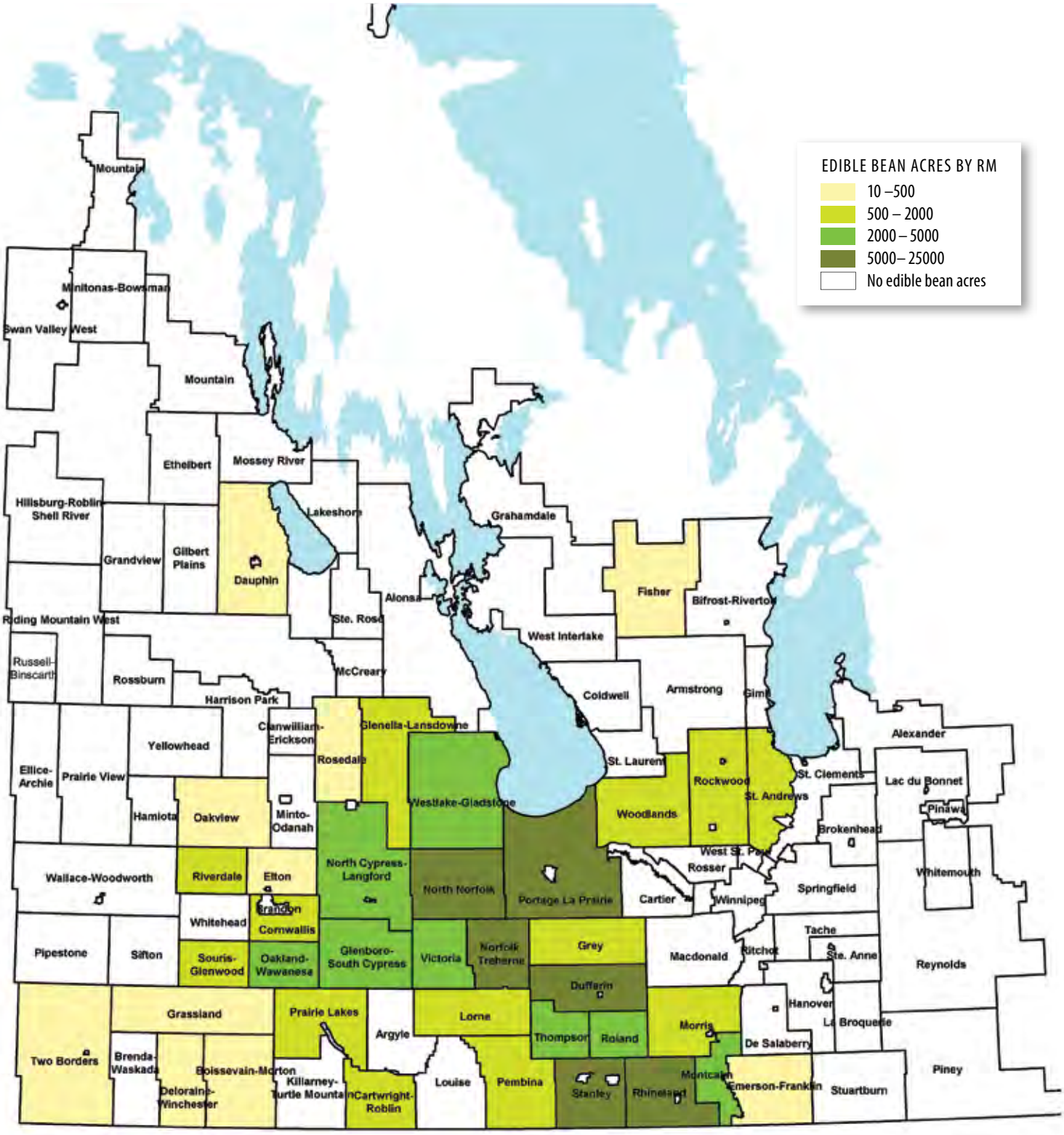
MANITOBA Pulse Soybean GROWERS

N W E S

2017-02-01

Data Source: MASC Crop Insurance

2017 Edible Bean Acres by Municipality



20 0 20 Kilometers

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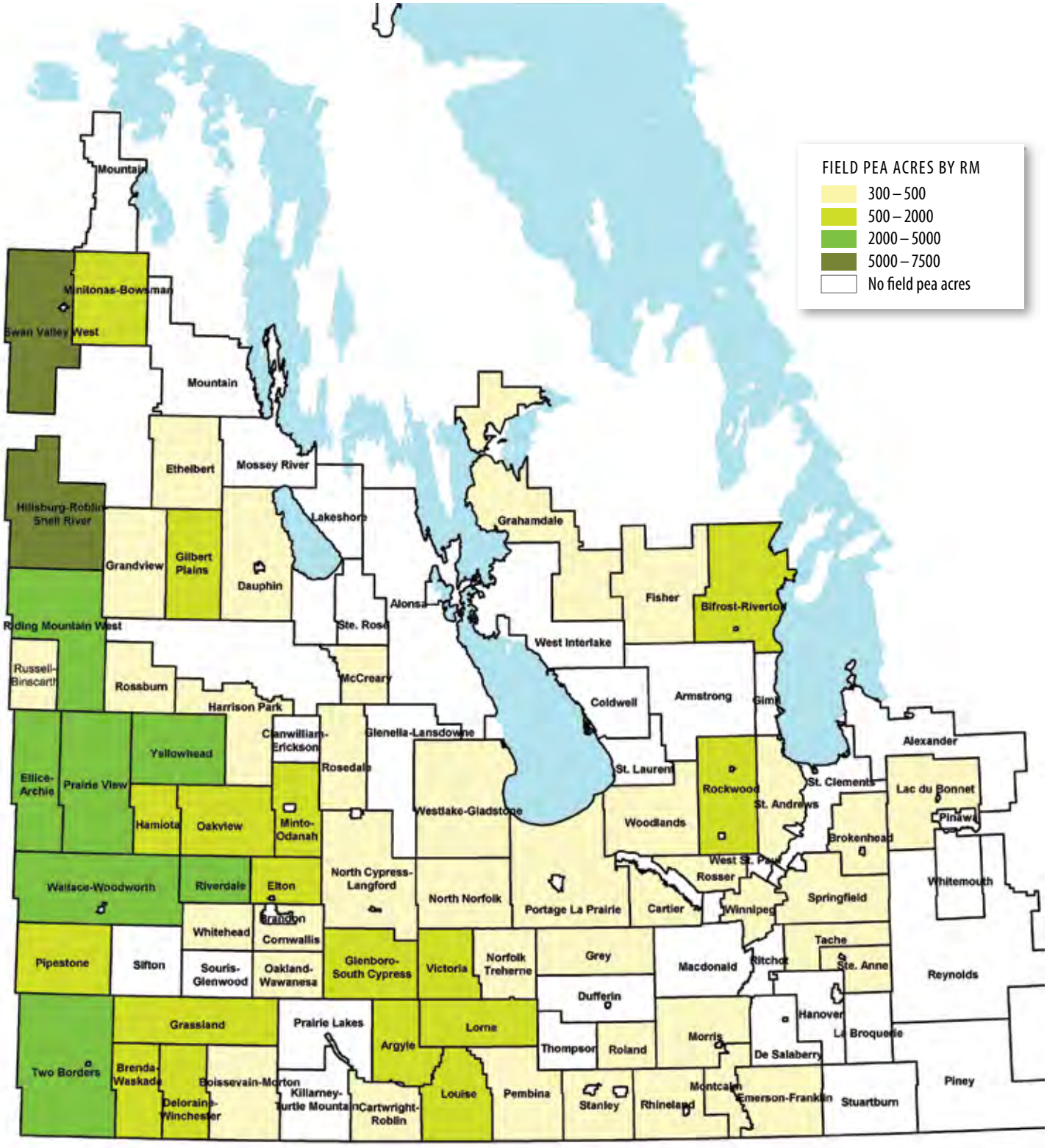
MANITOBA Pulse Soybean GROWERS

N W E S

2018-01-29

Data Source: MASC Crop Insurance

2017 Field Pea Acres by Municipality



MANITOBA Pulse Soybean GROWERS

2017-02-01

Data Source: MASC Crop Insurance

Manitoba Pulse & Soybean Buyer List – March 2018

COMPANY	EDIBLE BEANS	FABA BEANS	LENTILS	PEAS	SOYBEANS	PHONE	LOCATION	CGC REGULATED
Agri-Tel Grain Ltd.				✓	✓	204-268-1415	Beausejour, MB	✓
AGT Foods	✓		✓	✓	✓	306-525-4490	Regina, SK	✓
• SaskCan Pulse Trading – Parent Division	✓		✓	✓	✓	204-737-2625	St. Joseph, MB	✓
All Commodities			✓	✓		204-339-8001	Winnipeg, MB	✓
B.P. & Sons Grain and Storage Inc.					✓	204-822-4815	Morden, MB	✓
Belle Pulses Ltd.				✓		306-423-5202	Bellevue, SK	✓
Besco Grain Ltd.	✓	✓	✓	✓	✓	204-745-3662	Carman, MB	✓
Best Cooking Pulses Inc.			✓	✓		204-857-4451	Portage la Prairie, MB	✓
Brett-Young Seeds				✓	✓	204-261-7932	Winnipeg, MB	
BroadGrain Commodities Inc.	✓	✓	✓	✓	✓	416-504-0070	Toronto, ON	✓
C.B. Constantini				✓		604-669-1212	Vancouver, BC	✓
Canadian Grain Inc.	✓	✓	✓	✓	✓	905-257-6200	Oakville, ON	✓
Cargill Ltd.				✓	✓	204-947-6219	Winnipeg, MB	✓
Delmar Commodities				✓	✓	204-331-3696	Winkler, MB	✓
Farmer Direct Co-operative Ltd.	✓	✓	✓	✓		306-352-2444	Regina, SK	
Fill-More Seeds Inc.			✓	✓		306-722-3353	Filmore, SK	✓
G3 Canada Limited				✓		204-983-0239	Winnipeg, MB	✓
Gavilon Grain LLC					✓	816-584-2210	Omaha, NB	✓
Global Grain Canada	✓					204-829-3641	Plum Coulee, MB	✓
Hensall District Co-op	✓					204-295-3938	Winnipeg, MB	✓
Horizon Agro					✓	204-746-2026	Morris, MB	
ILTA Grain Inc.	✓	✓	✓	✓	✓	604-597-5060	Surrey, BC	✓
J.K. Milling Canada Ltd.				✓		306-586-6111	Regina, SK	✓
Knight Seeds			✓	✓		204-764-2450	Hamiota, MB	
Kalshea Commodities Inc.				✓		204-272-3773	Winnipeg, MB	✓
Lansing Olam Canada Commodities ULC					✓	877-747-7599	Chatum, ON	✓
Linear Grain	✓			✓	✓	204-745-6747	Carman, MB	✓
Louis Dreyfus Company Canada ULC					✓	403-205-3322	Calgary, AB	✓
Masterfeeds				✓		403-327-2555	Lethbridge, AB	
Marina Commodities Inc.			✓	✓		204-937-2300	Roblin, MB	✓
Maviga NA., Inc.		✓	✓	✓		306-721-8900	Regina, SK	✓
Monsanto					✓	–	Winnipeg, MB	
Natural Proteins					✓	204-355-5040	Blumenort, MB	✓
North American Food Ingredients					✓	204-272-5510	Winnipeg, MB	✓
Nutri-Pea Ltd.				✓		204-239-5995	Portage la Prairie, MB	
Nu-Vision Commodities	✓					204-758-3401	St. Jean Baptiste, MB	
Parrish & Heimbecker Ltd.					✓	204-987-4320	Winnipeg, MB	✓
Paterson Grain				✓	✓	204-956-2090	Winnipeg, MB	✓
• FeedMax Corp.				✓		204-523-0682	Killarney, MB	✓
Providence Grain Group	✓	✓	✓	✓	✓	780-997-0211	Fort Saskatchewan, AB	✓
Pipeline Foods, ULC				✓		204-997-2480	Winnipeg, MB	✓
Quarry Seed					✓	204-467-8877	Stonewall, MB	
Richardson International				✓		204-934-5627	Winnipeg, MB	✓
• Richardson Pioneer Ltd.				✓	✓	204-934-5627	Winnipeg, MB	✓
• Tri Lake Agri				✓		204-523-5380	Killarney, MB	✓

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COMPANY	EDIBLE BEANS	FABA BEANS	LENTILS	PEAS	SOYBEANS	PHONE	LOCATION	CGC REGULATED
S.S. Johnson Seeds	✓			✓		204-376-5228	Arborg, MB	✓
Scoular Canada Ltd.	✓	✓	✓	✓	✓	403-720-9050	Calgary, AB	✓
Seaboard Overseas		✓	✓	✓		306-565-3934	Regina, SK	
Seed-Ex Inc.					✓	204-737-2000	Letellier, MB	✓
Shafer Commodities					✓	204-822-6275	Morden, MB	✓
Simpson Seeds			✓			306-693-2132	Moose Jaw, SK	✓
Southland Pulse			✓	✓		306-634-8008	Estevan, SK	✓
Sunrich LLC					✓	507-446-5642	Hope, MN	
Thompsons Limited	✓		✓	✓		519-676-5411	Blenheim, ON	✓
Vanderveen Commodity Services					✓	204-745-6444	Carman, MB	✓
Viterra Inc.	✓	✓	✓	✓	✓	Contact your local Viterra sales representative		✓
Walhalla Bean Co. (Canada Ltd.)	✓					701-549-3721	Walhalla, ND	✓
• Winkler Receiving	✓					204-325-0767	Winkler, MB	✓
Wilbur Ellis	✓		✓	✓		204-867-8163	Minnedosa, MB	✓
Zeghers Seeds Inc.			✓	✓		204-526-2145	Holland, MB	✓

The Canada Grain Act requires some elevators and grain dealers to have a Canadian Grain Commission (CGC) license and post-security to cover their liabilities – what they owe to farmers. Grain dealers and operators of primary, terminal and process elevators in Western Canada are licensed by the CGC. Seed cleaning plants that do not purchase grain and feed mills do not have to be licensed. The pulse and soybean crop buyers listing includes only companies that are licensed and secured by the CGC (or exempted by regulation), and who are registered to submit check-off to MPSG. It is the responsibility of the farmer to ensure the company they are dealing with is reliable. Questions regarding licensing and security should be directed to the CGC at 1-800-853-6705 or 204-983-2770. To be included on MPSG's pulse and soybean crop buyers list, contact the MPSG office at 204-745-6488 for the buyers registration package.

Soybean Scout ANSWERS

A – Wind damage

These soybean plants were damaged at the unifoliate stage by wind carrying soil particles and crop residue. Fields with minimal standing stubble or vegetative cover, and those that have been rolled at the time of seeding under dry conditions, are most at risk. Standing stubble and vegetation (e.g., cover crops) can reduce the movement of soil prior to crop canopy closure. Post-emergent rolling at the 1st trifoliate stage can also reduce the risk of soil movement if conditions are too dry at seeding. Soybean plants are expected to recover from this type of injury if the growing point remains intact.

B – Dicamba drift

These soybean plants exhibit early symptoms of dicamba injury. Later stages of this injury include necrosis and plant death. Soybeans are among the crops that are extremely sensitive to dicamba injury. Therefore, it is important for farmers to only consider this chemical in Xtend soybean systems if it is necessary for control of the weeds present in the field. If dicamba use is necessary, follow application guidelines closely to avoid damage to non-tolerant crops. Temperature inversions, sprayer contamination and product volatility can all contribute to drift damage by this chemical. Visit sprayers101.com for tips on dicamba application.

Recipe Corner

Orange Ginger Zinger Creamsicle Smoothie with White Beans

Servings: 4 | Preparation time: 3 minutes

1 1/2 cups orange juice

1 1/2 cups frozen mango

1 1/4 cups cooked white beans (cannellini, white kidney), or canned, drained & rinsed thoroughly*

1 cup peeled and grated carrot

1/2 cup vanilla Greek yogurt

2 tbsp honey

2 tbsp fresh grated ginger

Directions

Combine all ingredients in a blender and process until very smooth. Garnish with an orange or lemon wedge and enjoy immediately.

** If you're cooking the beans from dry, be sure to simmer until very tender. This will create a smooth consistency, without a gritty texture.*

Three Pulse-Topped Lunch Bowls

Servings: 1 bowl | Preparation time: 10 minutes

Chickpea Mediterranean Bowl

1 cup romaine lettuce

3 tbsp roasted red peppers

2 tbsp olives

2 tbsp goat's milk feta (or any you prefer, leave out if dairy free)

creamy hummus

1/2 cup chickpeas (garbanzo beans), drained and rinsed

Black Lentil Buddha Bowl

1 cup kale (massaged with oil of your choice)

1 roasted sweet potato

1 tbsp black sesame seeds

1/2 cup cooked black lentils

1/3 avocado – diced

Black Bean Burrito Bowl

3/4 cup romaine lettuce

1/4 cup quinoa

3 tbsp chopped onion

1/2 cup black beans, drained and rinsed

1/3 avocado – sliced

Tortilla chips of your choice

Directions

Assemble each bowl with ingredients and enjoy! These make delicious meals to prep in advance for work or school. Enjoy with your dressings of choice.

BUILD A STRONGER SOYBEAN PROGRAM

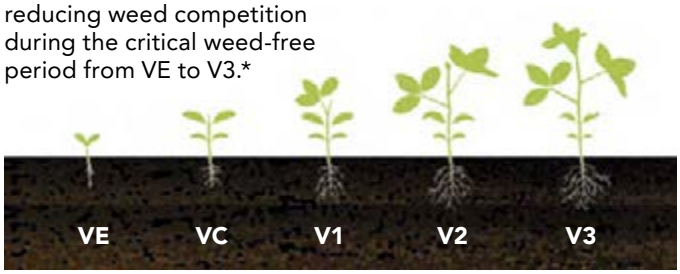
Getting weeds out of the way early in the season will set up your soybeans for stronger performance, better yields and a better bottom line. Nufarm's portfolio of weed solutions provides the options you need to build a *Soybeans for Success Program* for both pre-seed and in-crop applications.

BIGGER YIELDS

Extensive trials[1] have shown a 4-9 bu./ac. **yield gain** when you use a pre-emergent herbicide before a post glyphosate application, compared to only using a post-emergent application of glyphosate.

REDUCE THE COMPETITION

Keep your soybeans clean by reducing weed competition during the critical weed-free period from VE to V3.*



STRONGER STEWARDSHIP

Using multiple modes of action makes for a stronger stewardship plan – reducing the risk of weeds developing resistance to glyphosate and dicamba, and helping to protect the integrity of traits like Roundup Ready 2 Xtend® soybeans.

For more information, visit Nufarm.ca or call 1.800.868.5444 to Ask a Nufarmer.

ASK A NUFARMER

SOYBEANS FOR SUCCESS DECISION GUIDE

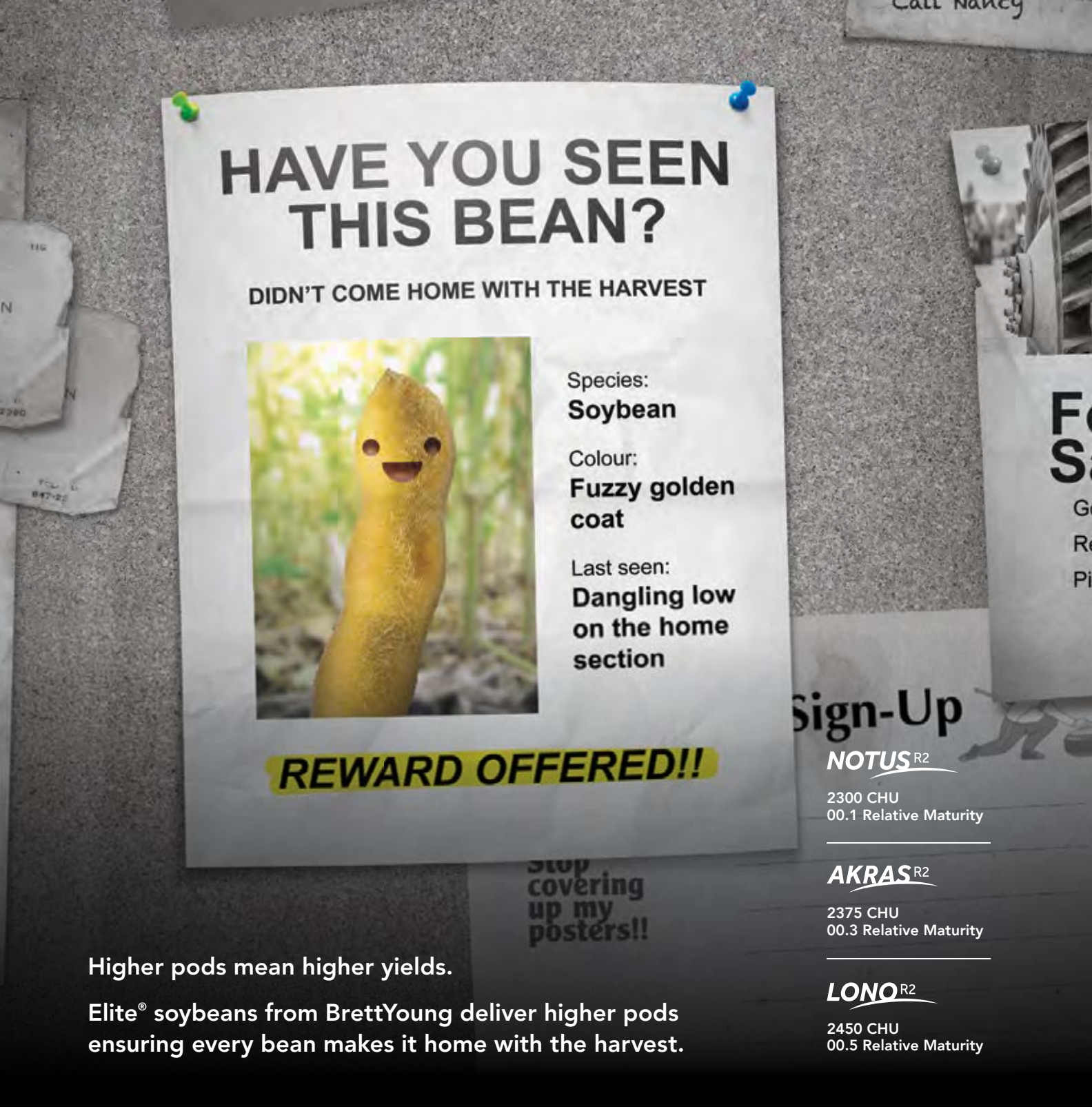
	ROUNDUP READY 2 XTEND SOYBEANS	
PRE-SEED HERBICIDE	Pre-seed application of Roundup XTEND VaporGrip	In-crop application of XTENDIMAX with VaporGrip
	Valtera™ • Multiple Mode of Action defense strategy • Improved control of kochia, cleavers, mustard, pigweeds and suppression of volunteer canola • Longer residual control	**Glyphosate + Valtera™** *– or –* **Fierce™** *(for grasses)* *ADD* **BlackHawk™** *(for exceptionally dirty fields)*
PRODUCT USE MATRIX	Pre-seed application tank mix	Pre-seed application tank mix
If **volunteer HT canola** is present	USE **Valtera™ + Roundup XTEND VaporGrip**	**Valtera™ + BlackHawk™ + Glyphosate**
If **cleavers** are present	USE **Valtera™ + Roundup XTEND VaporGrip**	**Valtera™ + BlackHawk™ + Glyphosate**
If glyphosate-tolerant **kochia** is present	USE **Valtera™ + Roundup XTEND VaporGrip**	**Valtera™ + BlackHawk™ + Glyphosate**
PLANNED IN CROP HERBICIDE	**Glyphosate**	Roundup XTEND VaporGrip XTENDIMAX with VaporGrip

[1]Data from Purdue Extension Weed Science and Ohio State horticulture and crop science extension fact sheet "The benefits of Preemegence herbicides in Roundup Ready soybean" April 2008.

*Fickett et al., 2009, Jeschke et al., 2011, Ali et al., 2013

Always read and follow label directions.

Nufarm Grow a better tomorrow.



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