

pulse *beat*


Fall/Winter • No. 76, 2015

The Case of the
MISSING BEAN BIDS

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Current Processors
in Manitoba

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Manitoba Pulse & Soybean Growers

**pulse
beat**

Fall Winter • No. 76, 2015

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IN THIS ISSUE

ON THE COVER

- 19 The Case of the Missing Bean Bids
- 28 Manitoba Soybean Scene – Current Soybean Processors
- 33 Growing Forward 2 – Benefits that MPSG Realizes
- 43 Resurgence of Field Peas and Faba Beans in Manitoba

ANNOUNCEMENTS

- 2 2016 Annual General Meeting Call for Director Nominations
- 4 MPSG Welcomes a New Staff Member – Research Technician, Laryssa Grenkow
- 6 CropConnect Conference 2016
- 13 Are You Interested in Becoming a Director?
- 38 SMART Day Thank You to Sponsors
- 50 Getting it Right – Soybean Production Meeting – January 28, 2016
- 52 Interested in Trying Organic Production?

MPSG BUSINESS

- 2 Committees and Representatives
- 3 Message from the Executive Director
- 8 New MPSG Farmer Focused Stamp
- 12 Soybean and Corn Research Receives Equipment Funding Boost
- 13 MPSG – Working for You!
- 25 Canadian International Year of Pulses Initiatives – How MPSG is Involved

MARKET AND POLICY

- 9 Grain Growers of Canada – Facing a New Federal Government

- 10 Rail Transportation – Lies, Damned Lies and Statistics?
- 16 KAP – Maybe Now Our Rail Service Will be Fixed
- 17 Soy Canada – Working to Expand Markets
- 35 Clancey's Stats

RESEARCH AND PRODUCTION

- 3 Soybean Scout
- 40 The Bean Report – Are You Selecting the Right Soybean Varieties?
- 45 2014 Dry Bean Grower Survey
- 49 Symbiotic Soy – How Crop Rotation Affects Soybean Interaction with Soil Organisms
- 51 Soybean Cyst Nematode in Soil
- 53 Edible Bean Harvest Methods by Variety
- 56 On-Farm Evaluation of Peaola Intercropping
- 59 Soybean Scout – Answers

OUTREACH

- 22 Food is Good Medicine: Pulses are the Heart of the Matter
- 24 Innovating with Pulse Ingredients – How One Company is Elevating Batters and Breeding to a New Level
- 27 International Year of Pulses Launch Events
- 32 Farmer Profile – Joe Vermeersch
- 58 Manitoba Pulse & Soybean Buyer List
- 60 Recipe Corner

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Manitoba Pulse & Soybean Growers – 2015 Board of Directors and Staff

Elected Producer Directors

Kyle Friesen, Chair – *Altona*
Jason Voth, Vice Chair – *Altona*
Ben Martens – *Boissevain*
Frank Prince – *Deloraine*
Joni Sawatzky – *Altona*
Andreas Scheurer – *Dugald*
Ernie Sirski – *Dauphin*
Albert Turski – *La Salle*
Rick Vaags – *Dugald*

Advisory Directors

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

Staff

Executive Director – François Labelle
Email – francois@manitobapulse.ca
Business Manager – Sandy Robinson
Email – sandy@manitobapulse.ca
Production Specialist – Kristen Podolsky
Email – kristen@manitobapulse.ca
Director of Communications – Glen Kirby
Email – glen@manitobapulse.ca
Research Technician – Laryssa Grenkow
Email – laryssa@manitobapulse.ca
Program Administrator – Wendy Voogt
Email – wendy@manitobapulse.ca

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2016 ANNUAL GENERAL MEETING



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Carman, MB R0G 0J0
Phone 204.745.6488
www.manitobapulse.ca

NOTICE IS HEREBY GIVEN that a meeting of the members of Manitoba Pulse & Soybean Growers (MPSG) will be held at the Victoria Inn Hotel and Convention Centre, 1808 Wellington Avenue, Winnipeg, MB during the CropConnect Conference on February 10, 2016, from 8:00 a.m. to 9:00 a.m.

Agenda

1. To approve the minutes of the 2015 members meeting
2. To receive the financial statements of MPSG for the current fiscal year
3. To appoint the auditor of MPSG
4. To receive the board and executive director's report
5. To elect directors to the MPSG board of directors

Nominations to serve on the board of directors can be made by submitting the candidate's name to the nominating committee or the MPSG office prior to the commencement of the meeting, or by nominating a candidate during the call for nominations at the annual general meeting.

Call for Director Nominations

Each year director positions come up for election.

If you are interested in becoming a director on the MPSG board, now is your opportunity. This year the director terms of Kyle Friesen, Jason Voth, Joni Sawatzky and Rick Vaags are expiring.

If you are a farmer of pulse and/or soybean crops and are in good standing with MPSG (you have not requested a levy refund but have sold a pulse/soybean crop in the past two years), and would like more information in becoming a director, contact...

Nominating Committee

Ben Martens – bmarten1@mymts.net

Andy Scheurer – scheurer_andreas@yahoo.ca

Albert Turski – turskia@mymts.net

Elections will be held at the MPSG Annual General Meeting February 10, 2016.

2015 MPSG COMMITTEES AND REPRESENTATIVES

MPSG COMMITTEES – The first named is chairperson

Executive – K. Friesen, J. Voth, E. Sirski, F. Labelle

Governance/HR – E. Sirski, F. Prince, F. Labelle

Finance – J. Voth, R. Vaags, F. Labelle, S. Robinson

Resolutions – A. Scheurer, B. Martens, A. Turski

Nominations – A. Scheurer, B. Martens, A. Turski

Communications/Member Relations/Market Development – E. Sirski, R. Vaags, A. Scheurer, K. Friesen, F. Labelle, G. Kirby, K. Podolsky

Research – J. Voth, A. Turski, B. Martens, F. Prince, F. Labelle, K. Podolsky, L. Grenkow, W. Voogt and industry advisors

Sub-Committees

Peas, Faba Beans, Lentils & Chickpeas – B. Martens, F. Prince, D. Lange, B. Conner, Y. Lawley, F. Labelle, K. Podolsky, L. Grenkow

Edible Beans – J. Voth, B. Martens, J. Sawatzky, D. Lange, A. Hou, Y. Lawley, B. Conner, F. Labelle, K. Podolsky, L. Grenkow

Soybeans – A. Turski, F. Prince, R. Vaags, J. Sawatzky, A. Scheurer, D. Lange, A. Hou, Y. Lawley, F. Labelle, K. Podolsky, L. Grenkow

MPSG REPRESENTATIVES

Canadian Grain Commission Pulse Sub-Committee – F. Labelle

Grain Growers of Canada – K. Friesen, R. Vaags (alt), A. Turski (alt)

Keystone Agricultural Producers – R. Vaags, K. Friesen, F. Labelle

• **General Council** – F. Labelle

• **Pulse/Oilseed Sub-Committee** – F. Labelle

• **Commodity Group** – R. Vaags, K. Friesen

MCVET – J. Sawatzky, D. Lange (adv)

PGDC/PRCPSC – J. Sawatzky, B. Martens (alt), D. Lange (adv)

Pulse Canada – R. Vaags, F. Prince (alt), F. Labelle (adv)

• **Sustainability** – F. Prince

Soy Canada – E. Sirski

Western Canadian Pulse Growers Association

• **WGRF** – D. Hilgartner (APG)

• **CGC Western Grain Standards Committee** – E. Sirski (exp. 2018)
(4-year term that rotates between: APG, SPG & MPSG)

MESSAGE FROM EXECUTIVE DIRECTOR



François Labelle
Executive Director

Another growing season passed, filled with both challenges and opportunities. To borrow an old adage from the mail carriers, “neither early nor late seeding, frost, hail, drought, excess rain or heat can keep us from bringing in the crop.” When the bins were filled, several farmers remarked that 2015 has been a very good year.

MPSG has also weathered challenges and embraced opportunities over the past few months. I will talk more about our organization’s “growing season” but first, a review of the harvest.

CROPS

Soybeans: We know they do well with excess moisture and have been pleased in the past with 30–35 bu/ac crops, sometimes even hitting 40 bu/ac. In 2015, with more ideal growing conditions, we saw soybean’s real potential with averages in the high 40s and some yield monitors registering over 60. While this could be a year for the record books, we should remain realistic with our expectations for the future as the numbers will likely return to historic averages.

Peas: Results from an On-Farm trial were off-the-chart, with yields of 75 bu/ac. I recall in the late 1970s and early ’80s, we were happy with 25–30 bu/ac yields and ecstatic with spikes of 45. All said, we may see more peas in our future but success will depend on the weather and properly managing diseases.

Edible Beans: Despite the challenge of excess moisture, in some areas growers had their best yields in 30 years of growing beans.

Overall, the future remains bright for our crops. We will see acres increase because the profitability is there, as long as everyone keeps in mind sustainability, disease and rotation.

RESEARCH

This year’s research has given us interesting results and I urge you to read more in the pages of this edition of *Pulse Beat*. We undertook projects in 2015 where Kristen Podolsky, MPSG Production Specialist, was the lead researcher. This was exciting work but also time consuming. We quickly reached a point where additional staff was needed and recruited Laryssa Grenkow as Research Technician.

Looking towards research in 2016, much planning has already been done and applications have been submitted for leveraged funding. We continue to review projects and will move ahead with approval by the Research Committee and Board of Directors, spending more than \$1-million on quality research.

TRANSPORTATION

The federal election in October became a large factor in both the pace and depth of discussions on transportation. Progress slowed considerably during the election campaign. Now, with a new government in place, we need to step up our game to make certain that the Liberal Party maintains its

election promise on the need for greater transparency and accountability in rail regulations.

Despite the work already done, we are starting over in many ways with the new people in power. MPSG will keep up the pressure, but I urge each of you to make transportation a priority. More voices will bring about faster change.

SOYBEAN CRUSH PLANT FEASIBILITY STUDY

We continue getting requests for copies of the study released earlier this year which concluded that construction of a new crush plant in Manitoba promises a number of net benefits. The interest is great to see; unfortunately, no one has jumped up yet and said ‘yes, we’re going to build a plant.’

We do not expect a project of this magnitude to happen quickly but remain hopeful that a new plant, to increase crushing capacity in the province, will become reality, in time.

STRATEGIC PLAN

An encompassing plan to guide the growth and development of our organization has been approved by the Board of Directors and will be available to the public on the MPSG website.

continued on page 4

Soybean Scout

What are these important insects that can be found in soybean fields?



Answers can be found on page 59

Do you have a production question related to pulse or soybean crops that you just can’t find the answer to? Maybe you’re looking for an opinion or advice?

Write to us! Email: kristen@manitobapulse.ca

This document has come together with input from directors, advisors and staff, and will serve as a roadmap for our organization during the 2016 International Year of Pulses and beyond.

Personally, I wish to thank everyone who took part in the strategic planning process and had a hand in the creation of this important plan. The effort has been very worthwhile.

ANNUAL GENERAL MEETING (AGM)

The organization's namechange earlier this year means we need to amend our by-laws to make the new name official. To that end, we have completed a full review of our by-laws to better serve the needs of the organization and ensure we remain in line with provincial legislation. You will receive a copy of the proposed by-laws in the mail before the AGM, where we will ask for the amendments to be approved by members.

Speaking of the AGM, scheduled for the first morning of the 2016 CropConnect Conference, I hope that you plan on being there. It was great last year to see a good number of our members present – I believe the highest number in several years. Hope to see you there!

STAFF CHANGES

The people in the MPSG office have been busy this year, looking to maximize leveraged dollars, recording successes in many areas and continually looking for new programming. Let me bring you up to speed on some positive staffing news:

In September, Roxanne Lewko took over as Director of Communications, a position open since the spring that she had been filling as time allowed. Roxanne has a passion for this area and does a great job, so we are pleased she wanted to take this on full-time. As life goes, Roxanne is expanding her family and went on maternity leave in late November. We wish her the best.

Glen Kirby has been hired on-term to replace Roxanne while she is away. Glen has 35 years of experience in TV, radio, writing, photography and communications consulting. We are pleased to welcome Glen and look forward to his contributions.

Wendy Voogt, who started in the spring as Administration Assistant, has taken on the responsibilities of Program Administrator. She is coordinating and administrating MPSG's extensive funding program and assisting our Production Specialist and Research Technician.

As I mentioned earlier, Laryssa Grenkow has joined our staff as Research Technician, both assisting and leading the implementation of our research strategy. We are pleased to have her join us in this growing area.

Summer student James Carriere did some great work and we're glad he made the choice to spend time with our organization. James has gone back to university and we wish him all the best.

As staff, we remain committed to providing value for your check-off dollars and moving the pulse and soybean industry forward in Manitoba and Canada.

LOOKING FORWARD

Winter will be busy with many meetings but make special note that our next *Getting it Right* soybean production meeting is slated for January 28th. Response to last year's event was phenomenal. Register early for this informative meeting.

We have plans in the works for other exciting programs to benefit our members, so keep in touch. Feedback is always appreciated. Let me know your concerns and successes.

Have a great winter.

– François

MPSG WELCOMES A NEW STAFF MEMBER – *Research Technician*



LARYSSA GRENKOW grew up on a grain, cattle and strawberry farm near La Salle, Manitoba. She completed her Bachelor of Science in Agronomy at the University of Manitoba in 2011 with a minor in Soil Science, and then went on to complete her Masters in Soil Science in 2013, also at the University of Manitoba. Her thesis focused on seed-placed phosphorus and sulphur fertilizer for canola.

Since completing her university studies, Laryssa has worked in public sector agronomy research in Saskatchewan and Manitoba. She has experience researching a variety of crops including pea, lentil, soybean, canola, wheat and corn.

As MPSG's new Research Technician, Laryssa will be helping Kristen Podolsky, Production Specialist, implement MPSG's

new research strategy by assisting with and/or leading research and production activities. She will manage research reporting, assist with production and extension activities, and manage activities related to the Crop Variety Evaluation Trials and MPSG's small-plot research projects.

"I'm excited to be working for a dynamic, growing organization," says Laryssa. "MPSG is progressive in their participation in research and delivery of extension to their members and industry, and I am eager to contribute to all aspects of the research strategy."

MPSG is pleased to have Laryssa join our staff, and we look forward to her assistance in carrying out our new research strategy. Welcome Laryssa!



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- Keynote Speaker: **Charlie Arnot**
CEO, The Center for Food Integrity
- Keynote Speaker: **Donald Cooper**
Former owner, Cooper Canada
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Dave Hemstad, "When Lightning Strikes"

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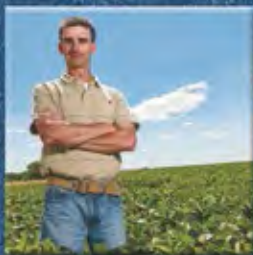
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THE NEW MPSG FARMER FOCUSED STAMP



Since May 2011 you may have seen our Levy Dollars at Work stamp in various places. It was developed and used to identify some of the projects Manitoba Pulse & Soybean Growers (MPSG) carried out for you – the pulse and/or soybean farmer in Manitoba. For example, it was placed on field signs used to mark variety registration trials, on the new research page on the website, and in *Pulse Beat*. We wanted farmers to see it and associate it with good use of levy dollars. Hopefully, it helped to highlight how and where your levy dollars are spent, and confirm those dollars have been invested responsibly and in ways that bring value back to the farm.

In February 2015, the new MPSG name was adopted by the organization, as well as a new brand image. It was decided the look of our existing stamp needed to be refreshed too. We also wanted to replace the words 'Levy Dollars at Work' with a different phrase

that captured the same message, but was more progressive and memorable. Recently we've moved away from using the terms 'producers' and 'growers,' to the good old standard and more globally recognized 'farmers.' So, we brainstormed on ideas and catchy phrases using that terminology that captured the message we want to be sending, and *Farmer Focused* was generated. It resonated well with MPSG board and staff, as we know everything we do is in fact done with you, the farmer, in mind. Providing funding to research projects? Farmer Focused. Supporting market development initiatives? Farmer Focused. Developing production materials? Farmer Focused. Directing communication efforts? Farmer Focused.

The check mark was kept to maintain continuity between the new look and an already recognizable brand. The leaf and green colour are consistent with our brand image, as also seen in *The Bean Report* logo. The circular shape may look familiar, as it mimics

the look of the On-Farm Network logo. It all ties together and provides consistency.

It's almost like a stamp of approval and reminds us that our efforts are for you. Hopefully, it reminds you of that as well. When you see the Farmer Focused stamp, we want you to know that your levy dollars are being put to great use and bringing value back to you and your farm.

When you see the new Farmer Focused stamp, please know it means our efforts and priorities are always developed with you – the farmer – in mind. We are focused on delivering value to you in all aspects of our endeavours. When determining our budget each year and deciding where and how much funding we want to allocate to all of our key areas, we always focus on what would be best and most impactful for farmers. We appreciate being funded by levy dollars and we strive to use them wisely. ■

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Renewed Opportunities and Risks



Bryan Rogers
Executive Director,
Grain Growers of Canada

As I sit down to write this piece, Canadians have just finished electing a new government – a Liberal majority. And by the time you read it, Prime Minister-designate Justin Trudeau and his cabinet will have been sworn-into office. Although this was not quite the result that many in the agriculture community were expecting, more than one farmer took to Twitter on October 20th to point out that while they weren't necessarily thrilled by the result, the sun did in fact rise again that morning, as usual. They were quite right.

In the advocacy business, dealing with a large majority government is actually helpful. The stability makes our work easier in that we aren't operating under the constant threat of an election, meaning we won't have to start back at square-one after only a year or two. It also means that we can better target our advocacy efforts while using our time and resources more efficiently. A minority, or small majority government necessitates dividing our time almost equally between the various political parties. However, in the current environment, we can target primarily the government and Official Opposition caucuses. Third-parties become less important to our strategies (although those relationships should not be completely ignored).

Almost every election results in at least some measure of renewal and rejuvenation of Parliament, and the 2015 campaign accomplished this in spades. Not only will we see the new government in place, but we will also be welcoming some 200 new Members of Parliament, 148 of whom are Liberals. While a handful of these are returning to Ottawa after having been defeated in previous elections, most will be rookies. Furthermore, most are representing

urban/suburban ridings, and have little or no connection to farms and agriculture other than perhaps visiting a farmers market.

This represents an excellent opportunity for us to tell our story and to paint a big picture connecting farmers to the food consumers eat. There will be a lot of education going forward, but we'll have to carefully consider our audience and their backgrounds. Terms like "zero till" or "foliar spray" will have no meaning for them, and they likely won't have time to learn. We'll have to adjust our language and change the frame of reference: from the benefits of modern agriculture to farmers, to the benefits of modern agriculture for the environment and consumers.

The Liberals campaigned on themes and policies familiar to many in agriculture, and that align with several of the current policy priorities of the Grain Growers and our members. Continued expansion of Canada's trade agenda, including the likely ratification of the Trans-Pacific Partnership and Canada-EU agreements, increased promotion of trade and market access, recognition of the deficiencies in the rail freight system and increased investments in transportation infrastructure, increased investments in ag research (\$100 million, with an emphasis on basic, public research), support for sustainability initiatives, and a commitment to consult widely on business risk management programming.

In short, the new Liberal government seems willing to invest in and support several of our priorities, while taking a collaborative approach in doing so. It will be up to farm groups like the Grain Growers of Canada and the Manitoba Pulse & Soybean Growers to hold their feet to the fire to ensure they follow-through, and that the measures they implement really do translate into new opportunities for producers, and are workable while minimizing cost and regulatory burden.

I have outlined some of the opportunities that may result from a new government, but of course every instance of change brings with it risks as well as the opportunity for rewards. So what are some of the potential risks that we must be aware of in Liberal Ottawa?

As mentioned above, the Liberal caucus will include a large number of rookie MPs. And while this presents a new opportunity to tell our story, it also provides the same opportunity to activists opposed to modern agriculture. This risk is compounded when you consider that the Liberals came to power promising a more open and collaborative approach to decision-making.

This means that all stakeholders will be given a fair hearing. It's a concept that is fundamental to a democracy like ours, but in practical terms it could also mean that the days of government giving a more openly sympathetic ear to modern

continued on page 10

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LIFE IS GOOD!

François Labelle

Executive Director, MPSPG

When I attended university a few years back, I read several books as part of a psychology course including the aptly-titled *How to Lie with Statistics*. Yes, it's a real book first published in 1954 and reprinted several times since, which demonstrates how any person can look at a batch of numbers and draw several different conclusions. Judging by the government's response to issues plaguing rail transportation, I am certain *How to Lie with Statistics* is a must-read for all politicians.

Western Canada enjoyed the largest grain crop ever in 2013, a record 76-million tonnes. Thanks to decent prices, farmers did pretty well. We could have done even better if not for the rail problems. Canada lacked the capacity to move a bumper crop to market and the consequences rippled through farmers, grain handlers and international buyers.

Millions of metric tonnes of grain were stuck on the Prairies because of a lack of rail cars, with devastating effects. One agricultural economist estimates that transportation delays in the last two crop years have cost western farmers \$6.4 billion.

continued from page 9

agriculture are over. On issues such as the use of biotechnology, and Canada's science-based regulatory regime, we must remain wary of government intervention and over-regulation.

Grain Growers' position on these issues is clear. Today's modern farming techniques take advantage of new developments in plant breeding, biotechnology, pest and nutrient management, allowing farmers to grow more with fewer inputs and a smaller carbon footprint. That is a good news story for all Canadians, and is one that the government should support.

With respect to Canada's approval and regulatory regime, these processes work well for the most part, and do so in a more timely and predictable manner than many other global jurisdictions.

Rail issues are damaging our global reputation as a reliable exporter.

Japan, which consistently purchases more Canadian wheat than any other country, started buying more US grain because we couldn't deliver. Even more troubling were statements from the Japanese suggesting they intend to increase sourcing outside of Canada because our delivery system is prone to disruption.

With all this as a backdrop, then-Agriculture Minister Gerry Ritz said in the heat of the October election campaign that prairie grain farmers suffered "no negative dollar impact" between 2013 and 2015. He based this on government statistics which indicated net farm incomes increased. To me, this clearly demonstrates the government twisting one set of numbers in a complicated equation to make the data say something else.

Don't be lulled into believing that things are good and the problems plaguing rail transportation aren't really problems at all. The infrastructure and regulatory system are essentially the same now as they were in 2013 and 2014 when farmers lost billions. Granted, grain is moving better. Why? Reduced shipments of other commodities this fall have allowed rail companies to

It is critical to our continued success as producers that the science-based review process employed by government bodies such as the PMRA remains both clear and measurable. In our view, there is absolutely no place in science-based decision-making for emotional/rhetorical campaigns.

Change in government is as inevitable as a change in the seasons. But as governments come and go they all share the same basic trait, regardless of their particular political stripes: some of the decisions they make are good, and some are less so. Our job as producer groups is to exert as much influence as we can to maximize the good, minimize the not-so-good, and to be nimble enough to adjust our strategies as the seasons warrant. ■

allocate more resources to handle grain. When I hear that some rail companies are dropping rates to oil shippers to increase volumes, I know that they have excess capacity. Given the current price of oil, I am hardly surprised no one is anxious to move much "black gold" but it's "prairie gold" we need to worry about.

Will the incoming Agriculture Minister in the newly-minted Liberal government care that farmers lost an estimated average of \$63/tonne over two crop years because of plugged rail lines? Will the Minister give any thought to losses incurred by processors forced to truck product to mills, paying much higher freight rates than rail? We can go on and on with cost items reviewed in several studies. We need to keep this information top-of-mind with politicians and the public.

I applaud those farm groups keeping the rail transportation file active, making presentations on behalf of all growers and lobbying for meaningful change. This is a must-do. We need to keep up efforts; otherwise this issue will be swept under the rug until the next crisis. It could be next year or in the next generation but the problem will remain until we force change. By laying low or fighting amongst ourselves, we give politicians an easy way out.

By year's end, we should see a report from the government on a major review of Canada's transportation system launched in June, 2014, by then-Transport Minister Lisa Raitt. We will also see how the new Liberal government deals with the findings – the same political party which said during the election campaign that the transportation system must be forward-looking, transparent, accountable and geared for growth. We must hold the new government to its word.

The end goal is change in the system so that shippers are treated fairly, without the rail monopoly telling us what they will give us. It has gone on too long this way. Keep pushing and make certain we do not lose our resolve. And don't be fooled by politicians quoting statistics. There is a problem and we have the numbers to prove it. ■

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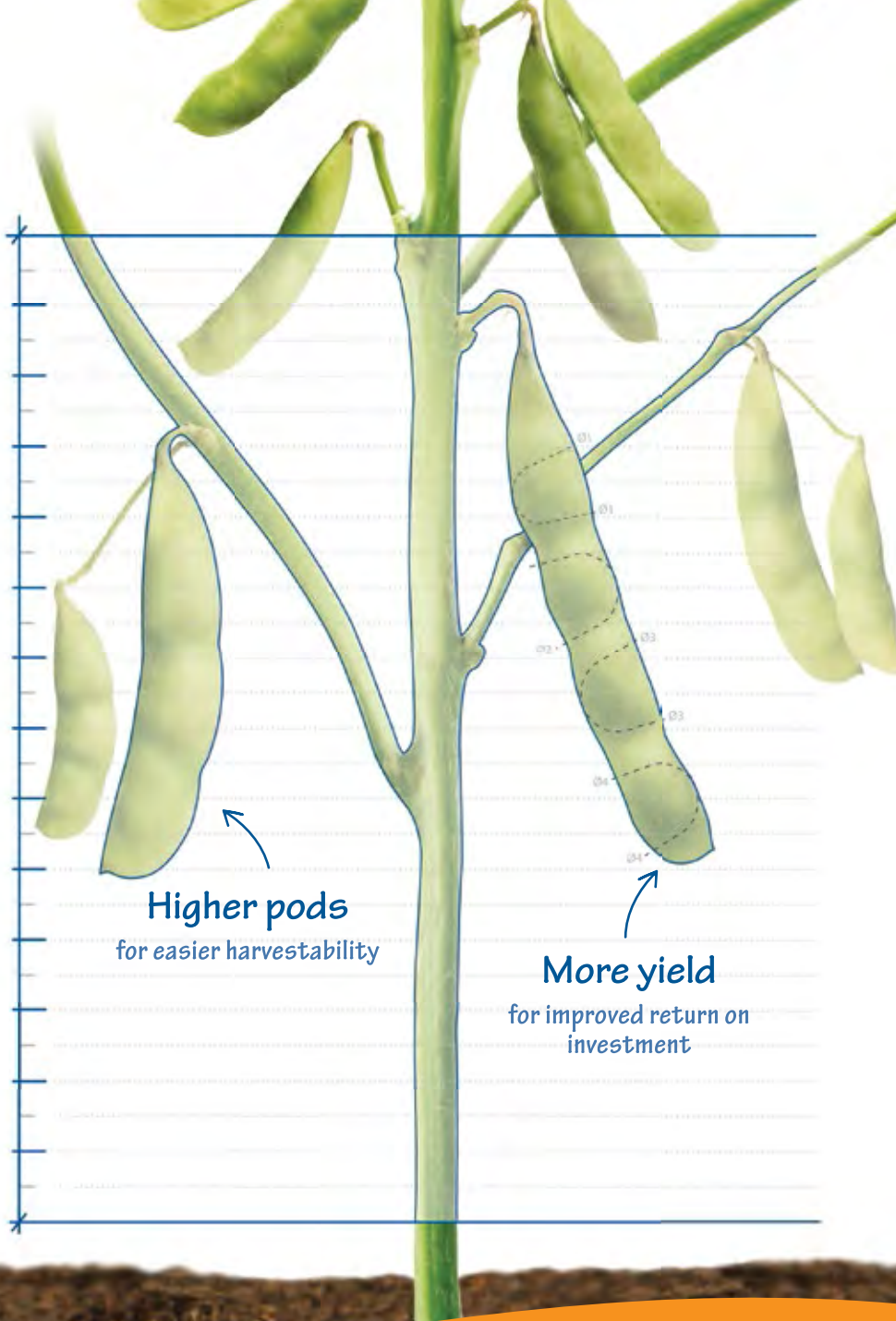
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SOYBEAN AND CORN RESEARCH RECEIVES EQUIPMENT FUNDING BOOST

Manitoba Pulse & Soybean Growers (MPSG) was very pleased with a funding announcement made on Saturday, June 6, 2015 at R-Tech Industries in Homewood, Manitoba by the Honourable Candice Bergen, Minister of State for Social Development, on behalf of the Honourable Michelle Rempel, Minister of State for Western Economic Diversification. A \$1.2 million investment from the federal government is going towards purchasing new equipment that will be used at 11 research sites across Manitoba. Research equipment purchases include weigh wagons, trucks, planters, a tractor, a fertilizer applicator, a combine, a row crop combine header, a grain analyzer, and tillage implements.

This project will result in increased production and will benefit soybean and corn growers across western Canada. The Manitoba Corn Growers Association (MCGA), MPSG, Agriculture and Agri-Food Canada and the University of Manitoba all collaborated together on this project,



At the announcement on June 6, from left to right, were Leonard Wiebe and Garett Veldman, MCGA producer directors; the Honourable Candice Bergen, Minister of State for Social Development; François Labelle, MPSG Executive Director; and Rob McClement, R-Tech Industries.

and the Honourable Candice Bergen emphasized that this is an excellent example of how industry, academia and government can work together to strengthen the economy.

“These funds will allow researchers in Manitoba to continue supporting our crops and cropping systems by performing advanced research with precision and accuracy using equipment that mimics what producers are actually using on their farms,” says François Labelle, MPSG Executive Director. “For example, the mid-row banding unit will allow Dr. Yvonne Lawley to accurately measure and enhance the 4R fertilizer application system thereby helping to improve the health of our environment.

The joint collaborative efforts of MCGA and MPSG were key to success of this application.”

The funding is being provided through Western Economic Diversification Canada.

R-Tech Industries is a custom agricultural research equipment company that has proven to be a valuable resource for agricultural research in Manitoba for over 25 years. They will be custom manufacturing some of the research equipment purchased through this grant.

According to industry projections, soybean and corn production in Western Canada could exceed 14-million acres over the next 10 years. ■

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Throughout the year, the staff and directors of MPSG are hard at work managing the organization to bring the most value to our membership. This includes activities such as funding research, extending production information, supporting market development initiatives, advocating in response to key industry issues, and communicating and networking with industry leaders. The following are some of our recent activities that support these objectives:

Research and Production

- Leveraged \$139,956 research dollars into \$417,750 through the GF2: Agri-Food Research and Development Initiative (ARDI).
- Acquired \$63,000 through the GF2: On-Farm program.
- Research Committee met in July to discuss research projects, On-Farm Network, leveraged funding, our new research strategy, and research priority areas for 2016 and beyond.
- Participated in and supported the MAFRD Crop Diagnostic School, a field training school for farmers and agronomists in Carman, which saw record attendance of over 400 people.
- Hosted first annual Soybean Management and Research Transfer (SMART) Day on July 22nd at the Ian N. Morrison research farm in Carman. This educational field event, which was designed for farmers and agronomists to sharpen their soybean management skills, was a huge success and attended by over 200 people.
- Spent time in the field with farmers and agronomists throughout Manitoba, attended and spoke at field days, and kept an eye on MPSG-funded research plots as a means to monitor crop conditions and identify research needs.
- Produced eight editions of *The Bean Report* in print and via radio with Golden West Radio.
- Attended the Carrington row crop research tour in North Dakota to connect with researchers and learn about their soybean agronomy and disease research.
- Developed and launched two new production resources: *Fungicide Decision Worksheet for Managing White Mould in Dry Bean* and *Soybean Maturity Guide*.
- Participated in the Canadian Field Crops Research Alliance (CFCRA) Annual General Meetings in August.
- Partnered with RealAg.com to produce six Soybean School West videos featuring timely agronomic issues in soybeans.
- Sent out 2016 Call for Research Proposals in September with 10 new research priority areas. We received 26 proposals that were reviewed by the Research Committee in early-December.
- Several meetings were held with agronomy researchers to discuss milestones achieved in research over the past year and to identify new opportunities for 2016.
- Participated in meetings with Western Grains Research Foundation to identify agronomic research capacity gaps in Western Canada and solutions going forward.
- For the first time, MPSG established and began managing applied research projects looking at the impact of simulated hail damage on soybean yield and quality, and evaluating seeding deadlines for early-maturing soybeans. Stay tuned for more details in upcoming issues of *Pulse Beat*.
- Attended the American Society of Agronomy meetings in Minneapolis to learn about new soybean and pulse crop research taking place across North America.

continued on page 14

We're looking for engaged farmers who have a passion for pulse and soybean production to join our board of directors!

If you...

- › Understand and have an interest in the pulse and soybean industry in Manitoba
- › Have a willingness to provide value, input and direction to the pulse and soybean industry
- › Have an interest in pulse and soybean production and research, markets and policy, and outreach
- › Want to gain valuable experience and network with like-minded individuals

...then we'd love to have you join our board of directors!

Are you interested in becoming a MPSG director?

Please contact a MPSG director or staff to find out more. All pulse and soybean farmers who are members in good standing with MPSG are eligible to become directors.

Markets and Policy

- Acquired \$8,223.40 in GF2 funding from the Growing Actions program for participating in the Ministerial Mission to China. Kyle went on the Mission from June 10–16.
- Acquired \$11,332.50 in GF2 funding from the Growing Visions program for updating our by-laws.
- Acquired \$23,362.50 in GF2 funding from the Growing Competitiveness – Agri-Extension program for development and distribution of production resources and additions to the MPSG Bean App.
- Dedicated funding and participated in conference calls relating to two Canadian 2016 International Year of Pulses (IYP) initiatives, including the Canadian Food Security/Food Literacy Project and the Travelling Museum Exhibit Project. Ground work is occurring in 2015 and the projects will launch in 2016.
- Met with Mr. Pradeep Ghorpade, Chief Executive Officer from India Pulses and Grain Association, Mumbai, India, and presented to the Agricultural Risk Management Task Force in June.
- Attended a sustainability meeting in June.
- Attended the Canadian Special Crops Association Convention and a Pulse Canada board meeting in Calgary in June.
- Attended Soy Canada's first Annual General Meeting in Guelph in June, and a Soy Canada meeting to discuss membership with various exporting grain companies in Winnipeg in July.
- Attended Grain Growers of Canada Annual General Meeting at Hecla in July.
- Presented to Manitoba Agricultural Services Corporation on risk management and climate change and provided a potential concept for an equity guarantee program in the event of long-term crop losses.
- Attended a Keystone Agricultural Producers (KAP) Commodity Group meeting in Winnipeg and a KAP General Council meeting in Brandon in July.
- Participated in a Canadian Grain Commission conference call about soybean grading in July.
- Attended the Innovations in Flax event at De Luca's in Winnipeg in August. Innovations in Pulses events will be taking place in 2016.
- Presented to the Manitoba Council on the funding of research and market development projects in August.
- Collaborated with Alberta Pulse Growers and Saskatchewan Pulse Growers to release *Market Risks Involved with Desiccant Use in 2015*.

- Finalized our new Strategic Plan and prepared for official launch.
- Assisted Pulse Canada in preparing for the 2016 Manitoba Mission ImPULSEible competition.

Communication and Member Relations

- Taped *Culinary Creations with Pulse Flours and Purées* for the 26th season of *Great Tastes of Manitoba*. The episode features innovative recipes developed by Red River College, and it will air on December 12th at 6:30 pm on CTV Winnipeg.
- Participated in Open Farm Day on September 20th. MPSG staff and University of Manitoba students managed an interactive kiosk situated in a soybean field just north of the Bruce D. Campbell Food and Farm Discovery Centre.
- Participated on committees of the CropConnect Conference to help plan the 2016 event, taking place on February 10 and 11 at the Victoria Inn Hotel and Convention Centre in Winnipeg.
- Contributed to a video project managed by Mount Saint Vincent University in Halifax showcasing the relationship between pulse research and industry. Questions addressed included MPSG's involvement in research, the impacts of research, what MPSG hopes to achieve by funding research, and what the future holds.
- Appeared in a video clip taped by Pulse Canada outlining the importance IYP will have on Manitoba and the overall pulse industry.
- Designed four new banner stands incorporating our new name, logo and brand imaging.
- Attended Agriculture and Agri-Food Canada Cereal Research Centre's Centennial celebration in Morden in August.
- Co-hosted an interactive kiosk with Pulse Canada at the Great West Life building in October to promote pulses and IYP for Healthy Workplace Month. The Great West Life cafeteria serves 1,200 people per day on average and featured a unique pulse dish every day in October.
- Co-hosted an interactive kiosk with Best Cooking Pulses at the Manitoba Home Economics Teachers Association SAGE Conference in October.
- Partnered with Best Cooking Pulses to plan a Manitoba IYP launch on January 6th to coincide with the Canadian and Global IYP launches taking place that same day.



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MAYBE NOW OUR RAIL SERVICE WILL BE FIXED



Dan Mazier, President
Keystone Agricultural Producers

With a new federal government may come new solutions to some of the issues we face in this industry – including the possibility that our grain transportation system will at last be overhauled.

The system has been broken for such a very long time now, and efforts over the past 30 years to fix it have yielded little for farmers.

Deregulation was supposed to have resulted in better, more innovative rail transportation services, but in reality it's meant branch line abandonment, a drastic decrease in the number of delivery points, and increased costs for hauling grain to these points.

On the other hand, deregulation has allowed the railways to reduce expenses, reduce services and increase profits.

The main issue has been, and still is, a lack of competition – and that means the railways have cart blanche to do whatever they want. This was apparent in the fall of 2013, where at one point, only 27 per cent of cars were delivered to elevators on time – and that was to haul a record-breaking bumper crop.

Farmers lost billions that year because of backlogs at the local elevators that caused basis points to skyrocket. And the saddest part is, not much in the way of rail service has changed: we have

not seen the railways make the kind of investments needed to ensure this does not happen again.

It's ridiculous to think about anyone running a business in this manner – until you remember that the railways have a monopoly. Farm groups have been decrying this monopoly for years, and the previous government finally took action last year, with a review of the Canada Transportation Act (CTA) that is still ongoing, with a final report due very soon.

I cannot stress enough to our new government the importance of this review. It is paramount to improving grain shipping – the best hope we've had in a long time.

I sat on the Crop Logistics Working Group with other key stakeholders from across the country – including producers, shippers and processors – to develop a submission for the review. It's a testament to the gravity of the situation that so many organizations came together at the same table, some which at times have had opposing views, in the hopes of fixing the system.

In addition, many of these groups – including Keystone Agricultural Producers – made individual submissions, and it appears that most agree what the elements of the fix must be.

They include creating railway accountability and transparency relating to service, giving the CTA increased power to monitor railway service and enforce service agreements, improving

shippers' rights in service agreements, and improving small shippers' access to rail service.

I also sat on the sub-committee of the Crops Logistics Working Group that looked into the maximum revenue entitlement mechanism that prevents the railways from overcharging farmers to move their grain. The railways would like, obviously, to get rid of this mechanism, but our group found that it really does work the way it's supposed to.

The first positive steps have been taken with the CTA review, and now we need a commitment from our new government that the review recommendations will not sit on a shelf. This is an opportunity to finally repair our broken grain transportation system, and move it forward.

I point to the fact that any trade agreements will require moving more and more farm goods and other Canadian products to export markets. What's the good of increased trade if we can't get our products to market? In essence, we're putting the cart before the horse.

I urge Prime Minister Trudeau and his new agriculture minister to act upon the recommendations of the CTA review. If not, the door remains open for more heavy losses for farmers. ■

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Wild Oats Grain Market Advisory

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The Trade Mission Season Begins!



Jim Everson
Executive Director, Soy Canada

This winter is already shaping up to be an exciting one, as key issues both here at home and in international soybean markets will keep Soy Canada's calendar full.

Trade missions are vital to expanding export markets for Canadian soybeans. In November, Soy Canada travelled to the European Union (EU) to work on further expanding trade into this key market. On this trip, stops were made in Italy, Spain, Belgium, and the Netherlands. Each stop included meetings and information exchange focused the various components of the soybean value chain: meeting with importers and trade associations, with EU trade associations for food and feed

and then with importing companies and national associations.

In mid-February, Soy Canada will plan and undertake a mission to Japan and South Korea. Japan, of course, is a highly valued and long-term market where Canada's quality advantage and robust quality assurance system in non-GMO, food-grade soybeans has served us well. Regular meetings with trade associations and importers in this market are very important to staying on top of evolving customer needs and any emerging regulatory or policy issues.

Canada and Japan are both participants in the recently concluded Trans-Pacific Partnership, which provides new opportunity, especially for soy oil exports. South Korea is another market in which recent trade agreements provide new opportunity. A 10% tariff on soybeans was removed last year when the Free Trade Agreement went into effect, so we want to learn more about

market opportunity there and make contact with key importers, end-users and associations. Both markets are increasingly competitive, adding an extra interest in making the visits.

We've also been actively laying the groundwork for market research projects focused on relatively new soybean export markets such as Taiwan, Indonesia, and China, with a trade mission already in the planning stages for Indonesia. We're working at deciding on the timing of a trade mission to Taiwan and possibly China; these market research projects are a critical first step in identifying opportunities, contacts, applicable events and possible challenges ahead of a trade mission.

Of course, with a new government soon to be setting direction both for domestic markets and for international trade, Soy Canada will be spending

continued on page 18

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some time digging into the Liberal's campaign commitments, in preparation for effectively engaging with this new government.

TRADE MISSION RECAP

On the subject of trade missions, Soy Canada participated in the Government of Canada's agriculture trade mission to China from June 11 to 18, 2015. Soy Canada's delegation included several speciality soybean and commodity exporter representatives as well as Kyle Friesen, Chair of the Manitoba Pulse & Soybean Growers who provided a strong producer voice.

Unfortunately, the Minister of Agriculture was unable to lead the mission but it was very capably led by the Deputy Minister of Agriculture and Agri-Food Canada (AAFC), Andrea Lyon. Soy Canada organized meetings above and beyond the delegation's official schedule. These meetings were focused specifically on soybeans, and we were pleased to be joined by the Deputy Minister; Canada's Ambassador

to China, Guy Saint-Jacques; the Chief Commissioner of the Canadian Grain Commission, Elwin Hermanson; and the President of the Canadian Food Inspection Agency, Bruce Archibald.

Together, Canadian industry and government representatives fielded a very strong team and were able to communicate the advantages Canadian soybeans bring to the Chinese importer and consumer. Our messaging focused on the clean, productive growing environment in Canada, the high quality of our products, the robust quality assurance system we have in Canada for both commodity and food-grade soybeans, and our growing production in Canada which enables us to be reliable suppliers of large quantities of soybeans for China.

The mission touched down in Shanghai, Chongqing and Beijing. Soy Canada hosted soybean-focused meetings with Chinese importers and associations in Shanghai and Beijing, and Soy Canada participants took part in events organized by AAFC in each

city, including agriculture trade fairs called *Export Café* in each city.

Among the main 'take aways' from the mission, we learned that:

- China's continually growing appetite for commodity soybeans, primarily as livestock feed, is expected to continue to grow, although perhaps not at the rate of growth we have witnessed over the past decade;
- There is growing demand for food-grade, non-GMO soybeans for the food and drink market;
- Quality assurance is a dominant issue for China and its new laws to ensure food and feed safety are likely to add additional regulations to the trade of all agriculture products entering the country. On this issue, Soy Canada is working, as a member of the Canada Grains Council, along with other commodity groups to engage Chinese importers and policy makers in an effort to ensure regulations do not unnecessarily hamper trade.

continued on page 19

BROWN-BAGGING: a risk you shouldn't take

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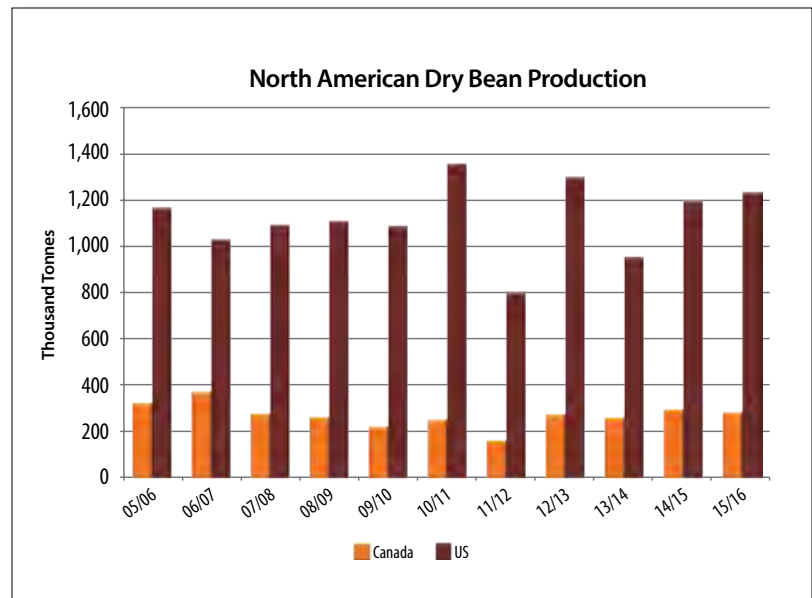
THE CASE OF THE MISSING BEAN BIDS

Chuck Penner

LeftField Commodity Research Inc.

Just to be completely upfront, I'm a big fan of market transparency, and I'm not surprised farmers are asking why dry bean bids aren't publicly available. I'm a numbers guy and wherever possible I like to see prices posted. It improves my ability to monitor markets and provide guidance about where things could be headed. That said, thinly traded markets like dry beans can make it difficult to provide timely, useful and reliable prices.

One question raised by farmers is why the United States Department of Agriculture (USDA) can post dry bean bids but nothing similar is available in Canada. Part of the answer is that the US dry bean crop is over four times the size of the Canadian crop, which means larger volumes are traded more regularly in the US. More trading volume allows price information to show up more often, adding to the reliability. It's worth noting that even in the USDA's price reports, there's often a cautionary note that bids are based on very limited trade. At times, the USDA's bids are withdrawn entirely because of insufficient trade activity, so a much smaller Canadian crop makes it even



harder to show meaningful bids north of the border.

The North American Dry Bean production chart shows the overall size of the Canadian crop, which we're forecasting at 282,000 tonnes for 2015/16. When that production estimate is broken down further into individual crop types, even the largest classes of beans becomes a fairly small number. The most common class, navy beans, is less than one third of the total crop.

Other large classes of beans like pintos and blacks still only make up 18% and 13% of the Canadian crop, respectively. So once the crop is "sliced and diced" into its smaller parts, there are only limited volumes of each to be traded and priced.

Then if we look at the beans within each one of those classes that are not forward-contracted and get traded on the spot market, the volumes shrink

continued on page 20

continued from page 18

- In the food-grade IP market, Chinese importers are looking for very high standards.

Following the mission, interest has been expressed by one of the major industry associations we met in organizing a mission to Canada for its members. Soy Canada is now working with Government of Canada partners to organize an incoming mission for next year and we would hope the delegation would visit Manitoba at that time.

Staying with China, part of Soy Canada's role is to stay on top of new or impending rules that may impede trade. Recently, China notified the World Trade Organization (WTO) of its intention to introduce sweeping new laws relating to the trade of

grain. "Measures for the inspection, quarantine and regulatory management of grain entering and leaving China" was notified to WTO in August. The new rules could have a significant impact on trading with China, as the proposed rules add several layers of duplicated quality assurance paperwork. The Government of Canada, following consultation with industry, will be filing comments. Soy Canada and other commodity groups will be providing comment both through the Canada Grains Council and independently.

SOY CANADA JOINS TWITTER

This fall also marks the beginning of an exciting time for Soy Canada, as in late-September Lyndsey Smith joined the association as Director,

Communications and Stakeholder Relations. Lyndsey is likely a familiar name and face to many of you, as she comes to the association after 13 years of working in farm media, most recently with Real Agriculture. Lyndsey will be heading up member updates, several new market development and promotion projects, and, of course, is developing a social media presence for the association. You can follow us at @Soy_Canada for the latest and greatest (and maybe even some photos from the overseas trade missions!).

For more information on Soy Canada or any other issues above, please contact the association at info@soycanada.ca or visit our website at www.soycanada.ca. ■

even further. The amount of forward-contracting varies from year to year, but typically it's at least half. With such small amounts of "free-range beans" out there, the dry bean trade in Canada is actually quite thin and sporadic, making it difficult for buyers to post a meaningful bid.

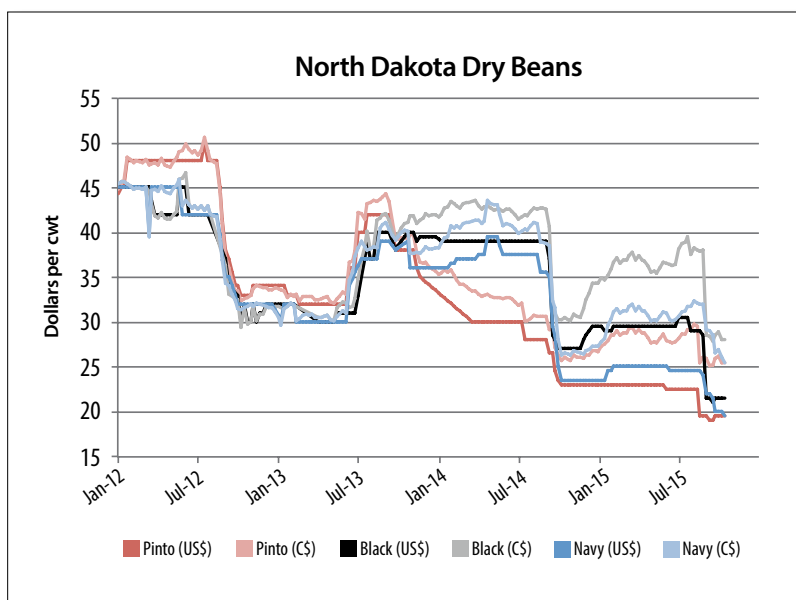
We don't have numerical proof, but our opinion is that a large portion of the beans bought from farmers are based on well-established relationships. Because buyers don't always have to work as hard to find additional sources of beans, there are fewer individual one-off transactions and less need to advertise bids on a web site.

It's also worth noting that even the trades that do occur are irregular and infrequent. Buyers and processors are reluctant to post bids when they're not actively looking for beans. They have already forward-contracted with farmers for a large part of their needs and really aren't looking to buy up uncontracted beans for most of the year. So there could be more gaps in the information than there are actual price quotes.

There's another time when buyers don't want to post bids, and that's when prices are very low. For one thing, it could discourage farmers from planting the crop and extreme swings in acreage can damage the long-term health of a market. On the flip side, low prices posted on public websites are also visible to end-use buyers, which could further reduce what they're willing to pay for beans and drive down the market.

Adding to the difficulty is that the visual quality of the beans largely influences the price. Each individual lot may have different characteristics that affect the price, which may not be closely related (either better or worse) to a standard advertised bid.

Even if all of these factors are in place, buyers and processors are reluctant to post prices for (or even buy large volumes of) beans if they haven't already made the sale with end-users. And after the big volatility of the past few years, buyers seem to be even more cautious than usual about advertising a



price for something they haven't sold yet. Unfortunately, that still leaves price risk with the farmer.

Once you total up all of these factors that chop up the Canadian dry bean market into smaller and smaller pieces, it's not surprising that buyers have a hard time posting timely and useful bids. Sure, some prices could be put up on a website, but they might be more misleading than they're worth. And our experience shows that typically, posted crop prices on buyers' websites tend to be a little cautious. Phone calls still need to be made to individual buyers to find out what they're really bidding.

But all is not lost; it's not a complete information blackout. The North American dry bean market is quite well integrated and most times, Canadian prices are closely related to US values. Part of the reason for the close connection is that the US is Canada's single largest customer of our dry beans and the classes of beans grown in the two countries are similar. At times, there are some differences based on exchange rates and differences in shipping costs to various destinations, but overall, the markets move together.

Because of that integration, price behaviour in the US is a useful indicator of movement in Canadian bids, especially once exchange rates are factored in, as shown in the chart

above. There will likely be some small differences for individual buyers or processors, but this price tracking is a good place to start.

For those who would like to access these US prices, the USDA posts weekly grower and dealer prices (where available) for a large number of bean classes and other pulses at www.ams.usda.gov/mnreports/gl_gr851.txt. The USDA also reports daily for a smaller number of bean types at www.ams.usda.gov/mnreports/gl_gr510.txt. Both of these reports can also be sent by email to anyone who wants them.

For farmers who want more local prices, an increasing number of buyers are using services that will alert farmers by text or email when an updated price is available. These alerts are far more timely and accurate than an aggregated price posted on a website that is updated periodically.

While this may not answer the needs of farmers who want to be able to see every price at the click of a button, it's important to recognize the limitations of providing reliable price information in a smaller and fragmented market. Even information services that post prices for major crops like canola and wheat don't completely fill the gap between the buyer and the seller. That final part of price discovery is the responsibility of the two individual parties. ■

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As the 2016 United Nations International Year of Pulses approaches, researchers at the University of Manitoba have insights into the health and heart benefits of these sensational seeds.

Dr. Peter Zahradka, Professor, Centre for Agri-Food Research in Health and Medicine, St. Boniface Hospital Research Centre, has been conducting clinical pulse consumption trials which involve asking people with peripheral artery disease to eat half a cup of mixed pulses every day for eight weeks. The objective was to observe the health outcomes of effects that eating pulses had on the body, but the initial outcomes were even better than researchers had hoped.

“We had expected there might be something, but we didn’t expect to actually see changes in the blood flow that were measurable by the gold standard technique for diagnosing people with peripheral artery disease,” said Dr. Zahradka.

So what exactly are pulses? Pulses are a specific branch of the legume family which includes only dried peas and beans, lentils and chickpeas. Their claim to nutritional fame includes being a high source of protein and fibre, in addition to having a low fat content.

Jocelyne Gaudet, Project Coordinator for the Manitoba Consumer Monitor Food Panel (MCMFP) and Professional Home Economist, weighs in on the confusion surrounding pulses. “I think that there is a bit of confusion around what pulses actually are. When people think about dried beans or dried peas they think that they are the same as fresh peas or beans. Overall, they come from the same legume family, but dried beans and peas, lentils and chickpeas are the separate subcategory of pulses. I think that a pulse, in the context of food, is a new word for people, and it may take some time to really understand the distinction.”

As individuals learn more about what pulses are, researchers are learning about the positive effects that they can have on our bodies. “We’re trying to use animal studies to figure out how they (pulses) work. The result of one study recently published was that eating these pulses physically changes the structure of the blood vessels making them more elastic. Atherosclerosis is hardening of the arteries, and eating pulses reverses that process,” added Dr. Zahradka.

In spite of the remarkable health related benefits of eating pulses and the fact that pulses are primarily grown in this province, Manitobans are still not eating their beans!

Manitoba Consumer Monitor Food Panel (MCMFP), in joint collaboration with the University of Manitoba, surveys 4,000 panelists from across

Manitoba and asks them questions on their knowledge, reactions, preferences and behaviours around food and health related matters. In a recent survey asking questions about participants’ knowledge and behaviours regarding the consumption of pulses, many participants indicated that they did not eat them as part of their daily diet.

“It’s quite surprising considering that pulses contribute a billion dollars a year to the Canadian economy and Canada is a major exporter of pulses in the world,” added Dr. Zahradka.

Dr. Tammi Feltham, Co-Investigator for the Manitoba Consumer Monitor Food Panel, said that she does not find the results surprising that pulses may have substantial health benefits. “Our panelists are well aware of the benefits of eating pulses. Almost half of the respondents strongly agreed that pulses were nutritious and part of a healthy diet.” The part that she does find concerning however is that although the health benefits are well known, that still does not mean that people are eating pulses. “Pulses still seem to be under represented at the dinner table. Our panelists indicated that if more information was available about the benefits of eating pulses, more people may purchase them. So let’s get the word out there about these studies and make the International Year of Pulses a memorable one.” ■

GREAT Tastes OF MANITOBA

Culinary Creations with Pulse Flours and Purées

show will air on

Saturday, December 12, 2015

from 6:30 pm–7:00 pm on

CTV Winnipeg.

MPSG’s Roxanne Lewko with host Dez Daniels, will be featuring *Culinary Creations with Pulse Flours and Purées* on the 26th season of *Great Tastes of Manitoba* this fall.

The featured recipes – **Perogy Dough** (using pinto bean flour), **Pinto Bean and Chia Seed Power Balls**, and **Almond and Chocolate Espresso Cake** (with black bean flour) – showcase how to incorporate pulse flours and purées into familiar foods to increase nutritional value without compromising taste. They are sure to get people inspired to cook and bake with pulse flours and purées.

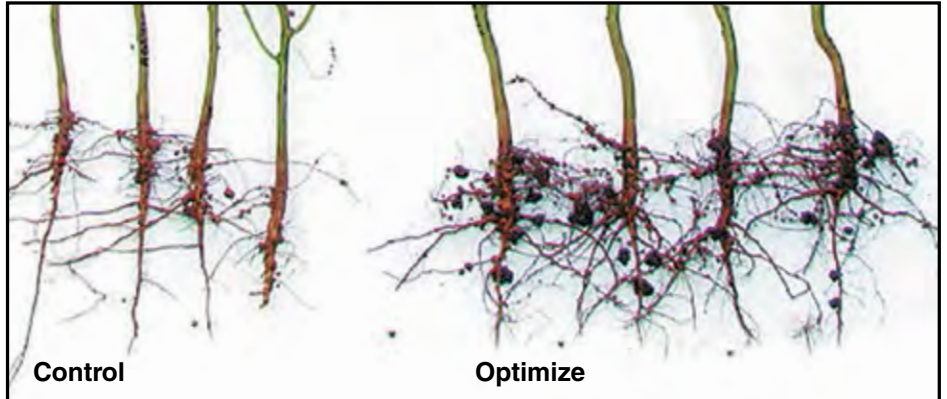
Manitoba Liquor Marts will also be there to select wines, beers or spirits to pair with each dish.

For recipes featured on the show visit greattastesmb.ca



Why Inoculate or Dual Inoculate?

- Effective nodulation is essential for nitrogen fixation, particularly in soils where soybeans have not been planted recently
- Dual (or double) inoculation can help quickly establish high populations of rhizobia bacteria to ensure optimal nodulation and soybean performance



Enhanced root growth.

Dual Inoculation

Land that has been through less than ideal growing conditions, or has not had soybeans for a few years, requires special attention when it comes to inoculation. Dual inoculation can help quickly establish high populations of rhizobia bacteria to help ensure the best possible nodulation and soybean performance. Land with a history of longer soybean rotations, or land with a history of flooding or longer periods of drought, is not conducive to rhizobia survival. It is in these soils that farmers will benefit greatly from the application of two formulations of inoculant.



Root nodules and a dissected, pink nodule

Seed-applied inoculants tend to form nodules closer to where the seed is located (closer to the primary root); in-furrow-applied granular inoculants tend to form nodules on the secondary or lateral roots. Combining the two formulations allows for wider distribution of nodules along the whole root system.

Dual inoculation combines seed-applied inoculants with a sequential in-furrow application of a granular or liquid inoculant to quickly establish high populations of rhizobia bacteria to ensure optimal nodulation and soybean performance.

How to dual inoculate

As the base treatment in dual inoculation, Optimize[®] ST, a new more concentrated formulation of Optimize, provides the benefits of a specially selected *Bradyrhizobium japonicum* inoculant along with lipochitooligosaccharide (LCO) technology:

- Improved nodule formation
- Increased nitrogen fixation
- Enhanced nutrient availability, which supports root and shoot growth
- Broad seed treatment compatibility with 120-day on-seed stability

LCO is a molecule involved in the rhizobia-legume nodulation system. LCO is an important component in nodulation as a key driver in the communication between plants and rhizobia.

With Optimize ST, there is no lag time for plant development waiting for the LCO signal, as it is delivered on the seed. This gives the plant more time to grow (closing the communication gap between the plant and the rhizobia). Optimize ST is applied to soybean seed by retailers.

For soybean growers with air drills and a granular applicator, TagTeam[®] granular is an ideal sequential product with Optimize ST. TagTeam for soybean combines the phosphate-solubilizing organism *Penicillium bilaii* and *Bradyrhizobium japonicum* in one inoculant to help address your soybean crop's phosphate and nitrogen fertility needs. *Penicillium bilaii* provides crops access to soil and fertilizer phosphate.

For growers without a granular applicator, or a planter with a liquid kit, Cell-Tech[™] liquid applied in-furrow through a liquid applicator is a good option. Cell-Tech is a single-action inoculant that contains a specially selected *Bradyrhizobium japonicum* species.

If phosphate is limited, JumpStart[®] inoculant, containing *Penicillium bilaii*, can be seed-applied along with Optimize ST by your retail, and Cell-Tech liquid or granular applied sequentially in-furrow. JumpStart increases phosphate availability for better use of phosphate and higher yield potential.

Consult your local Monsanto BioAg representative or local retailer for further information on how to dual inoculate soybeans to ensure optimal nodulation and soybean performance.



www.monsantobioag.ca

How One Company is Elevating Batters and Breading to a New Level

Pulse Canada 

Anya McNabb
Pulse Canada

With every bite that you take from a chicken finger or fish stick your brain makes an assessment. It's crispy or perhaps too crumbly or too salty. Each one of these assessments can determine whether or not you'll buy the product so food companies take them very seriously.

Griffith Laboratories has been working to make sure that breaded and battered products meet consumer expectations on all levels, and they're using pulses to do so.

Griffith is a bulk ingredient processor with facilities in 18 countries. Their facility in Toronto is one of their largest and is the global R&D centre for breading. Their main focus is creating seasonings, batters and crumbs to coat meat products like chicken, fish and seafood and vegetables like onion, zucchini and mushrooms. Your favourite chicken fingers, fish sticks and onion rings all come from places like Griffith.

➤ *Partnerships like the one with Griffith provide greater potential to increase the use of pulse ingredients and support the ultimate goal of increasing pulse consumption.*

Increases in food allergies, celiac disease and gluten sensitivities have food companies looking for new food products that appeal to a new customer segment that typically stays away from coated products. Thanks to pulses, battered, breaded or thickened foods soon won't need to be off limits to these people.

"Our goal is to deliver texture, flavour and appearance; adding value to items being coated. We've started using pulse ingredients to enhance nutritional and functional properties," says Joachim Baur of Griffith Laboratories. "The allergen-free potential is a strong saleable bonus."

Griffith began working with pulse ingredients in April 2014 after receiving financial support from Agriculture and Agri-Food Canada (AAFC) through their Agri-Innovation Program. Pulse Canada led the development of the AAFC funding application for the Griffith project, as well as projects with two other multi-national food manufacturers.

"It was a combination of our resources, the funding support of AAFC and the existing research that had been done that allowed us to make significant progress in the application of pulse flours, fibres and proteins in the coatings category," said Baur.

Some of the previously funded research projects looked at using extrusion technologies to develop puff or crisp type snacks similar to Cheetos. Some others worked with whole or milled puffs/crisps to create bread crumbs that could be sold to coatings companies.

Using the results of this research and their long-term experience of cooker extrusion and dough processing, Griffith created a line of pulse-based crumbs modelled after the Japanese style wheat-based crumb or "J-crumb."

Griffith examined the shortfalls of previous products and determined what criteria the new crumb would need to fill to perform better than the J-crumb.

They determined that the new crumb would need to meet high quality standards while remaining cost-effective. The crumb needed to be optimized for each product's storage conditions which can range from weeks of freezing temperatures in retail packages to hours under hot heat lamps in restaurants. They also needed to be optimized so that quality and crispy texture are always consistent when consumers prepare the products at home, whether it is in the microwave or



Griffith Laboratories are using pulse ingredients to enhance nutritional value to coatings.

conventional oven. Finally, the coatings needed to appeal to consumers and deliver taste satisfaction every time.

Pulses enhance the nutritional value of coated products because they are high in protein and fibre. Pulse ingredients are well-suited to be used in coatings because they have high water absorption and thickening effects that allow them to stick well to the product. Finally, pulses are not a recognized allergen in North America; a feature that's important to Griffith.

The 2014 project has led to the successful launch of Griffith Laboratories' Creative Coaters product line. Creative Coaters now includes four coatings made from pulses that can be sold in both the gluten-free and regular market. Griffith expects that consumers will see the pulse-based coatings of Creative Coaters on grocery shelves by January 2016.

This project is a great example of how a research partnership with a food manufacturer can lead to successful commercialization of pulse-based foods. Partnerships like the one with Griffith provide greater potential to increase the use of pulse ingredients and support the ultimate goal of increasing pulse consumption. ■

Griffith Laboratories was founded in 1919 with a vision of bringing the scientific discipline to the food industry. With Superior Food Science as one of its key pillars, it continues to provide the industry with process and ingredient innovations – hundreds of which have been patented. Located in 18 countries around the globe, Griffith employs some 2800, exchanging expertise and best practices between the many groups; especially, R&D and sensory scientists, culinary chefs and the marketing teams.

How Manitoba Pulse & Soybean Growers is Involved

The United Nations has declared 2016 the International Year of Pulses (IYP). This is an exciting and unique opportunity for the pulse industry to really grow and strengthen. Creating global awareness around what pulses and their quality attributes are will elevate the pulse profile, increase pulse use and consumption in Canada, and create broader business opportunities for Canada's pulse industry.

There are four IYP thematic areas: Food & Nutrition Security & Innovation, Productivity & Environmental Sustainability, Market Access & Stability, and Creating Awareness. Pulse Canada is leading several Canadian initiatives under each of those areas, including equipping leading experts in the fields of food science, health, nutrition and food security with the latest research and opportunities related to pulse

nutrition, health and food innovation; highlighting the environmental benefits of pulses at global research conferences and identifying research gaps related to the productivity and sustainability of different pulse crops around the world; addressing pulse-related market access issues and advocating for greater trade efficiencies to benefit the entire value chain; and launching a global pulse brand, a new consumer-facing website, and a media outreach campaign to drive consumer awareness of the benefits of pulses in 2016 and beyond.

Additional IYP initiatives that Pulse Canada is leading include a national education initiative to raise awareness of pulses in Canadian schools, an interactive pulse-focused exhibit to be featured at museums and public spaces across Canada, videos and promotional materials to educate and inform the Canadian public about pulses, new recipes to help Canadians

discover creative and delicious ways to cook with pulses, a two-part workshop on pulse processing innovations for food ingredient companies and food manufacturers, and a national food security initiative that will show Canadians how to enrich their diets and culinary skills with pulses.

All of these valuable initiatives require personnel and financial resources. In addition to existing staff support, Pulse Canada hired an IYP Canada Coordinator, Madeleine Goodwin. Pulse Canada has also been successful in acquiring funding from various government programs. Each of the provincial pulse organizations in Canada, including Alberta Pulse Growers, Saskatchewan Pulse Growers, Manitoba Pulse & Soybean Growers (MPSG), and Ontario Bean Growers, are doing their part as well, and dedicating staff time and budget dollars

continued on page 26

WB
WALHALLA BEAN
CANADA

CGI
COLUMBIA GRAIN

TRADERS, PROCESSORS, ORIGINATORS OF DRY BEANS
Pinto, Black & Small Red Bean Processors - New Crop Contracts - Western Certified Seed

PROCESSING & RECEIVING FACILITY	MARKETING OFFICE, PROCESSING & RECEIVING FACILITY	RECEIVING FACILITY
Walhalla Bean Company	Walhalla Bean Co. (Merrifield)	Walhalla Bean Canada
Darryl Berg	John Berthold Jamie Carlson	Ray Penner
Highway 32 North, P.O. Box 67 Walhalla, ND 58282	7400 55th Street South, Grand Forks, ND 58201	655 George Ave., P.O. Box 761, Winkler Manitoba Canada R6W 4A8
Toll Free: 1.800.227.4494 Ph: 701.549.3721 / Fax: 701.549.3725 email: dberg@columbiagrains.com	Ph: 701.775.3317 / Fax: 701.775.3289 email: jberthold@columbiagrains.com jcarlson@columbiagrains.com	Ph: 204.325.0767 / Fax: 204.325.0768 email: rpenner@columbiagrains.com

www.walhallabean.com "Where our customers send their friends" www.columbiagrains.com

to join in on the IYP opportunities and support Pulse Canada in their tremendous efforts.

MPSG carefully reviewed all initiatives and made funding decisions based on the quality of the project and the impact our funding would have on its success. We budgeted \$20,000 in 2015 and \$20,000 in 2016, and we want to ensure we make the best use of our dollars. For example, we felt a \$20,000 contribution to a \$750,000 project didn't make good sense because our funding would hardly get noticed. However, on smaller projects, a \$20,000 contribution would get noticed and would have an impact on the project's execution, outcome and success.

Through much deliberation and thorough consideration, MSPG decided to dedicate our IYP funding to the following two Canadian Initiatives:

1) THE CANADIAN FOOD SECURITY/FOOD LITERACY PROJECT – \$20,000

This project consists of a series of simple pulse recipes and information/tips on how to cook with pulses, created with the help of a few local food security organizations, which will be distributed Canada-wide for use in community kitchens, cooking clubs, food banks, etc. A video component is being considered, and the idea is that these resources will help foster creativity, resourcefulness and community among low-income Canadians while also helping them learn how to eat healthier. The ingredients in the recipes will be cost-effective and easy to find in local grocery stores or at food banks. A few of the Winnipeg organizations involved include Food Matters Manitoba, the Child Nutrition Council of Canada and the NorWest Community Food Centre. This project will likely get media coverage throughout the year.

As part of this project, Pulse Canada also wants to create a resource for organizations engaged in food security work around Canada to use that would help them incorporate pulses into their programming. They held consultations with a few different organizations in Winnipeg and Vancouver, and the Childhood Nutrition Council

of Manitoba and Health Canada are highly supportive of the project. In September, Pulse Canada staff put on a cooking demo at the Greater Vancouver Food Bank Society for their staff and volunteers to obtain feedback about how they think the recipes could be improved/tweaked to better fit programming needs.

Pulse Canada is also considering getting the supply side involved by helping industry and others in Canada learn how to be good volunteers/food-bank donors and encouraging them to volunteer/donate to these groups during 2016. To support this initiative someone from a food bank or community kitchen may present at the Canadian Special Crops Association annual convention, and it will be used as a launching point to encourage a donation drive for the summer.

MPSG's contribution has a real measurable impact on this project because it's not an expensive project and it has potential to really increase pulse consumption across Canada.

2) TRAVELLING MUSEUM EXHIBIT PROJECT – \$20,000

The Canadian Ag & Food Museum is designing a pulse exhibit that will be featured in the museum for some time and then travelling around Canada to a few select high traffic locations during 2016 (e.g., Calgary Stampede, airports, malls, etc.). Confirmed events and locations to date are the Canadian IYP launch event on January 6th in Toronto, the Royal Agriculture Winter Fair in Toronto, and Aggie Days in Calgary. Other venues being explored but not yet confirmed include Port Metro in Vancouver, the Calgary Stampede and Ag in the City in Winnipeg. MSPG has suggested that the exhibit also visit other well attended events/venues in Manitoba, including the Royal Manitoba Winter Fair in Brandon, the Red River Exhibition in Winnipeg, and the Children's Museum in Winnipeg.

Considerations Pulse Canada has taken into account when deciding on venues include costs (buying booth space, staffing the exhibit, shipping), consumer traffic and number of

consumers who would see it, and timing (which months are busiest for that location).

The travelling exhibit will present pulses as an "ideal partner" and is composed of five pods. People of all ages will have fun discovering or rediscovering pulses and their benefits to our health, our environment and our industry. People will be able to visit the display pods in the order of their choice, as each section is treated as an independent unit focusing on a specific benefit of pulses, and topics will be explored by reading text, looking at pictures and activating interactive components. People will learn about pulses long history in Canada and around the world, and realize that pulses are a healthy, affordable, energy efficient source of protein with a role in global food security.

In June it was brought to MSPG's attention that this project needed funding and was one of Pulse Canada's highest needs/priorities. Without MSPG's contribution, this project would have been cancelled. \$5,000 will go towards the website component, and \$15,000 will go towards moving the exhibit around to various events/locations across Canada.

Once again, MSPG's contribution has a real measurable impact on this project because it's inexpensive and it has potential to really increase pulse awareness across Canada.

MPSG is looking forward to witnessing these IYP projects unfold and take place. 2016 will be an exciting year! To learn more about IYP events and initiatives taking place in Canada, visit iypcanada.ca. ■



GETTING IT RIGHT

Soybean Production Meeting

Thursday, January 28, 2016

See page 50 for more details

INTERNATIONAL YEAR OF PULSES LAUNCH EVENTS

Momentum is building for International Year of Pulses (IYP) in 2016. Pulse organizations are gearing up for some fun events and the implementation of several exciting projects. To kick things off, there are several IYP launch events taking place between November 2015 and January 2016 in Canada, North America and all around the world.

ROME – The first event was the official United Nations launch of IYP, which happened on November 10th in Rome.

NEW YORK – The media launch event took place on November 18th in New York. This event was organized by the US Dry Pea and Lentil Council, Pulse Canada's American counterpart, and was essentially the official North American launch of IYP. It featured pulse-themed dishes prepared by chefs Alex Guarnaschelli, Sam Mason, Seamus Mullen, Michael Solomonov and Brad Farmerie. It was held at Public Restaurant, a very trendy Australian restaurant in New York City, from 6:30–9:00 pm. Guest speakers presented on the benefits of pulses on human health, nutrition and environmental sustainability.

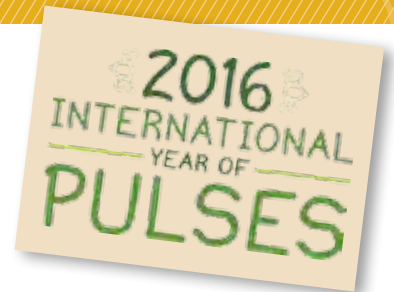
On November 19th there was a one-day conference on pulse health and nutrition, *Little Beans, Big Opportunities: Realizing the Potential of Pulses to Meet Today's Global Health Challenges*, held at the Sackler Institute for Nutrition Science at the New York Academy of Sciences, a very highly regarded institution. Speakers included a representative from the Food and Agriculture Organization (FAO) of the United Nations, as well as experts and researchers in the areas of health, nutrition and sustainability, including Richard Black from Pepsico and Julianne Curran from Pulse Canada. The goal of this conference was to look at the contribution of pulses in healthy and sustainable diets, examine how pulses can make significant impacts on public health, and explore opportunities for enhancing these benefits broadly through food system innovations.

There was also a half-day invitation-only event on November 20th. This

meeting was held at the New York Academy of Sciences and it brought together private and public sector actors to talk about what they learned at the conference, and how this can be translated into policy and practice. Guests included representatives from the Bill & Melinda Gates Foundation, United States Agency for International Development, FAO, Michigan State University, Archer Daniels Midlands Company and Nestle.

TORONTO – The Canadian IYP launch event, Pulse Feast, is taking place on January 6th in Toronto from 6:00–9:00 pm at Design Exchange, Canada's Design Museum. Chef Michael Smith will be there, and there are going to be pulse-themed dishes served. Invitations have been sent to prominent bloggers, chefs, and members of the food industry, as well as members of our own pulse industry. Representatives from Manitoba Pulse & Soybean Growers (MPSG) will be in attendance. Rachel Kehrig at Saskatchewan Pulse Growers and Erin Morgan at Ontario Bean Growers are taking the lead on planning this celebratory occasion.

MANITOBA – MPSG has partnered with Best Cooking Pulses to plan a Manitoba IYP launch event on January 6th to coincide with the Canadian launch in Toronto. It will be taking place at the McNally Robinson book store on Grant Avenue in Winnipeg, in conjunction



with the Prairie Ink Restaurant & Bakery. Prairie Ink proudly uses local produce and ingredients whenever possible, and we are excited to see what sorts of pulse features they will be serving to our guests on January 6th. Invited guests include dietitians, media, food bloggers and government dignitaries.

AROUND THE WORLD – There will be IYP launches taking place all around the world on January 6th, including the United Kingdom and Japan. *Join in the celebration!*

Beans, peas, chickpeas and lentils have been contributing to global health, nutrition and environmental sustainability for thousands of years. IYP will celebrate the enduring role of pulses in nourishing people around the world. Please join us on January 6th and celebrate pulses with us! Cook or bake with them, eat them, tell your family and friends about them, and raise a glass to their amazing past and promising future.

Visit iyp2016.org for more information on IYP events and activities happening around the world. ■

DATES TO REMEMBER



CropSphere – Saskatoon, SK – January 12–13

Ag Days – Brandon, MB – January 19–21

FarmTech Conference – Edmonton, AB – January 26–28

Getting it Right – Soybean Production Meeting – Canad Inns Destination Centre, Portage la Prairie, MB – January 28

CropConnect Conference – Victoria Inn Hotel and Convention Centre, Winnipeg, MB – February 10–11

Canolab – Brandon, MB – March 9–10

Canadian Pulse Research Workshop (CPRW)

– Winnipeg, MB – October 26–28

2016

Current Soybean Processors in Manitoba

Marlene Boersch

Mercantile Consulting Venture Inc.

The Manitoba soybean acreage has continued to grow and this September Statistics Canada estimated the 2015 Manitoba soybean production at 1.3 million mt, up another 14% over last year's 1.1 million mt.

Manitoba has exceeded Quebec's soybean production for the past three years and now represents 22% of total Canadian production. This is up from 9% as recently as 2011. Combining the Manitoba and new Saskatchewan production, brings the 2015 Western Canadian soybean percentage to 25% of total Canadian production. The growth in soybean production has shifted to the west.

On the demand side, most of the western soybeans are shipped into the export markets. This is in spite of Manitoba's viable hog industry which uses soybean meal for about 20% of the hog ration. Indeed over the past decade, Manitoba has imported an average of 360,000 mt of soybean meal from feed mills in the U.S. and Eastern Canada to cover its meal demand. And the percentage of soybean meal used in a ration would likely increase with a larger local supply of soybean meal. It is one of the reasons Mercantile saw an opportunity for a Manitoba soybean crush plant in its report to MPSG this spring.

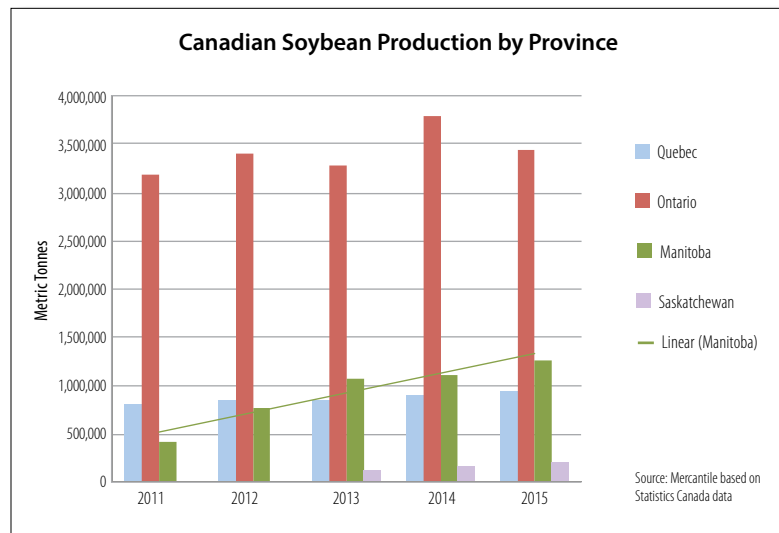
While crushers have not yet built a large scale dedicated soybean crush plant in Manitoba, there are several smaller scale, specialized soybean processors in the province. These processors serve the local market and provide a small portion of the soybean meal fed to livestock in Manitoba. Here is a brief outline of the type and purpose of these facilities.

Delmar Commodities Ltd. operates Western Canada's leading soybean extrusion plant 'Jordan Mills,' which is located at Jordan Corner (junction of Highways 3 and 23), Manitoba. The plant was built in 2004 by a group

of private partners, which included Delmar Commodities. The ownership structure today is 50 per cent by five Delmar employees and 50 per cent by the Keystone Grain Group, owners of Keystone Grain in Winkler. Jordan Mills produces soybean meal and oil for the animal feed industry through a non-chemical extraction process to produce two distinctive products: express soymeal and soybean oil. Both products are used in Western Canada as livestock feed. In the mechanical process of soybean oil extrusion used at Jordan Mills, the soybeans are cracked, dried, heated and then fed into a

and is marketed as a premium product to the dairy industry. The Jordan Mills plant capacity is 150 mt per day and processes 100% soybeans.

Natural Proteins Inc. in Ste. Anne, Manitoba, also operates a soybean processing facility. Natural Proteins uses a mechanical, non-solvent method to process soybeans as well. The soybeans are subjected to a high temperature, short time thermal process in an extruder. This serves to deactivate undesirable enzymes, release the oil, and improve the digestibility of the protein. The oil is separated by mechanical pressing in a screw



mechanical press. The resulting flakes are dried and ground. In the market, soybean meal is usually classified for marketing by its crude protein content or by the sum of protein and oil. There are generally two main categories: a) the 'high protein' soybean meal with 49–50% of protein and oil and 3% crude fibre, obtained from dehulled seeds, and b) the 'low protein' meal, with 44–46% protein plus oil and 6–7% crude fibre, that contain the hulls. In solvent-extracted soybean meals, oil content is typically lower than 2% while it exceeds 3% in mechanically extracted meals such as marketed by Delmar. The mechanical extraction process used by Delmar improves the rumen by-pass protein value of the meal for ruminants

press. The resulting meal again is high protein. The meal is marketed as a premium product over imported soybean meal.

Also located in south central Manitoba, R-Way Ag was established in 1978 in St. Claude by Roland Rouire and Denis Bruneau. Their plant was originally designed as a seed processing plant, but it has since evolved into a full service agricultural centre. Rouire acquired the business in 1984 and Rouire's eldest son, Guy, joined the operation in 2001, bringing along a new vision: selling the seed and crop care products to the grower purchasing the crop and processing the seed to sell it back to the producers and feed

continued on page 29

manufacturers. Today R-Way Ag is a market leader in the processing, roasting and distribution of ‘roasted soybeans’ (called R-Beans by the company). The roasting process starts with cleaning the soybeans prior to processing to reduce the foreign matter. Then the soybeans are subjected to heat. Proper heat treatment is crucial: under heating would not destroy inhibitors and overcooking the soybeans would tie up nutrients. But done properly, the intricate process of correctly roasting soybeans allows the most amount of bypass protein available in dairy diets. The roasted soybean is a dry product with a moisture content of approximately 6%. The toxic enzymes present in raw soybeans (urease and lipoxidase) are destroyed, while the oil and lecithin are retained and turned into golden nutritious soybeans. The end product is marketed to the dairy, hog, poultry and horse markets across the prairies. Roasted soybeans are said to be especially beneficial in all high energy demanding diets because they are processed without removing any oil content from the bean. On the sales side, R-Way Ag roasts soybeans containing a guaranteed minimum of 35% protein and a minimum of 18% fat. R-Way Ag Ltd. can process ~100 mt per day.

There are several other relatively small operations and/or Hutterite colonies with existing crush capacity or with plans for a small scale crush facility (25 mt–100 mt per day) for in-house feed use and for smaller scale sales. Indeed, southern Manitoba is

renowned for creating diverse small agribusinesses. However, both the quickly increasing soybean acreage base and existing demand for meal could support a dedicated large-scale facility. There seems to be no plan for one to date, although the following plants have the theoretical capacity for crushing soybeans.

Bunge in Altona, Manitoba, operates a solvent crush plant that today is dedicated to canola crushing. The plant has the capacity to crush soybeans, although it is not used for that purpose, but has been used to do so in the past. Daily capacity is 2,500 mt per day.

In Ste. Agathe, Manitoba, Viterra Inc. operates an extrusion/cold-press canola processing plant that utilizes a mechanical crushing process (termed double expeller-pressed) to extract oil rather than using solvent extraction to extract the residual oil from the first press meal. The plant produces a non-GMO canola meal for swine, poultry and dairy. The reason to mention it in this article is that the Viterra plant is also capable of processing soybeans in the same fashion. As mentioned for soybeans above, the expeller-pressed canola meal also has a higher oil content which can range from 9–11% and therefore has higher metabolizable, digestible and net energy content than traditional pre-press solvent extracted canola meal. Like the higher energy content soybean meal from Jordan Mills, the canola meal processed at Ste. Agathe contains more oil than ‘conventional’ canola oil; it has approximately 11% oil, compared to 3%

in conventional canola meal. This extra energy results in approximately 20% more bio-available energy for animals, making canola meal one of the highest energy protein ingredients available. The canola meal at the Ste. Agathe plant does not undergo the same toasting that conventional canola meal undergoes; therefore the facility could more easily be adapted to soybean processing. No solvents are used, and no steam processing is required. Viterra at Ste. Agathe has a crush capacity of 1,100 mt per day.

The current crush capacity used for soybeans in Manitoba is limited and specialized. The existing small processors have been very proactive and innovative, and have carved out a special niche in the market for themselves. However, while there definitely is room for more soybean crush capacity in our market, to date there has not been any uptake on the idea of a larger plant. There is some thought that multinational crush companies have little interest to invest in soybean crush capacity in Manitoba because of their investments in soybean crushing south of the border. This is why one of our recommendations last spring included the possibility of a 1,000 mt per day cold press plant as an alternative to a much more expensive solvent plant. A cold press plant has the advantage of a much smaller capital cost requirement. This is important, as it will likely require independent investors (not linked to multinational crushers) to materially add to the Manitoba crush capacity. ■

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A man and a boy are walking away from the camera on a gravel path that leads into a vast green field under a blue sky. The man is on the right, wearing a blue short-sleeved shirt, blue jeans, and a tan baseball cap. The boy is on the left, wearing a blue t-shirt, blue jeans, and a white baseball cap. They are both looking towards the horizon. The text is overlaid on the left side of the image.

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FARMER PROFILE – Joe Vermeersch

Joe Vermeersch farms north of Baldur, Manitoba with his wife, Darrian, and three children: sons Thomas and Jack, and daughter Megan. Thomas is currently in the Agriculture Diploma program at the University of Manitoba with intentions to come home and farm when his studies are complete.

Joe has a very diverse crop rotation and strives to use good agronomic practices. His main crops include wheat, canola, corn and sunflower, and he also dabbles in growing rye, peas, soybeans, barley and alfalfa. Joe first tried soybeans two years ago. He didn't plant a huge amount of acres; he wanted to get his feet wet first.

"Soybeans were a new crop I could use in the rotation to break disease cycles," says Joe. "Our rotation was getting too heavy with wheat/canola, and the hope was that soybeans could handle lower, wetter land. It was a nice way to stick a pulse crop in there."

Joe grew peas back in the mid-late '90s. He wasn't able to grow them on all



From left to right: Darrian, Jack, Thomas, Megan, and Joe Vermeersch

pieces of his land because some fields had poorer drainage and peas don't do well in moisture, but soybeans could be planted on those fields and thrive.

"Our last crop of peas was planted in '99. We stopped growing them because the price was poor, we weren't being paid a lot per bushel, and the profitability just wasn't there," says Joe. "Plus, we have some hilly land with some rocks, so harvesting peas was a real challenge back then. In the '90s, we didn't have access to land rollers as easily and flex headers were not common."

That's when Joe got into growing sunflowers, but he's thinking about growing peas again in 2016. Equipment has come a long way; Joe rolls his land now and uses flex headers, and he knows it will work better.

"Right now, in our area, there's more money in peas than soybeans," shares Joe. "When we grew them in the past, we always had great yields, so we know the potential is there. We can get 35–40 bushel soybeans, but we can likely make more money growing peas."

The largest benefit the Vermeersch's have seen with incorporating soybeans into their rotation is breaking the disease cycle.

"When we started growing peas in the '90s, we were more concerned about disease in wheat – another reason to lengthen the rotation," says Joe. "Now, the disease concern is with canola and sunflowers, so there's a fit for pulses to break that."

Joe first experimented with minimal tillage in the '90s, and in the early 2000s he really started into it.

"Minimum tillage really cuts down on soil erosion," says Joe. "And our wild oat pressure has really gone down with minimum tillage too." Since growing corn though, he has gone back to a bit more tillage because it's a crop that requires some tillage to break down the stubble.

Joe feels soybeans and peas will have a fit in his rotation going forward, largely due to reducing disease cycles. They're profitable crops to grow as well.

"And I like not having to buy nitrogen fertilizer," smiles Joe. "They're a cheaper crop to grow because they require less inputs and less fuel. I'm curious to see how corn would perform after a soybean or pea crop."

When asked what advice Joe would offer other pea farmers, he says managing perennial weeds the year before planting peas is crucial.

"Canada thistle will come, so you need to be very proactive," advises Joe. "Minimum tillage works better with peas than soybeans. I'm finding soybeans need warm soil in the spring, so black soil is best."

Joe enjoys planting new crops, especially when they pencil out. For farmers who have never planted soybeans before, he suggests they talk to seed suppliers and seed growers if they're interested in trying them on their farm, as they've been very helpful resources for him when he first thought about growing soybeans.

"And the Manitoba Pulse & Soybean Growers," adds Joe. "They're always there to answer any questions I have as well."

When asked where he thinks soybean acres will be in five to 10 years, Joe says that's a tough question.

"In the Red River Valley, if there's room in rotations, they will grow more. On the other side of the escarpment here, we've seen disappointing yields. So much depends on environmental conditions," concludes Joe. "I think lots of guys want to widen their wheat/canola rotation, and both soybeans and peas are a good fit for that. If pea prices stay strong, acres will increase." ■

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The Benefits MPSG Realizes by Leveraging Additional Dollars

Manitoba Pulse & Soybean Growers heard the message that farmers want to see commodity organizations maximize the use of their levy dollars: leverage, leverage, leverage, whenever possible. 2015 was an exceptional year in this regard, as we were able to leverage a total of \$245,874.40 Growing Forward 2 (GF2) dollars from various programs.

As seen in *Working for You*, here is a quick summary:

- leveraged \$139,956 research dollars into \$417,750 through the GF2: Growing Innovation – Agri-Food Research and Development Initiative (ARDI).
- acquired \$63,000 through the GF2: Growing Innovation – On-Farm program.
- acquired \$8,223.40 in GF2 funding from the Growing Actions program for participating in the Ministerial Mission to China. Kyle went on the Mission from June 10–16.
- acquired \$11,332.50 in GF2 funding from the Growing Visions program for updating our by-laws.
- acquired \$23,362.50 in GF2 funding from the Growing Competitiveness – Agri-Extension program for development and distribution of production resources and additions to the MPSG Bean App.

Growing Forward 2

GF2 is a five-year (2013–2018) agricultural policy framework agreement among federal-provincial-territorial governments. It makes proactive investments in research and innovation, while maintaining important business risk management programs. The three priorities of the policy framework are:

1) **Innovation:** increase productivity, reduce costs, advance sustainability and lead to the development and commercialization of new products, processes and practices that will make the sector more competitive.

2) **Competitiveness and market development:** expand opportunities for individual farms and firms and provide industry with the knowledge and tools to compete at home and abroad.

3) **Adaptability and industry capacity:** increase market-based profitability and ability to effectively anticipate and manage challenges and risks.

The GF2 framework aims to transform agricultural policy in Canada by placing more emphasis on proactive and strategic investments that move the sector forward, enhanced co-ordination and collaboration, and the use of

innovation to increase productivity, reduce costs and advance sustainability. There are two types of programs in the GF2 framework:

1) **Strategic initiatives:** helping the industry better respond to changing market conditions and consumer demand, encouraging innovation in practices and processes, and taking advantage of global market opportunities.

2) **Business risk management:** a complete, effective suite of programs to help farmers manage income declines caused

continued on page 34



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by drought, flooding, low prices, and increased input costs.

The strategic initiatives program is applicable to MPSG, while the business risk management program is applicable to individual farms (and includes AgriInvest, AgriStability, AgriRecovery, AgriInsurance and Western Livestock Price Insurance program).

Seven strategic initiatives sub-programs were developed for Manitoba and are administered through Manitoba Agriculture, Food and Rural Development (MAFRD):

1) Growing Assurance: *Advances sustainable business practices*

This program advances assessment, adoption and implementation of environmental, food safety, animal welfare, plant and animal health, biosecurity and traceability systems and activities that support national initiatives, as well as conserve and enhance ecological goods and services on the agricultural landscape. Programs and initiatives included under Growing Assurance include:

- Food Safety On-Farm
- Food Safety Processing and Distribution
- Farmland Beaver Damage Control
- Environmental Farm Plan
- Environment
- Ecological Goods and Services

2) Growing Innovation: *Advances research and adoption*

This program cultivates activities directed at research and on-farm innovation by providing financial support for state-of-the-art organizations and agencies that conduct innovation-driven projects. Initiatives include:

- Agri-Food Research and Development Initiative (ARDI)
- Growing Innovation – Capacity and Knowledge Development
- Growing Innovation – On-Farm

3) Growing Competitiveness: *Advances competitive business skills*

This program builds businesses and business leaders' skills and knowledge through group training and individual

training for young farmers, farmers, and agri-food and agri-product processors. Initiatives include:

- Next Generation
- Agri-Extension

4) Growing Visions: *Advances organizational leadership*

This program boosts industry capacity by assisting agricultural and rural organizations. Funding is available to help develop and implement strategic plans that position the organization to lead the sector forward.

5) Growing Actions: *Advances industry strategies on sector competitiveness*

This program advances industry-led strategies by providing targeted funding to agricultural organizations, including industry-based strategies along the entire value-chain, for development related to market-based opportunities and challenges.

6) Growing Value: *Advances commercialization of products and captures market opportunities*

This program assists farms and agri-processors transformational activities that promote value added product development, commercialization and bringing innovation to market.

7) Growing Adaptation: *Advances water management system*

This program is directed at secure water management projects, helping to create sustainable systems to secure adequate, quality water supplies for agricultural, agri-food and agri-business purposes in rural areas.

In 2015, MPSG was able to acquire funding from four of the seven programs! We are very proud of this accomplishment.

Accessing funds from these government programs takes a lot of work. A significant amount of staff time and effort is spent doing so, which is why the Research Program Coordinator position was created back in January. MPSG needed a staff person dedicated to monitoring the programs, applying when there was a fit, and managing the execution and reporting of the projects. Administratively, these programs are a lot of work; the reporting requirements

are heavy. Fortunately, they are worth the effort financially. The position received a name-change to Program Administrator in September, as we realized the GF2 programs cover more than just research.

When a new project comes to mind or is brought to our attention, we continually refer to the GF2 suite of programs to see if there's a fit. When there is, we apply for funding to maximize the use of our dollars, which in turn provides more value on a per dollar basis of each levy dollar we receive. And ultimately, that brings more value to you, the farmer.

Researchers in particular like the ARDI program, as those matching dollars allow them to increase the scope and length of their projects. They are able to conduct additional analysis or add replications – simply do more work – when they obtain dollars in addition to MPSG's contribution. All ARDI projects are also reviewed by the Western Grains Research Foundation, and they often contribute funding as well. We enjoy helping researchers out in this capacity.

GF2 isn't the only avenue to leverage our dollars. We also fund research projects that obtain additional funding from the Canadian Agri-Science Clusters Initiative, Genome Canada, the Agri-Innovation Program, the Natural Sciences and Engineering Research Council of Canada, Western Economic Diversification Canada, and more. Plus, some of the research projects we fund also receive funding from other grower organizations, including Saskatchewan Pulse Growers, Alberta Pulse Growers, Ontario Bean Growers, Grain Farmers of Ontario, Manitoba Corn Growers Association, Manitoba Wheat and Barley Growers Association, and more. Collaborating with other organizations is one of our top goals.

MPSG does more than just utilize levy dollars – we are dedicated to leveraging additional dollars whenever we can. This helps us achieve our organizational goals and extend each dollar even farther. Extra funding allows us to do more things and expand on project ideas to make them even bigger and better. ■

Brian Clancey

Senior Market Analyst and Publisher

The 2015 calendar year is witnessing international pulse markets registering their strongest price performance relative to grains and oilseeds in history. This has important implications for pulse production in 2016 and the way markets will perform during the last half of the coming calendar year.

During the three years spanning 2012 through 2014, values for world pulses averaged 19% lower than the world cereals index and 26% lower than the Food and Agriculture Organization (FAO) of the United Nations world oilseed price index. So far in 2015, STAT Communication's export-based world pulse price index has been 16% higher on average than the FAO cereal index and 6% above oilseeds.

This year's shift affects the thinking of both farmers and consumers.

Farmers tend to increase land in those crops that generate the best returns. With pulses generating higher than normal returns relative to grains and oilseeds, land in pulses is expected to undergo a general increase around the world.

Consumers view prices from the opposite perspective, expecting the commodity groups to maintain price relationships. When they do not, this can result in demand shift between field crops.

Ultimately, this tension between the price expectations of consumers and income aspirations of farmers brings values for all commodities back to their normal relationships. The implication is that unless grain and oilseed values rise, weighted average prices for pulses will decline. The main reason is that production is expected to increase in 2016.

However, 2016 is also the International Year of Pulses. Promotional efforts in various countries could help increase usage. To the extent this happens, it will moderate any downward pressure on prices from anticipated increases in production.

The global price outlook for other commodities is not positive at this time. A key factor is the price of crude oil, which has had a more powerful influence on grain prices since 2006 than in the years prior. This is simply because ethanol is more widely used in gasoline than a decade ago. Weakness in crude oil prices results in lower gasoline prices, forcing ethanol lower. The same is true for any vegetable oil used for fuel. That directly impacts a large segment of the market for corn, sugar and vegetable oil.

Monthly average crude oil prices have trended lower since June of 2014 when crude oil averaged U.S. \$108.37 per barrel. They reached a low of \$47.45 in January and managed to rebound to \$62.50 by June, before resuming their downward trend.

Markets are influenced by China's slowing economy and the increased availability of domestically produced oil in the United States along with the unwillingness of the Organization of

the Petroleum Exporting Countries (OPEC) states to trim production. Part of the problem faced by oil is that frackers in the United States have managed to cut production costs by a third, allowing them to keep pumping oil despite lower prices.

Discussing the longer-term outlook for base commodities, Macquarie Group's Global Head of Commodity Research, Colin Hamilton recently said, "Falling prices and global volatility are likely to continue in commodity markets until supply is curbed by producers." But, reducing supply is difficult in the current market conditions. He said there has been no permanent supply cuts since the global financial crisis began in 2008.

In a world of cheap money, it is cheaper for producers to fund new capacity, but it is also easier to keep existing marginal assets going. Oversupply hurts margins and future investment, which in turn hurts emerging markets.

continued on page 36



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“The result of this is consistently lower demand for commodities and lower costs curves, with the result that the pain cycle will continue until there is a suitable circuit breaker,” says Hamilton. “Demand trends fall outside the control of the commodity sector itself, but supply does not.”

Commodities are a naturally cyclical sector, says Hamilton, and companies will always try to restructure to cut costs and keep assets viable. “Given this, the recent commodity sell-off might be a blessing in disguise,” he says.

In the short term, China’s ever-prominent push to support growth is the only positive for the commodities industry. “We may see a period of upside demand surprise in China, with copper having potential to outperform industrial metals peers,” Hamilton says.

“One of the biggest questions in commodity markets at the moment is how much downside risk is yet to be built into demand expectations for 2016–17. While we feel comfortable that Chinese demand may have hit a cyclical

low, outside of China concern remains for other emerging economies.”

Hamilton also predicts that oil will move through the cycle faster than other commodities. This recovery in the oil price, forecasted to happen in 2017, will help all commodity markets through the return of cost inflation.

Until crude oil recovers, price weakness for that commodity adds to downward pressure in grains and oilseeds. By contrast, pulse markets should remain relatively strong through at least the beginning of 2016. Key among those are forecasts of a smaller than hoped increase in combined kharif and rabi season pulse output in India this season. Imports will remain significant, helping maintain competition among buyers for available supplies in net exporting origins. This has helped get the 2015–16 shipping season off to a strong start for Canada and other origins.

World price should remain relatively strong through at least December. Markets typically experience a seasonal

slow down in December and January, after which they will re-assess the supply situation, the willingness of growers to sell, and seeded area prospects for 2016.

If pulse prices maintain an effective premium to grains and oilseeds through January and February, markets will expect seeded areas to increase significantly. That should result in widening spreads between product sold for delivery during the first half of 2016 versus sales for the shipment during the last half of 2016.

Some of the spread will reflect a tendency for prices to drop back into a more normal relationship with grains and oilseeds. Growers and exporters hope those markets will rise, but substantial price gains in those commodities seems unlikely without a major weather problem and/or a stronger world economy and crude oil values. ■



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Canola	4.94/bu	Oats	1.91/bu
Chickpeas, Desi	.07/lb	Other Coloured Beans	.14/lb
Chickpeas, Kabuli	.113/lb	Peas	3.36/bu
Corn	2.67/bu	Pinto Beans	.13/lb
Cranberry Beans	.21/lb	Rye	2.64/bu
Durum	3.02/bu	Rye Grass Seed, Annual	.17/lb
Fababeans	.05/lb	Rye Grass Seed, Perennial	.27/lb
Flax	6.04/bu	Soybeans	5.12/bu
Great Northern Beans	.18/lb	Sunflowers, Confectionery	.14/lb
Hay (domestic sales)	69.30/mt	Sunflowers, Oil	.108/lb
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SMART

SOYBEAN MANAGEMENT & RESEARCH TRANSFER

Hosting the first Soybean Management and Research Transfer (SMART) Day on July 22nd was the highlight of the summer for MPSG! Held at the Ian N. Morrison Research Farm in Carman, this all-day educational event allowed farmers and agronomists to sharpen their soybean management skills. Participants toured research plots and interacted with researchers and extension specialists working to deliver the MPSG funded agronomy research program.



Dr. Mario Tenuta – Soybean cyst nematode (SCN) may not yet be in Manitoba, but it is a major pest concern just south of the border. Dr. Tenuta, who surveys and tests for SCN in Manitoba, had participants practice identifying the pest and discussed prevention and management strategies for dealing with SCN, including crop rotation, sanitation practices and growing varieties with genetic resistance. This station was a big hit with participants because it was the first time they had seen actual cysts on soybean roots!

Greg Bartley – Greg asked participants to walk into residue management plots and observe differences in residue left behind in no-till, conventional till, strip tillage and fall rye cover crop plots. He discussed differences in temperature, moisture and crop emergence among treatments and the feasibility of adapting high residue/minimum tillage systems for soybeans in Manitoba. Visually, participants could see little differences in soybean productivity between different tillage systems. This was supported by Greg's data which showed no significant increase in soil warming with tillage in light-textured soils. The strip-till implement used in the trial was on display.



Gustavo Bardella & Dr. Don Flaten – Soybean phosphorus (P) management presents some unique challenges. Gustavo and Dr. Flaten, advocated using the 4R nutrient stewardship program to maximize soil fertility to benefit not only soybeans, but a grower's entire rotation. Results from their research show that soybeans may not respond to applied P fertilizer in Manitoba soils, but they remove a significant amount of P which must be replaced in the crop rotation in order to maintain soil P levels and support good soybean yields.



Laryssa Grenkow – Evaluation of the effectiveness of soybean inoculants is important for maximizing soybean yield and the grower's bottom line. Laryssa introduced new small-plot trials evaluating soybean inoculant strategies and presented results of MPSG's on-farm "seed applied vs. seed applied + in-furrow inoculant" trials. The goal of these studies is to compare different brands, formulations and rates of inoculant, and also to determine if double inoculating soybeans is necessary after growing at least two soybean crops in a particular field. Participants were also given a tutorial for quick in-field nodule assessments to determine the success of their inoculant strategy.



Thank You

MPSG would like to thank all of our sponsors and volunteers that contributed to the success of SMART Day.



Dr. Rob Gulden & Charles Geddes – An overview of their studies investigating volunteer canola management in soybean was provided. The importance of an integrated weed management system to prevent the herbicide resistance problems that have devastated parts of the mid-western United States was also discussed. Participants were encouraged to keep an eye out for kochia, waterhemp, false ragweed and giant ragweed – all weeds that have developed glyphosate resistance in North Dakota. In terms of volunteer canola, a more current weed control challenge, Dr. Gulden presented data on economic thresholds and showed participants the efficacy of various herbicides.

Laura Schmidt introduced her new project that will evaluate row spacing and plant population in both navy and pinto beans. Her goal is to determine the optimum combination of row spacing and plant population for weed suppression and yield.



Dr. Martin Entz & Michelle Carkner – Dr. Entz proposed opportunities to venture into organic soybean production given current market demand, availability of new non-GM varieties and increasing agronomic information on how to manage weeds. Michelle toured participants through her non-GM soybean variety trial which was managed with pre-emergence harrowing and inter-row cultivation. There were clear differences between varieties in their ability to compete with weeds.



Marla Riekman – Soil and water management is an important aspect of soybean production in Manitoba – particularly when it comes to iron deficiency chlorosis (IDC). Marla's lesson taught participants the science behind how salinity, carbonates and water all play a role in the occurrence of IDC in soybeans. Various management options including water management and variety selection were also discussed.

Dr. Yvonne Lawley & Cassandra Tkachuk – In a year like 2015 where spring presented several short, sporadic opportunities for seeding soybeans starting in mid-April, Cassandra's project looking at basing seeding decisions on soil temperature was of particular interest. Participants got a sneak peak at how temperature, moisture and seeding date affected crop emergence this spring. With early or delayed seeding, comes the question of adjusting seeding rates; Dr. Lawley showcased a similar field trial looking at the interaction of seeding rates and dates on soybean growth and yield. Stay tuned this winter for the results of these projects!



As seen in the Manitoba Cooperator on August 6, 2015.

“I’ve learned more here than probably what I learned in a month at university.”

— Rauri Qually



How to Use the *Variety Evaluation Guide* to Choose High-Performing Varieties Suited to Your Farm



Kristen Podolsky, MSc, PAg
Production Specialist, MPSG

To some (like me), getting the newest *Variety Evaluation Guide* in the mail is like Christmas coming early!

Why? Because it can mean increased profitability on the farm in the new year. Aside from fall field operations, variety selection marks the beginning of the next growing season. With more than 70 soybean varieties to choose from, that differ in yield by nearly 20 bushels, it's important to ensure you are choosing a variety in the upper percentile. To help you do this, MPSG supports the development of the *Variety Evaluation Guide* (included with this magazine). This guide provides an independent, robust assessment of variety yield performance, maturity and agronomic traits. Variety selections should be based on agronomic and yield performance, not just seed cost, programming or proximity to seed dealers. Here are five steps to follow when choosing soybean varieties.

STEP 1. IDENTIFY YOUR VARIETY ZONE

This is by far the most important attribute because yield potential will only be realized if the crop reaches maturity before frost. In the *Variety Evaluation Guide*, soybeans are classified according to “Maturity Grouping” and “Relative Days to

Maturity.” The rating that we suggest to use is “Relative Days to Maturity.” This rating takes into account all factors that influence soybean maturity including heat, moisture and photoperiod specific to each region across Manitoba.

As a starting point, use Figure 1 to determine what variety zone you are in. In the *Variety Evaluation Guide*, soybean varieties are listed according to “Manitoba Variety Zone” (short, mid and long). You should stay within your variety zone when choosing varieties. It is safe to venture into earlier zones, but not as safe to venture into longer zones. For example, many farmers in mid-season zones are growing short-season varieties due to comparable yield potential and the benefit of earlier maturity. The same can be said about farmers in long-season zones growing mid-season varieties to spread out harvest. Growing multiple varieties across your farm that differ slightly in maturity and yield potential can be a good risk mitigation strategy; when doing this, always plant the longer variety first.

STEP 2. USE YIELD TABLES TO COMPARE VARIETIES OF SIMILAR MATURITY

In the *Variety Evaluation Guide*, there are three tables that list soybean yield:

- i. **Variety Description table** – this table will be your reference for maturity and variety characteristics. All

varieties tested are listed in ascending order of “Relative Days to Maturity” and are categorized into short-, mid- and long-season zones. Use this table to compare yields within your variety zone, by referring to “Yield % Check” column. This column indicates relative yield as a percent of the check averaged across the core test sites (Morris, St. Adolphe, Carman and Portage). This yield data is averaged over multiple years (see “Site Years Tested” column), so you can be confident with the performance data. Narrow down varieties within your zone that offer good yield potential, and then look at individual site years in one of the next two tables to see how the varieties performed at the site closest to you this past growing season.

- ii. **Yield by Location table** – this table indicates how each variety performed at trial locations in eastern Manitoba. The yield value is again listed relative to the check. In this table, you have a new tool – the “LSD%” number that is listed at the bottom and stands for “Least Significant Difference.” This number is used to compare the yield performance of any two varieties. What we suggest is to choose a check variety – this may be the check indicated in the table, or a different variety that you are familiar with. When comparing varieties to one another, or the check, they must be higher or lower by at least the “LSD%” number in order for it to be said with confidence that the difference is truly due to genetics and not environment or experimental error. See Table 2 as an example.

- iii. **Western Manitoba Soybean Adaptation table** – this table acts the same as the Yield by Location table, but is specific to western Manitoba and also includes “Relative Days to Maturity.” This is important because varieties can mature differently in

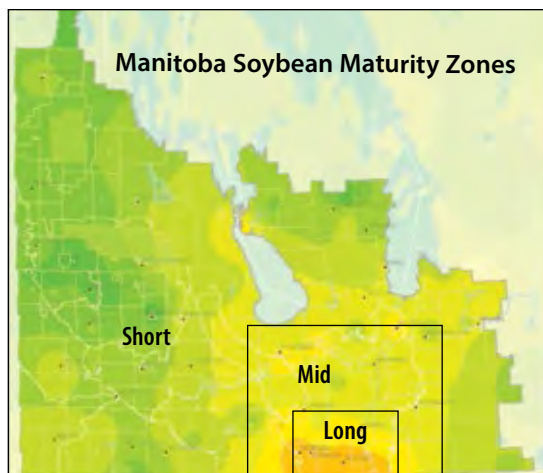


Figure 1. Manitoba Soybean Variety Zones

continued on page 41

western Manitoba compared to eastern Manitoba. Use the “LSD%” to compare yields between any two varieties for any of the four sites listed. For example, in Table 2 the LSD% is 5. Therefore, varieties with yields that are +/- 5% of the check are statistically the same as the check. If yields are ≥5% compared to the check, it is statistically higher yielding than the check.

Table 2. An example of how to use the “LSD%” to identify varieties that have similar, higher or lower yields compared to a “check” variety.

Variety	Yield % Check	Yield compared to a chosen “check” using LSD%
Variety A	99	Same as the check
Variety B	103	“Check” chosen by user
Variety C	105	Same as the check
Variety D	95	Lower than the check
Variety E	108	Higher than the check
LSD%	5	

STEP 3. IDENTIFY RISK OF IRON CHLOROSIS

Iron Deficiency Chlorosis (IDC) is a classic production challenge that farmers may face each year; the impact of which can be reduced with proper variety selection. IDC is the general yellowing of a soybean field that is noticeable from the road in late June, early July. This condition occurs when the soybean plant can’t access iron from the soil. It doesn’t mean the soil is deficient in iron, but that it is in a form unavailable to the soybean plant due to soil conditions such as waterlogging, salinity and/or high levels of carbonates. More often than not, the soybeans grow out of it within a week or two and it does not reduce soybean yield. However, if you have fields that are prone to IDC, it is a good strategy to choose varieties that are more tolerant to this condition (Figure 2). To determine if a particular field is at risk for IDC, use Table 3 and values that can be found in your soil test. If you don’t have a recent soil test, think back to previous years; fields

Figure 2. Soybean field expressing IDC symptoms on June 28, 2015. The variety on the left has an IDC rating of 1.7 compared to the variety on the right with an IDC rating of 2.1.



affected by IDC in the past will have the same problem in the future.

In fields that are susceptible to IDC, a lower yielding variety with a good IDC rating (closer to 1) may out yield a high yielding variety with a poor IDC rating (closer to 5). Soybean varieties are evaluated for their reaction to IDC each year at a site in Winnipeg, and assigned a rating from 1–5 (1 = tolerant, 5 = susceptible) that is listed in the Variety Description table. Among the varieties you have narrowed down, choose those with low IDC ratings for high risk fields.

Table 3. Soybean IDC risk based on soil parameters (adapted from: AgVise)

Soluble Salts (mmhos/cm)	Carbonate level (%)		
	0 to 2.5	2.6 to 5	>5.0
0 to 0.25	Low	Low	Moderate
0.26 to 0.50	Low	Moderate	High
0.50 to 1.0	Moderate	High	Very high
>1.0	High	Very high	Extreme

4. CONSIDER GENETIC RESISTANCE TO PHYTOPHTHORA AND SOYBEAN CYST NEMATODE

Genetic resistance is an important management tool for all crops. When it comes to soybeans, this tool is essential for *Phytophthora*, a soil-borne pathogen that causes root rot early in the season, reducing plant stand and can also

kill plants later on, reducing yield. *Phytophthora* risk increases in fields with a frequent history of soybean and those that are prone to water-logging. About half of soybean varieties available contain *Phytophthora* resistance genes. Keep in mind, even though you plant a variety with *Phytophthora* resistance, you may still have root rot in your field for two reasons. First, the genetic resistance may not hold up against the specific race present in your field; and second, root rot is often a complex of several pathogens including *Fusarium*, *Rhizoctonia* and *Pythium*.

Genetic resistance is also a good line of defence for Soybean Cyst Nematode (SCN), a parasitic nematode that infects soybean roots, robbing yield. This pest is present in all major soybean-growing regions of the world but has NOT been detected in Manitoba, yet. However, if you are located near the US border or the Red River, and have a high frequency of soybean or edible bean in your rotation, you should consider growing a variety with SCN resistance (there are four available). The nematode can go undetected for a number of years without causing visual symptoms. By using a variety with genetic resistance, you can slow the build-up of SCN in your soil.

Both *Phytophthora* and SCN resistance information is available in the last column of the Variety Description table under “Notes.”

STEP 5. PLANT ARCHITECTURE

Soybeans can have upright, semi-upright or bushy architecture. Plant height, pod height, and leaf architecture also vary. These characteristics can affect row closure, weed competitiveness, white mold susceptibility, harvestability, and overall performance in narrow vs. wide row planting systems. For example, upright varieties tend to perform better in narrow rows. If you use wide rows (15–30 inch), bushy varieties that branch out will tend to better facilitate row closure thereby increasing competitiveness and light capture.

Notes on these characteristics are not available in the *Variety Evaluation Guide* but are available from seed companies. ■

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GROW SOMETHING GREAT



RESURGENCE OF FIELD PEAS AND FABA BEANS IN MANITOBA

Dennis Lange

*Farm Production Extension Specialist – Pulses
Manitoba Agriculture, Food and
Rural Development*

Are field peas back in the Manitoba crop rotation? The answer is both yes and no. Manitoba field pea acres reached 68,000 acres in 2015, up from 48,000 acres in 2014. This is the highest number of acres we've seen since 2010 when Manitoba growers planted roughly 85,000 acres; however, these numbers are not near the high of 175,000 acres we had back in 2002. There is renewed interest in peas in the Red River Valley and other areas of Manitoba due to some of the recent high price levels, high local yields (in the 45–60 bushel per acre range), and lower disease pressure due to the rotation break field peas have had. This article will provide some information for growers who want to incorporate peas and faba beans back into their rotation, or who are trying them for the first time.

KEY POINTS IN GROWING FIELD PEAS

Do your research when it comes to varieties. Companies that market peas have preferences for certain varieties due to client's needs. Typically they want varieties that have large seed size, uniform shape and good cook-ability. One reason why peas have recently been successful in the Red River Valley is that they have not been in rotation for the last 15 years. Disease pressure from *Mycosphaerella* blight is much higher in areas where peas are a fixed part of the rotation, such as Western Manitoba. Fungicides are available now for control of this disease and it is making peas much more attractive to grow.

How have the varieties changed since 2002? Table 1 lists the top six varieties grown in Manitoba in 2015. The top two varieties planted were CDC Meadow and Agassiz, and they made up 68% of the total field peas grown. Back in 2002, Alfetta yellow pea had the greatest number of acres in Manitoba at 29,000, and Croma yellow

pea was the second most planted variety at just over 26,000 acres. Other varieties that made up the top five planted in 2002 were Delta (yellow), Swing (yellow) and Majoret (green). Of these top five, Croma is the only variety that is still being grown in 2015. For detailed agronomic data on current lines consult *Seed Manitoba 2016*.

One of the keys to growing a successful food grade field pea is harvest management. To harvest a high quality field pea, as seen in Photo A, a grower should harvest early but not too early. This is when the pea plants are mature and green material is avoided in the sample, which would lower quality due to staining. Food grade peas have been going for \$8.50 to \$9.00 per bushel recently and feed grade peas are much lower than that, in some cases as low as \$6.00 to \$7.00 per bushel, so it does pay to harvest a quality field pea. Pre-harvest herbicides will help if green

continued on page 44

Table 1. Variety Market Share of Manitoba Field Peas*
Based on 63,969 acres reported

Variety	Types	% of Acres	# of Acres
CDC Meadow (653-8)	Yellow	41.7%	26,675
Agassiz (MP1824)	Yellow	26.5%	16,952
CDC Striker	Green	6.9%	4,414
4010 (Magda)	Forage	5.5%	3,518
CDC Patrick (CDC 1434-20)	Green	4.4%	2,815
Croma (Cebeco 1440)	Yellow	3.5%	2,239

Pedigreed Peas – Based on 3,914 acres reported

CDC Meadow (653-8)	Yellow	38.6%	
Agassiz (MP1824)	Yellow	32.3%	
CDC Amarillo	Yellow	24.1%	
Abarth	Yellow	3.0%	
AAC Carver (EXP MP1920)	Yellow	2.0%	

*Source: MASC 2015 Variety Market Share Report

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plant material or weeds are an issue in your pea crop. Photo B is considered a feed grade pea because of the staining and wrinkling, which was caused by green material (plants not being mature enough to harvest) and soil being picked up by the combine. Field peas are a crop in which delaying harvest can also cause problems with quality. Rain at harvest on mature seeds can cause water staining, which can potentially reduce the quality needed for the human edible markets.

WHAT ABOUT FABA BEANS

In 2015 Manitoba growers planted just over 9,000 acres of faba beans.

The breakdown of varieties can be seen in Table 2. To summarize, Tabasco and Tabasco made up 54% of acres grown, and Snowbird, Florent and CDC Snowdrop made up 36% of acres grown. The average provincial yields can be found in Table 3. The range over the last four years has been from a low of 1,252 lbs/acre to a high of 2,235 lbs/acre. 2015 was a great year for faba beans with reports of yields up to 3,000 lbs/acre.

Faba beans can be used for animal feed and for the human edible market, with the latter having higher value for growers. For the human edible market, uniformity of size and visual appearance is important. In order to maximize profitability speak with your buyer to determine which varieties work for them.

Table 2. 2015 Faba Bean Variety Market Share – Based on 9,040 acres reported

Taboar	34.0 %
Tabasco	20.1%
Snowbird	17.5%
Florent	14.9%
CDC Snowdrop	3.7%
No name variety	3.5%
CDC Blitz	3.5%
CDC Fatima	2.7%

*Source: MASC 2015 Variety Market Share Report

Photo A – high quality field pea



Photo B – feed grade pea



Table 3. Manitoba Provincial Faba Bean Acres and Yields

	2015	2014	2013	2012	2011
Acres	9,040	3,378	2,377	3,183	1,986
Yield in lbs/ac	TBD	2,235	2,436	1,542	1,252

*Source: MASC Harvest Production Report

KEY POINTS IN GROWING FABA BEANS

One of the keys to a successful faba bean crop is early planting. Planting towards the end of April or early May is recommended because faba beans are a long-season crop and they require over 100 days to mature. Yield reductions can occur when planting after the third week of May. Weed control is also important. Growers should consider using a pre-emergent spring burn off as a starting point. There are a number of products that are registered for use on faba beans, which can be found in the *Manitoba Guide to Crop Protection*. Keeping the field as weed-free as possible is important for a

successful faba bean crop. One caution an experienced faba bean grower made was to make sure you check herbicide residue records for a field you wish to plant faba beans on. You don't want to find out after planting that you have residue from a previous year's herbicide application that could affect the crop. There are products that have a two-year rotational restriction for faba beans and that should be adhered to. This list can be found on Page 65 of the 2015 *Manitoba Guide to Crop Protection*.

SUMMARY

Field peas and faba beans are back on the minds of growers in Manitoba. Recently local yields of both crops have been good and high market prices have peaked Manitoba growers' interest. Growers need to pay attention to weed control, variety selection, and care given to harvesting a quality product that is free of staining. It is also important to speak with your buyer to ensure the variety you choose is one that has good marketability. For 2016, acres of both crops are poised to increase again. How long this trend will continue will be dictated by Manitoba growers. ■



2016 MANITOBA SOIL SCIENCE SOCIETY AND INTERNATIONAL YEAR OF PULSES CALENDAR

In celebration of International Year of Pulses, Manitoba Pulse & Soybean Growers has partnered with Manitoba Soil Science Society to deliver a 2016 calendar dedicated to advocating how pulses and soybeans offer unique opportunities for soil management and crop production. All MPSG and MAFRD events are featured.

Pick up your calendar at MPSG's office or visit our booth at AgDays.

2014 DRY BEAN GROWER SURVEY RESULTS

A sneak peak of the dry bean grower survey was released in the last issue of *Pulse Beat* and as promised, the complete results have been compiled here. The survey gathered data regarding current dry bean production practices which will serve to help guide MPSG's agronomic research priorities and market development initiatives.

Despite receiving surveys during harvest, survey participation was reasonable, with respondents' acres accounting for 13% of the approximately 143,000 dry bean acres grown in Manitoba in 2014 (MASC 2014). Dry bean acreage reported was representative of the proportion of each market class grown (Figure 1), and represented many of the dry bean growing rural municipalities (Table 1). Attesting to the pockets of extreme weather conditions encountered across the province in 2014, survey participants reported both excess water and drought conditions as the worst production problem in 2014 (Figure 2). Delayed planting, weeds and harvest management were also important constraints affecting the surveyed acres (Figure 2).

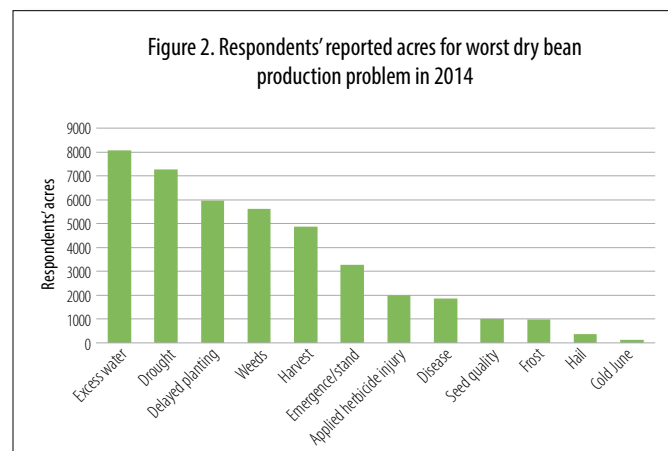
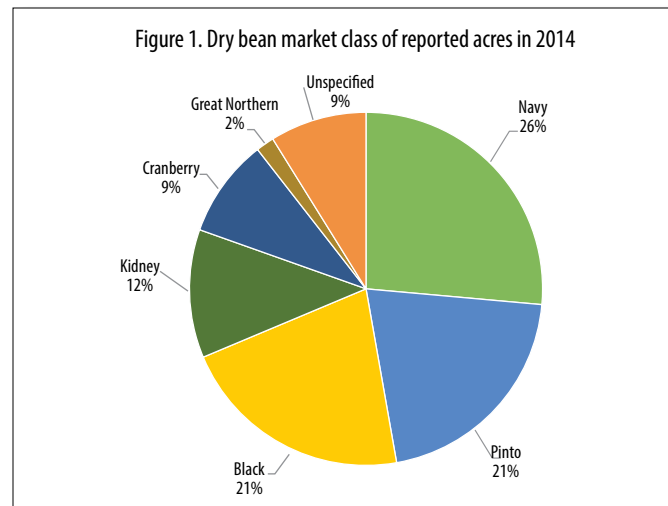
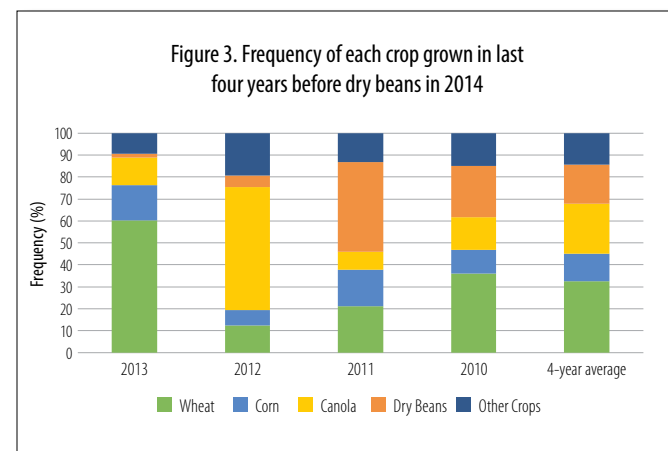


Table 1. Number of Manitoba dry bean grower respondents and acres by rural municipality in 2014.

Rural municipality	Number of respondents ^a	Acres reported
Rhineland	6	7,805
Portage la Prairie	8	2,805
Montcalm	2	1,550
North Norfolk	1	1,000
South Norfolk	2	925
Glenwood	1	740
Stanley	2	685
Roland	1	640
Dauphin	1	280
Dufferin	2	200
Thompson	2	200
Morton	1	120
Rosser	1	97
Not specified	–	2,090
Total	26	19,137

^a Some respondents had dry bean acreage in more than one rural municipality.



Dry beans were a large proportion of the crop rotation in 2011 and 2010 (Figure 3), indicating dry beans are likely grown in a three to four year rotation. Prior to growing edible beans in 2014, 60% of reported fields were planted to spring wheat in 2013 and 56% of fields were planted to canola in 2012 (Figure 3). Other common

crops in the rotation included corn, potatoes, and to a lesser extent soybeans. Soybeans grown closely in rotation with dry beans is not a recommended practice; soybeans are considered an allergen in beans and contaminated samples may not be

continued on page 46

accepted into the marketplace. Dry beans were consistently grown using conventional tillage (data not shown); however, although 95% of dry bean acres surveyed were conventionally tilled, only 45% of the total acres from the municipalities surveyed are conventionally tilled, while 37 and 18% of the acres are minimum or no-till, respectively (Statistics Canada 2011). This suggests that dry bean production relies on tillage more heavily than other crops grown in rotation, likely for weed control and harvest management.

Surveyed growers used a variety of row spacings for dry bean production (7.5 to 36 inches), but 30-inch spacing was most popular, especially for navy, pinto and cranberry classes (Table 2). As row spacing increased, plant population, on average, decreased (Figure 4). Surveyed pinto, kidney, cranberry and great northern beans were all seeded between 60,000 and 100,000 plants/ac. Current recommended plant populations out of North Dakota suggest 65–85,000 plants/ac with row crop planters (22–30 inches) for large seeded dry bean classes. Meanwhile, the smaller market classes, black and navy beans, were all seeded at rates >100,000 plants/ac (Table 2). Plant populations require modification based on row spacing and market class, however we are currently lacking provincial plant population recommendations that incorporate both row spacing and market class. In 2015, MPSG initiated a study with

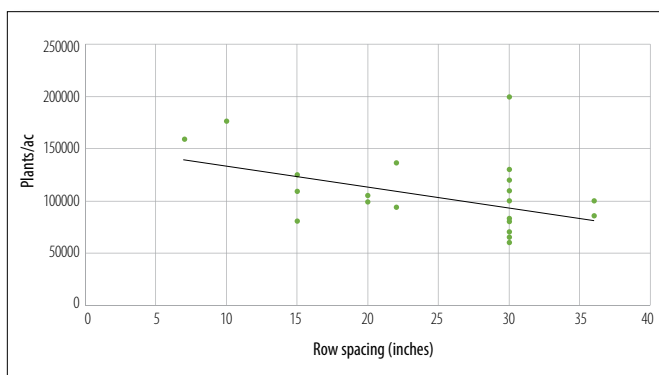
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Table 2. Number of respondents using specific row spacing and plant population by market class in 2014

	Navy	Black	Pinto	Kidney	Cranberry	Great Northern
Total no. of respondents	15	9	10	3	5	1
Row Spacing						
< 11 inches	1	2	0	0	0	0
15 inches	2	2	1	0	0	0
20 inches	3	1	0	1	0	0
22 inches	1	2	2	1	0	0
30 inches	7	2	6	1	5	1
36 inches	1	0	1	0	0	0
Plant Population^a						
60–69,000	0	0	1	1	2	0
70–79,000	0	0	2	0	2	0
80–89,000	0	0	4	1	1	1
90–99,000	0	0	1	1	0	0
100–109,000	4	1	0	0	0	0
110–119,000	2	1	0	0	0	0
120–129,000	3	3	0	0	0	0
> 129,000	3	2	0	0	0	0
Not specified	3	2	2	0	0	0

^aPlants per acre

Figure 4. Plant population and row spacing used in all dry bean market classes reported in 2014



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Dr. Rob Gulden to evaluate both row spacing and plant population for navy and pinto beans to identify the optimum arrangement for yield and weed suppression.

Rhizobium inoculant is generally regarded as ineffective in fixing sufficient amounts of nitrogen (N) to supply current dry bean cultivars in Manitoba and as expected, most farmers reported applying N fertilizer and skipping out on the inoculant (Table 3). Farmers that did apply fertilizer applied, on average, 66 lbs of N, 33 lbs of P₂O₅, 17 lbs of K₂O and 12 lbs of S per acre. Although most farmers surveyed soil tested prior to fertilizing their dry bean crop, few used site-specific nutrient management practices (Table 3).

Table 3. Use of various soil fertility management practices

Management practice	Details	Percentage of respondents
Fertilizer used	Nitrogen	92
	Phosphate	88
	Potash	48
	Zinc	40
	Sulfur	60
Inoculant	Used	8
	Not Used	92
Soil testing	Used	72
	Not Used	28
Site-specific management	Used	12
	Not Used	88

Table 4. Number of respondents using direct combining on various proportions of dry bean acres and estimated harvest losses using either direct or conventional combining

Percent of acres direct combined	Number of respondents	Estimated yield loss with direct harvest	Number of respondents	Estimated yield loss with conventional harvest	Number of respondents
0%	9	0%	0	0%	0
1–25%	4	1–5%	4	1–5%	11
26–50%	1	6–10%	8	6–10%	4
51–75%	1	11–15%	2	11–15%	1
76–100%	8	16–20%	0	16–20%	1
Not specified	3	Did not use direct harvest	9	Did not use conventional harvest	6
Total	26	Total	23	Total	23

White mould, bacterial blight and bacterial brown spot were ranked as the top three worst diseases in dry beans in 2014 (data not shown); however a large proportion of dry bean acres reported were not treated with fungicide (Figure 5). This makes sense considering the conditions during the flowering period last summer (July) were relatively dry and less favourable for disease development.

Method of dry bean harvest was divided amongst surveyed farmers; of 23 respondents, nine used conventional harvest exclusively, six used direct harvest exclusively and eight used some proportion of both direct and conventional harvest methods (Table 4). Harvest losses were mostly commonly estimated at 1–5% using conventional harvest and 6–10% using direct harvest

methods (Table 4). Thirty-eight percent of reported acres did not receive desiccants and when used, glyphosate alone was the most popular choice (24% of acres) (Figure 6).

MPSG thanks all farmers that participated in the 2014 dry bean grower survey and Greg Bartley for compiling the data. The survey for 2015 will be mailed out in early January. Your participation in the survey is key to help us strengthen our confidence in the results. We will be using results to guide research investments and target production recommendations with the aim of improving production and profitability for dry bean farmers in Manitoba. ■

Figure 5. Foliar fungicide applied on reported dry bean acres in 2014. Some acres received more than one fungicide application

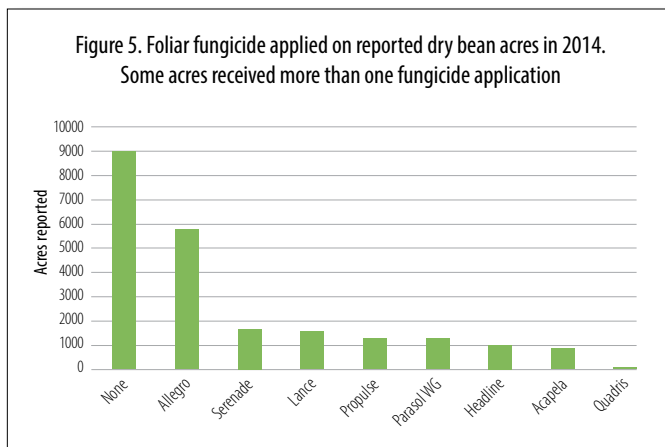
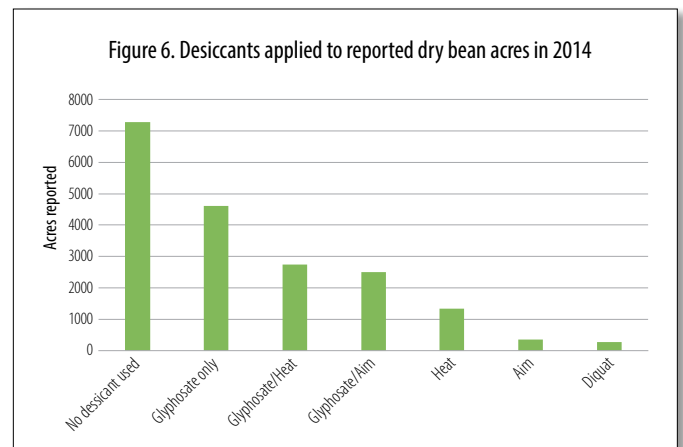


Figure 6. Desiccants applied to reported dry bean acres in 2014



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How Crop Rotation Affects Soybean Interaction with Soil Organisms

Don Sanders, MSc student with Dr. Yvonne Lawley, Department of Plant Science, University of Manitoba

With acres seeded to soybeans continuing to expand across the Prairie provinces, growers are looking for ways to get the most out of their soybean crop. An important component of the soybean plant's capacity for nutrient uptake comes from the relationships it forms with soil bacteria and fungi. For example, the ability of the plant to fix nitrogen from the atmosphere is a result of the mutually beneficial symbiosis it forms with nitrogen fixing bacteria. This ability to biologically fix nitrogen has large agronomic and economic benefits. But the benefits don't stop there – soybeans also depend on soil fungi, known as Arbuscular Mycorrhizal Fungi (AMF), for phosphorus uptake. AMF have tiny roots known as hyphae

that access soil pores that are too small for soybean roots to enter – providing the plant with phosphorus that would otherwise be unavailable. These two types of soil organisms are affected by a number of environmental, agronomic and management factors. Recently completed research from the University of Manitoba suggests that crop rotation plays an important role in the degree to which the soybean plant is colonized by these two mutually beneficial soil organisms.

The goal of the study was to determine the effect that these different crop rotations would have on biological nitrogen fixation by the *Bradyrhizobium japonicum* bacterium, as well as the level of AMF colonization found inside soybean roots. The study consisted of five, two-year trials conducted at three sites across Manitoba from 2012 to 2014. In the first year of the study one of four test crops were grown – canola, corn,

wheat or soybeans. In the second year of the study soybeans were grown on all four different stubble types.

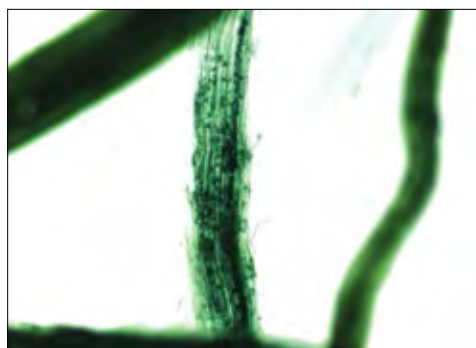
Even in a two-year rotational study, crop rotation had a significant effect on biological nitrogen fixation. There were significant differences in biological nitrogen fixation between different rotations: soybeans grown on corn stubble had significantly higher biological nitrogen fixation than the other three rotations and soybeans grown on canola had significantly lower nitrogen fixation compared to the other rotations. The reason behind these differences may be explained in part by the levels of residual nitrogen left behind by each crop residue. Corn crops often leave behind lower levels of residual nitrogen, likely due to the high carbon to nitrogen ratio of corn residue that ties up residual soil nitrogen, making it slower to break down than

continued on page 50

Soybean Root Nodules



2014 Hyphae Arbuscules



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many other stubble types. In contrast, canola has a lower carbon to nitrogen ratio, and often leaves higher levels of residual nitrogen. In a soil environment with high residual nitrogen, the soybean plant is less likely to be heavily dependent on the *Bradyrhizobium* bacteria for its nitrogen as it can simply take what it needs from the soil.

This thrift makes sense for the soybean plant as there is a cost associated with forming a relationship with *Bradyrhizobium* – it must provide the bacteria with carbohydrates in exchange for nitrogen. In a soil environment with low residual nitrogen, the plant becomes much more dependent on *Bradyrhizobium* to acquire its nitrogen and in this situation, it makes sense for the plant to give up some carbohydrates in exchange for scarcer nitrogen. The characteristics of corn stubble, therefore, creates an environment that is conducive to biological nitrogen fixation, while the canola stubble creates a higher

nitrogen environment that makes it easier for the soybean plant to simply acquire more nitrogen itself. That being said, biological nitrogen fixation still accounted for more than half of the nitrogen in soybeans grown on canola stubble, indicating that regardless of crop stubble, biological nitrogen fixation is still the main source of nitrogen for soybeans.


The study also found that crop rotation significantly affected the level of root colonization by AMF. Soybeans grown on corn or soybean stubble had significantly higher levels of AMF colonization than soybeans grown on wheat or canola stubble. This makes sense as corn and soybeans are strongly mycorrhizal crops that readily form symbiotic relationships with AMF. Thus, corn and soybean stubble would leave behind roots colonized by AMF that would serve as an excellent host, allowing AMF soil populations to remain relatively high. Although most plants are mycorrhizal

to some degree, canola (and other members of the *Brassicaceae* family) does not readily form a relationship with AMF. In a field seeded to canola, the AMF population in the soil would have few roots available to colonize, and their population would start to decline. This study found that soybeans seeded on canola stubble had 10–20% less mycorrhizal colonization than soybeans seeded on corn or soybean stubble after just one year. Soybeans grown on wheat stubble also had lower mycorrhizal colonization. Although wheat is also capable of forming mycorrhizal symbiosis, it is generally less mycorrhizal than corn or soybeans.

The level of AMF colonization was also significantly influenced by soil phosphorus levels. In areas of higher soil phosphorus, AMF colonization tended to decline. This is similar to the relationship that soybeans have with *Bradyrhizobium* – if the plant can simply acquire nutrients itself, it will be less likely to expend energy and carbohydrates forming a relationship with AMF. In areas of low soil phosphorus, however, the plant becomes very dependent on AMF as a phosphorus source. Unlike residual soil nitrogen, however, there was no obvious correlation between crop stubble and soil phosphorus. Soil phosphorus levels had more to do with long-term soil management and fertilization decisions.

SUMMARY

Soybeans are a profitable crop for farmers because they yield well with relatively few inputs. Although soil bacteria and fungi are not necessarily at the top of the list of concerns for most farmers, this research shows that both *Bradyrhizobium* and AMF play an important role in nitrogen and phosphorus acquisition, and are significantly affected by management decisions even after one field season. Farmers growing soybeans in low fertility areas could especially benefit by an increased awareness of management decisions that benefit *Bradyrhizobium* and AMF to acquire valuable nutrients that can be used by soybeans. ■



GETTING IT RIGHT

Soybean Production Meeting

Thursday, January 28, 2016
 9:00 a.m. – 3:30 p.m.
 Registration – 8:30 a.m.

Canad Inns Destination Centre – Portage la Prairie, MB
 2401 Saskatchewan Avenue West

PRESENTATIONS WILL FOCUS ON

- ▶ Soybean Crop Establishment – Dr. Yvonne Lawley, U of M
- ▶ Phosphorus Fertility Management – Dr. Don Flaten, U of M
- ▶ White Mould in Soybeans – Dr. Michael Wunsch, NDSU
- ▶ On-Farm Network Research Projects – Kristen Podolsky, MPSG
- ▶ Learning Workshops – Graduate Students, U of M and Extension Specialists, MAFRD

This Manitoba farmer-exclusive event is free to attend.
 To register, please visit www.manitobapulse.ca, contact Wendy at the MPSG office at 204.745.6488 ext 4 or visit our booth at Ag Days
 Registration closes January 22, 2016

MANITOBA Pulse Soybean GROWERS

SOYBEAN CYST NEMATODE IN SOIL

SURVEY OF NEMATODE PESTS OF PULSE CROPS AND DEVELOPMENT OF RAPID MOLECULAR QUANTIFICATION

Dr. Mario Tenuta
Department of Soil Science
University of Manitoba

Nematodes, microscopic worms – they're everywhere including in soil, plants, water, and in many cases, in us! With the support of Manitoba Pulse & Soybean Growers (MPSG) and Agriculture and Agri-Food Canada's (AAFC) *Growing Forward 2* program, we have been tackling two nematode issues important to pulse and soybean growers. The first is the finding of the stem nematode, *Ditylenchus weischeri*, on Canada thistle in Manitoba, the Prairies and in other countries. This is a relatively newly discovered species that had been confused with a closely related nematode, *Ditylenchus dipsaci*, resulting in past scrutiny of exports of Canadian peas. Our finding that

pea shipments had *D. weischeri* and not *D. dipsaci* is a good news story for Canada's pulse industry.

In the current project we are learning more about the new nematode to verify if it is a cause of concern for growers. A PhD student, Abolfazl Hassijani, set out to determine what crops *D. weischeri* prefers to feed and grow on in the greenhouse. He inoculated common pulse crops including yellow pea, chickpea, common bean, lentil, as well as spring wheat and canola, and Canada thistle and garlic with *D. weischeri* and *D. dipsaci*. Abolfazl found the new nematode clearly preferred feeding and reproducing on Canada thistle. *D. weischeri* was capable of reproducing aggressively on creeping thistle. Lentil, chickpea, common bean, garlic, spring wheat and canola were not hosts for the new nematode. The new nematode survived on yellow pea, however, it didn't reproduce but it didn't die either. The other stem nematode, *D. dipsaci*, that is a major trade issue and can severely affect yield of many crops did extremely

well on garlic and did very well on yellow pea and fared okay on chickpea and common bean. The student showed the two nematodes are very different in the plants they parasitize, with *D. weischeri* not aggressive on any of the crops tested. However, the new nematode did survive on yellow pea so Abolfazl did follow up studies. In one study the new nematode was not able to move with the growth of yellow pea and did not make it to pods and pea grain. Thus the new nematode poses little risk of being a seedborne parasite and transmission through grain. Abolfazl has recently completed the last of his studies trying to confirm the new nematode doesn't attack yellow pea under field grown conditions. In that study inoculated yellow pea and Canada thistle plants grown in the field with the new nematode. The results are being analyzed but they look to confirm the new nematode does not pose an issue to being a parasite of yellow pea.

A second graduate student, Fernanda Pereira, has been tackling confirmation

continued on page 52

BIOLOGICAL SEED TREATMENT FOR YIELD ENHANCEMENT AND DISEASE CONTROL



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that the new nematode, is not present on yellow pea and other pulse crops on the Prairies. For her study, we are partnering with Alberta Agriculture and Rural Development and Saskatchewan Ministry of Agriculture staff to survey yellow pea, lentil and chickpea fields for the new nematode and any other nematode of concern on pulse plants, soil and Canada thistle plants. Fernanda is currently going full tilt in analyzing the huge number of samples from the Prairies so the results are not complete. However, preliminary results indicate the absence of *D. weischeri* or any problem nematode on the pulse plants. Good news so far!

The second part of the project deals with developing a rapid method to accurately identify and count levels of the Soybean Cyst Nematode (SCN) in soil. By now you are likely familiar with the real threat of SCN to soybean in Manitoba and results of our past

survey for SCN in Manitoba as it has been the topic of past *Pulse Beat* articles as well as many presentations and field tours. In the current study, we obtained SCN infested soils from Ontario with the help of AAFC and Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA) researchers. We took two published DNA methods for identification of SCN as well as developed three new DNA methods and compared all to ability to test SCN in 31 soils from Ontario as well as not provide false positives by testing to closely other closely related cyst nematodes. One of two established methods and two of our three new methods were able identify SCN in the Ontario soils. So we have three methods in moving forward to the next step of evaluating ability to quantify SCN by extracting DNA from soil. That will be the objective of a new graduate student starting in January. The current method

of SCN soil testing is time consuming and inaccurate. It relies on floating the cysts out of soil, crushing them and identifying them under a microscope. Our results so far indicate we can develop a faster and more accurate method by directly extracting DNA from soil and subjecting the extracts to molecular DNA analysis by PCR and real-time PCR. This should be faster and doesn't require the expertise of trained nematologists to visually identify the SCN. However, much work is still to be done but we are hopeful a test will be available to growers in the coming couple of years.

At the University of Manitoba, we appreciate the opportunity to delve into the world of nematodes for the betterment of soybean production and training of graduate students. We are grateful for grower support to our studies. ■

INTERESTED IN TRYING ORGANIC PRODUCTION ON PART OF YOUR FARM?

WE CAN HELP!

The University of Manitoba Natural Systems Agriculture lab is seeking farmers who are interested in exploring organic crop production to participate in a farm system design project. The goal of this project is to increase production of organic soybeans in Manitoba. We aim to do this by supporting farmers through the process of organic transition, working together (farmers and researchers) to develop and implement transition strategies and individual farm plans that create opportunities to grow organic soybeans.

WHY ORGANIC? AND WHY SOYBEANS?

- Transitioning a portion of the farm to organic is an opportunity to diversify the farm and/or involve additional family members in the farm. Demand for organic products continues to grow.
- Soybeans can be a good fit in an organic rotation due to their N fixing capabilities and excellent price premiums.

WHAT DO YOU GET OUT OF THE PROJECT?

- An organic transition plan developed individually for your farm, based on your current operation and goals for the future.
- A "kitchen table" meeting with a university researcher to discuss and modify potential farm plans.
- A group meeting and ongoing connections with farmers participating in the project, including both new and

experienced organic farmers. Project participants in 2015 rated these connections the most valuable aspect of the project!

- Support from university researchers as you start implementing your plan.

WHAT DOES THE PROJECT REQUIRE FROM YOU?

- Your time – we will need to collect some information from you on your current farming operation, including crops, rotations, equipment, etc. We will also meet individually this winter to discuss potential farm plans and will hold a one-day group meeting with all participants in March.
- Your willingness to try something new!

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If you are interested or want more information, contact Joanne Thiessen Martens at j.thiessenmartens@umanitoba.ca or 204-474-6236

EDIBLE BEAN HARVEST METHODS BY VARIETY

A MSPG ON-FARM NETWORK PROJECT

Brent VanKoughnet of Agri Skills Inc. was contracted to explore the effect of two different harvest methods on a number of pinto and navy bean varieties in a full field scale environment near Carman Manitoba. Varieties and harvest methods for each project are as follows:

Pinto Bean Project

Varieties included:

- Windbreaker – most common
- Monterrey – new upright
- LaPaz – most common upright variety

Harvest methods included:

- Traditional undercutting and windrowing
- Straight cut using a MacDon FD70 FlexDraper

Each pinto variety and harvest method comparison was replicated five times.

Agronomic Observations

All varieties emerged within 8–10 days with good vigour and survival rates (80–90% of the 80,000 seeds planted). Windbreaker matured and was ready for harvest 2–3 days prior to LaPaz or Monterrey. There was considerably less difference in maturity than was observed between Windbreaker and LaPaz in a similar trial conducted in 2013. When measuring plant height, it was observed that Windbreaker crunched down naturally while 15–20% of Monterrey and 10% of LaPaz tipped over due to wind. The tipped over plants dramatically increased the percentage of pods within two inches of the ground for those affected plants (Table 1).

Table 1. Architecture of pinto beans at harvest

Variety	Plant height fully extended (inches)	Plant height – actual (inches)	Estimated % of pods below 2 inches
Windbreaker	22–24	12	15 %
Monterrey	24–26	8–16	5–20%
LaPaz	24–26	10–16	5–15%

HARVEST

For each variety of pinto and navy beans a 35 foot (14 rows by 30 inches) by 800 to 1250 foot strip was undercut, windrowed and picked up versus direct harvested with a flex header. Cutting took place 1–2 days before harvest with windrowing the day before harvest. The pintos and navies were harvested by a Case 7230 with a Sund pickup compared to the same combine with a 35-foot MacDon FD75-S FlexDraper header.

All three pinto varieties had between 16–17% seed moisture with few splits. Both undercut and flex header samples had very little dirt and foreign material with no significant differences to affect yield comparisons. In terms of harvestability, Windbreaker went through the combine much more easily than Monterrey or LaPaz for both cut and flex methods. Yield was higher for Windbreaker than Monterrey or LaPaz. Harvest losses due to straight cutting were negligible with Monterrey and LaPaz, and slightly higher for Windbreaker (Table 2).

Table 2. Pinto bean yield summary

Variety and harvest method	Average yield of five replicates (lbs/ac)	Average difference between harvest methods (lbs/ac)
Windbreaker cut	3359 ^a	101
Windbreaker flex	3258 ^b	
Monterrey cut	2904 ^c	-8
Monterrey flex	2912 ^c	
LaPaz cut	2891 ^c	-33
LaPaz flex	2924 ^c	
C.V. %	7.6	

^{a-c} Means followed by same letters are not significantly different at 90% confidence interval

Navy Bean Project

Varieties included:

- T9905 – considered the standard in conventional architecture
- Cascade – new upright
- Portage – early season upright
- Lightning – upright variety (Ontario)
- Indi – upright

Harvest methods included:

- Traditional undercutting and windrowing
- Straight cut using a MacDon FD75-S FlexDraper

Each variety and harvest method comparison was replicated four times.

continued on page 54



Pinto bean variety architecture

Agronomic Observations

All varieties emerged within 9–10 days with good vigour and survival rates (76–95% of the 110,000 seeds planted). Portage were mature 4–5 days before Cascade and Indi and 6–7 days before Lightning and T9905. Harvest took place after waiting for T9905 and Lightning to mature and a brief rain shower delay. Lightning and Cascade had 10–15% of plants tipped over due to wind while other varieties were closer to 5%. Indi was extraordinarily upright (Table 3).

Table 3. Architecture of navy beans at harvest

Variety	Plant height fully extended (inches)	Plant height – actual (inches)	Estimated % of pods below 2 inches
T9905	24	10–16	5–10%
Cascade	24	8–14	10–15%
Portage	20	16–18	5%
Lightning	22	14–16	10%
Indi	22	18–22	5%

HARVEST

Navy harvest used the same protocol as with pinto beans. Cascade and Indi did not cut as clean as other navy varieties. It is believed that the tougher stalks in combination with driving even slightly off centre with the cutter, left a number of plants that looked cut but were still anchored to the ground. Those plants did not move with the windrower or get picked up by the Sund pickup. Flex header yields for Cascade were, on average, higher than cutting and windrowing, likely for this reason. All navy varieties had between 13–15% seed moisture with few splits. Both undercut and flex header samples had very little dirt and foreign material.

Harvest Losses and Influencing Factors

All pinto and navy bean varieties thrived in virtually ideal growing conditions throughout the season. Strong winds and rain did push over some of the upright varieties more than expected and some did not return to upright.

Table 4. Navy bean yield summary

Variety and harvest method	Average yield of four replicates (lbs/ac)	Average difference between harvest methods (lbs/ac)
T9905 <i>cut</i>	2652 ^a	-11
T9905 <i>flex</i>	2664 ^a	
Cascade <i>cut</i>	1987 ^d	-175
Cascade <i>flex</i>	2157 ^c	
Portage <i>cut</i>	2495 ^b	20
Portage <i>flex</i>	2475 ^b	
Lightning <i>cut</i>	2484 ^b	9
Lightning <i>flex</i>	2475 ^b	
Indi <i>cut</i>	2473 ^b	-73
Indi <i>flex</i>	2545 ^b	
C.V. %	8.2	

^{a-d} Means followed by same letters are not significantly different at 90% confidence interval

Maturity likely did not influence harvest for pinto varieties as harvest timing was close to ideal for all three varieties. As for navy beans, only Portage was mature significantly ahead of other varieties; however, it did not appear to shell any more than other varieties at harvest. In previous years’ experiments the difference in maturity (over mature) may have affected harvest loss potential of the early maturing varieties.

Undercutting conditions were almost ideal: light soil with not too much or too little moisture. Some varieties that are designed to be direct harvested may have tougher stocks that are more difficult to cut. It is unknown whether waiting longer would have made cutting easier; however, the trade-off of waiting longer may be increased potential to shatter. Field conditions were also ideal for the flex header – dry and level. Rolling the field likely made the most significant difference from last years results. In addition to leveling the field, rolling also minimizes the risk of picking up rocks when running the flex header knife so close to the ground.

As another measure of harvest losses, beans on the ground left behind after

FIELD PREPARATION

Edge was incorporated with light duty cultivation and heavy harrows May 26.

All treatments were sown into an ideal seedbed 1.5 inches deep into moisture on May 29.

Pinto varieties were sown at 75,000 plants/acre and navy varieties at 110,000 plants/acre with a Case IH vacuum planter.

Field was rolled prior to emergence and considered very level.

OPERATIONS

Fertility (lbs/ac): 50 N-40 P₂O₅-15 K₂O-15 S-1 Z

Herbicide: Viper applied June 24

Fungicide: applied July 17 and July 29 (considering the challenge of multiple crop staging/timing and expected high disease pressures, two applications were made)

Pre-harvest: Glyphosate and Heat applied September 5

harvest was assessed. Although it is typical to have large variability in losses from one spot to another for each of treatments, Table 5 is a summary of losses from six representative sites for each treatment.

On the ground seed loss estimates generally reflect the yield differences measured using the weigh wagon, with the exception of Indi and Cascade. It is suspected that Cascade and Indi had more areas with higher losses in cutting that were not captured by the chosen representative sample areas. Harvest losses in those few isolated areas could be as high as 1000 lbs. This supports the need to do actual harvested weight differences to accurately measure differences – estimating harvest losses by counting beans left on the ground in random areas does not always tell the whole story.

CONCLUSIONS

Varieties respond differently to direct harvesting. For pinto beans, there was no statistical difference in yield using undercutting or direct harvest methods for varieties with plant architecture designed for direct harvesting; however, the reduction in harvest losses was not enough to make up for the difference in yield potential. Although there was 100 lbs of additional harvest losses

continued on page 55



Table 5. Ground harvest losses of pinto and navy beans

Variety and harvest method	Estimated losses (lbs/ac)			Average difference between harvest methods (lbs/ac)
	High	Low	Average	
Windbreaker <i>cut</i>	335	36	147	223
Windbreaker <i>flex</i>	454	239	370	
Monterrey <i>cut</i>	430	36	147	4
Monterrey <i>flex</i>	239	96	151	
LaPaz <i>cut</i>	329	49	144	-22
LaPaz <i>flex</i>	185	42	123	
T9905 <i>cut</i>	138	23	74	83
T9905 <i>flex</i>	277	78	157	
Cascade <i>cut</i>	259	23	80	43
Cascade <i>flex</i>	380	23	122	
Portage <i>cut</i>	426	26	161	-38
Portage <i>flex</i>	187	75	123	
Lightning <i>cut</i>	308	17	140	-5
Lightning <i>flex</i>	210	72	135	
Indi <i>cut</i>	177	14	82	9
Indi <i>flex</i>	147	38	91	

with Windbreaker when straight cutting, Windbreaker still yielded approximately 350 lbs more than the upright varieties.

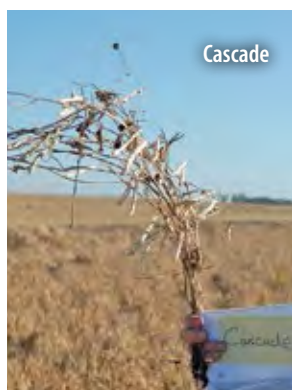
Flex header harvest loss differences were significantly less than what was observed last year. In 2014, loss differences between cutting and direct harvesting were 500 lbs for Windbreaker and 200 lbs for LaPaz, compared to 100 lbs for Windbreaker and no loss for direct harvesting for LaPaz in 2015. This result can be explained for two reasons: plants were taller with more plant material to feed into the header, and likely more importantly, rolling the field allowed the flex header knife to cut virtually at ground level.

It is important to note that the MacDon FlexDraper is not the same as a standard flex header. This header allows for adjustment that can literally put the knife at ground level. You could not capture the true benefit of these equipment features without rolling the field. The canvas delivery also allows for the seeds that are threshed from the pod by harvesting to stay in the header.

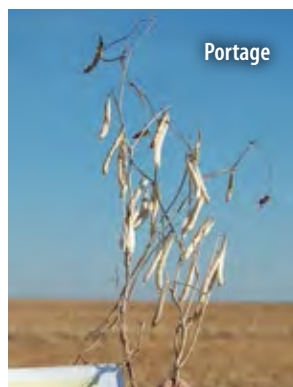
In the case of navy beans, direct harvest using the flex header resulted in similar or, in the case of Cascade, unexpectedly higher yields. This can be partially explained by the cutting difficulties due to the toughness of the stocks and the occasional cutting misses on those treatments. T9905 yielded significantly higher than all other navy varieties by about 150 lbs; however, the other varieties could offer earlier maturity. ■

Acknowledgements

Special thanks to Warren and Shawn McCutcheon for the use of their specialized equipment, their patience and their operating expertise.



Navy bean variety architecture



MPSG On-Farm Network

The overall goal of MPSG's on-farm network is to test new products and practices for pulse and soybean production, while empowering farmers to conduct simple, reliable research on their farms.

ON-FARM EVALUATION OF PEOLA INTERCROPPING

A MPSG ON-FARM NETWORK PROJECT

Brent VanKoughnet of Agri Skills Inc. was contracted to complete a field scale evaluation of intercropping canola and field peas (often referred to as peola) using three different nitrogen fertility regimes.

The trial was located south and east of Carman, Manitoba. Certified Agassiz peas and Clearfield 5525 canola were planted May 5 with a Concord air drill on 10-inch spacing. Soil moisture conditions were ideal. Soil and air temperatures were warm at the time of seeding but turned cool in the days following. Each treatment was 800 to 1200 feet long by 40 feet wide and replicated six times.

A base fertility application of 35 lbs P₂O₅, 10 lbs K₂O and 15 lbs S per acre was banded perpendicular to the treatments prior to seeding. The base fertilizer application also provided 20 lbs of N per acre. Canola and pea seed were each metered through different tanks on the air drill but delivered through the same seed boot, at the same depth (approximately 1–1.5 inches) in a single pass seeding operation. Additional N (28-0-0) was dribble banded on the soil surface a day after seeding, just before a significant rainfall, at various rates for peola and canola treatments (Table 1).

Table 1. Pea –canola intercrop treatment combinations

Treatment	Pea seeding rate (lbs/ac)	Canola seeding rate* (lbs/ac)	Total nitrogen fertilizer (lbs N/ac)
Peas	180	None	20
Peaola 20	110	4	20
Peaola 50	110	4	20+30 = 50
Peaola 80	110	4	20+60 = 80
Canola	None	6	20+90 = 110

*Canola seeding rates were approximately 1 lb above intended target rates.

Crop emergence was slow due to the cool conditions. A frost on May 30 thinned the canola stand when canola was at cotyledon to two-leaf stage.

Fortunately the higher than unintended seeding rate (extra 1 lb of seed) helped compensate for the early weather challenges. Plant densities were within acceptable ranges for both pea and canola (Table 2).

Table 2. Plant stand of pea –canola intercrop treatments (June 5)

Treatment	Canola plants/m ²	Peas plants/m ²
Peas	None	75
Peaola 20/50/80	27–28	40–42
Canola	52	None

As growing conditions improved in June, both peas and canola progressed well through mid-season stages. Odyssey herbicide was applied on June 10 with peas at the six node stage and canola at the five leaf to pre-bolting stage. There was some limited stunting of the peas from the herbicide application.

All treatments were sprayed with a combination of Lance and Priaxor on June 28. Peas were at an early flowering stage and canola was at 20–40% bloom. The staging for fungicide application was almost ideal for both crops. The canopy was getting very thick and the potential for disease was considered high.

Peaola in full flower



Shortly after fungicide application there was clear evidence of peas climbing canola branches. The weight of peas and canola did compress the canopy at harvest to within a foot of the ground but did not ever go flat to the ground (Table 3).

The field was sprayed with pre-harvest glyphosate on August 8 to

Table 3. Crop and pod height of pea and canola prior to harvest

Treatment	Canopy height July 14	Canopy height August 22	% of pods above 6 inches
Peas	37–38 inches	10 inches	0
Peaola 20	Peas at 38 to 42 inches	16 inches	
Peaola 50	Canola at 50 to 52 inches	12–18 inches (variable)	100
Peaola 80		12–18 inches (variable)	100
Canola	52–54 inches	36 inches	100

facilitate direct harvesting. The crop was mature enough for harvest on August 22 but wet field conditions delayed harvest until August 27. It is expected that the canola alone treatment was adversely affected by wind in the period between August 22 and 27 with losses estimated to be up to five bushels. The canola within the peola was not vulnerable because of how tightly knitted it was with the peas.

A 35-foot strip was direct harvested with a MacDon FlexDraper header down the centre of each treatment. Combine settings were set at the same wind, concave and rotor speed as for canola alone. To calculate the individual yield contribution of peas and canola from the peola, the entire production from all six replicates of each treatment combined, screened and weighed.

CONCLUSIONS

Production and Operational Considerations

Seeding presented a couple of unique challenges. Depending on seeder configuration, it is difficult to safely place enough P, K and S fertilizer during the seeding operation without risking seedling injury. Without mid-row banding there is likely a need for a separate fertilizer application, especially if applying N. Determining the ideal seed depth can also be challenging.

There was some trade-off planting the

continued on page 57

Table 4. Mean seed yield of pea-canola intercrop treatments

	Canola yield (bu/ac)	Pea yield (bu/ac)	Peas % weight	Land Equivalency Ratio*
Peas	0.0	74.7	100%	1.00
Peaola 20	22.9	34.0	64%	1.04
Peaola 50	27.6	28.6	55%	1.09
Peaola 80	30.0	24.7	50%	1.10
Canola	38.9	0.0	0%	1.00

*The land equivalency ratio compares the yield of multiple crops grown in combination to the same crops grown in monoculture. A value greater than 1 indicates that more land would be required to produce the same yield using monoculture compared to intercropping.

Table 5. Economic return of pea-canola intercrop treatments

	Canola	Peas	Gross	Gross less N costs
Gross Revenue	@ \$10 per bu	@ \$8 per bu	Total	Based on N @ \$0.40/lb
Peas	\$0	\$598	\$598	598
Peaola 20	\$229	\$272	\$501	501
Peaola 50	\$276	\$229	\$505	493
Peaola 80	\$300	\$197	\$498	474
Canola*	\$389	\$0	\$389	353

*Losses due to excessive shattering, estimated at 5 bushels was not accounted for in this analysis.

canola a little deeper than normal and planting the peas a little shallower. This challenge would be magnified if soil conditions were dry.

By mid-season right through to harvest, the peas climbed the canola plants and knitted together as one very dense canopy. At harvest the peaola canopy did crunch down to 12–18 inches but still kept pods well above the ground for a relatively simple direct harvest. The peaola harvest was far simpler than for the peas alone, which were flat to the ground.

Separating the peas from the canola was slow but manageable with a simple rotating corn screen with medium mesh screens. With the right set up you could almost keep up with the combine.

AGRONOMIC OBSERVATIONS

With the right combination of pea and canola varieties, fungicide and

harvest timing can align pretty closely. The slight stunting of peas from the relatively late application of Odyssey likely helped synchronize the timing for the fungicide application. Canola had some catching up to do after the cool weather in the early spring.

Ordinarily one would not consider adding Lance to Priaxor on a pea field or adding Priaxor to Lance on a canola field. While it was an expensive combination, peaola created a high disease pressure environment where it was likely that the combination for the full spectrum of disease control was beneficial. There was very little evidence of disease at harvest in spite of the dense canopy and conducive environmental conditions.

As expected, increasing levels of N shifted the proportional yield response of peas and canola within the mix: increased N encouraged more canola

yield response. It was somewhat unexpected that the low N peaola combination would be comparable to the other treatments. Further work is required to confirm if this is repeatable.

The most unexpected result was the exceptional yield of peas on their own. It is unknown whether that is a one-time result or the new normal for pea yields with new available varieties and management practices.

ECONOMIC CONSIDERATIONS

Table 5, above, provides a basic calculation of the gross revenue and gross revenue less nitrogen costs.

Clearly the revenue from 75 bu/ac of peas with no nitrogen costs is considerably higher than for peaola or canola. Even if potential canola losses due to shattering from direct harvest are factored back in, the additional \$50 revenue is not enough for canola alone to be competitive with the returns of peaola or peas on their own for this trial.

Peaola results do demonstrate a promising comparable return. Perhaps what is most interesting is that the low rate of N on peaola provided a similar gross return and a better net return when compared to the peaola with higher N rates. This is an advantage in both economic return and economic risk management. Unfortunately peaola is not covered through crop insurance but can be covered by certain hail insurance providers.

This project will be repeated in 2016. ■

HARVEST



MANITOBA PULSE & SOYBEAN BUYER LIST – NOVEMBER 2015

COMPANY	EDIBLE BEANS	FABA BEANS	LENTILS	PEAS	SOYBEANS	PHONE	LOCATION	CGC REGISTERED
Agassiz Global Trading	✓				✓	204-745-6655	Homewood, MB	
AgriTel 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	✓
Best Cooking Pulses Inc.			✓	✓		204-857-4451	Portage la Prairie, MB	✓
Brett-Young Seeds				✓	✓	204-261-7932	Winnipeg, MB	
CB Constantini				✓		604-669-1212	Vancouver, BC	✓
Cargill Ltd.				✓	✓	204-947-6219	Winnipeg, MB	✓
Delmar Commodities				✓	✓	204-331-3696	Winkler, MB	✓
Farmer Direct Co-operative Ltd.	✓	✓	✓	✓		306-352-2444	Regina, SK	
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	✓
JK Milling Canada Ltd.				✓		306-586-6111	Regina, SK	✓
Kalshea Commodities Inc.				✓		204-737-2400	Altona, MB	✓
Kelley Bean Co. Inc.	✓					308-635-6438	Scottsbluff, NE	
Lansing Olam Canada Commodities ULC					✓	877-747-7599	Chatum, ON	✓
Legumex Walker	✓	✓	✓	✓	✓	204-829-2326	Plum Coulee, MB	✓
• Walker Seeds Ltd.				✓		306-873-3777	Tisdale, SK	✓
Linear Grain	✓			✓	✓	204-745-6747	Carman, MB	✓
Monsanto					✓	–	Winnipeg, MB	
Natural Proteins					✓	204-355-5040	Blumenort, MB	✓
Nutri-Pea Ltd.				✓		204-239-5995	Portage la Prairie, MB	
Nu-Vision Commodities	✓					204-758-3401	St. Jean Baptiste, MB	

continued on page 59

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COMPANY	EDIBLE BEANS	FABA BEANS	LENTILS	PEAS	SOYBEANS	PHONE	LOCATION	CGC REGISTERED
Parrish & Heimbecker Ltd.					✓	204-987-4320	Winnipeg, MB	✓
Paterson Grain				✓	✓	204-956-2090	Winnipeg, MB	✓
• FeedMax Corp.				✓		204-523-0682	Killarney, MB	✓
Quarry Grain Commodities					✓	204-467-8877	Stonewall, MB	
Remillard Seed Farm					✓	204-737-2376	St. Joseph, MB	
Richardson International				✓		204-934-5627	Winnipeg, MB	✓
• Richardson Pioneer Ltd.				✓	✓	204-934-5627	Winnipeg, MB	✓
• Tri Lake Agri				✓		204-523-5380	Killarney, MB	✓
S.S. Johnson Seeds	✓			✓		204-376-5228	Arborg, MB	✓
Seed-Ex Inc.					✓	204-737-2000	Letellier, MB	✓
Scouler Canada Ltd.	✓	✓	✓	✓	✓	403-720-9050	Calgary, AB	✓
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	✓

To be included on our Manitoba Buyers List, companies should contact the MSPG office at 204-745-6488 to register.

NOTE – These companies are authorized to deduct and remit levy to MSPG. This list is provided by MSPG as a convenience to our members.

MPSG accepts no responsibility or liability for the accuracy of the completeness of the information provided. It is your personal responsibility to satisfy yourself that any company you deal with is financially sound. Questions regarding licensing and security should be directed to the Canadian Grain Commission at 1-800-853-6705 or 1-204-983-2770.

Soybean Scout ANSWERS



A – Soybean Aphid is a very small, soft-bodied insect that feeds on soybean sap. Although not present every year, soybean aphid is probably the most important insect pest of soybean in Manitoba. Soybean aphids typically arrive in Manitoba in mid-July from the US, where they overwinter. It is important to scout soybeans every 7 to 10 days during R-1 to R-5 to monitor aphid levels. The well-defined threshold is 250 aphids per plant on 80% of plants, and actively rising. Soybean aphids have been an economic problem in Manitoba in 2 out of the past 5 years (2011 and 2015). This past year, aphids were present at some level in the majority of fields throughout the province; however, most fields stayed at or below threshold, but some did require an insecticide application.



B – Lady beetles are beneficial insects, one reason being that they are a very important predator of soybean aphid. One lady beetle larva can consume as many as 200 aphids in a single day. The life stages of lady beetle can look quite different – pictured here, are the larva (top) and pupa (bottom), which are not as distinctive as the spotted adult lady beetle we all recognize. Lady beetles and other beneficial insects are part of the reason why aphid levels need to be rising in order for the threshold to be reached. Even though the aphids may be multiplying, if a field has a high population of beneficial insects, they can keep the level steady by feeding on the aphids.

Recipe Corner

Almond and Chocolate Espresso Cake – with black bean flour

Makes 8 portions – double-layer cake

1 1/2 cups (375 mL) all-purpose flour	1 cup (250 mL) milk, 2%
1/2 cup (125 mL) black bean flour	1/2 cup (125 mL) canola oil
2 cups (500 mL) granulated sugar	2 large eggs
3/4 cup (187.5 mL) cocoa powder	3 tsp (15 mL) almond extract
2 1/2 tsp (12 mL) baking powder	1 cup (250 mL) boiling water
1 1/2 tsp (7 mL) baking soda	2 tsp (10 mL) instant espresso
1 tsp (5 mL) salt	



Preheat oven to 350°C and place racks on second lowest shelf. Prepare two 9-inch round cake pans by cutting two circles of parchment paper to line the bottom of each pan and spray the sides with canola oil spray.

Sift flour, sugar, cocoa powder, baking powder, baking soda and salt into the bowl of a stand mixer. Use the whip attachment to thoroughly mix the dry ingredients on low speed. In a separate stainless steel bowl, whisk eggs and then add milk, canola oil and almond extract and whisk briefly to combine. While your machine is running on low-medium speed, add egg mixture to the dry ingredients and run the machine for 40 seconds. Stop the machine, lower the bowl and scrape the bottom of the bowl with a rubber spatula. Raise the bowl back up again.

Add boiling water to the instant espresso to dissolve. On low speed, add espresso liquid to bowl. Once espresso has absorbed, turn machine on high for one minute to incorporate air into the batter. Stop the machine and scrape the bowl one more time. Run on high for 20 seconds more.

Divide the batter equally between the two prepared cake pans. Put the cakes into the oven and bake for approximately 35-40 minutes. Check after 30 minutes by inserting toothpick into centre of cake and remove. If it comes out clean, they are ready to remove from oven. Let cakes rest at room temperature in their pans on a wire cooling rack. Once to room temperature, cover the cakes (still in their pans) and refrigerate for two hours or overnight. Remove the cakes from the pans and decorate with icing, toasted sliced blanched almonds, and fresh berries.



Perogy Dough – using pinto bean flour

Makes 6 dozen perogies

1 large egg
1 tsp (5 mL) salt
1 1/3 cups (300 mL) water
1/4 cup (60 mL) canola oil
3 cups (750 mL) all-purpose flour
1 cup (230 mL) pinto bean flour – or navy bean or black bean flour for a unique dough colour (<i>Best Cooking Pulses</i>)

Add wet ingredients to dry. Add a bit more water if necessary. Knead the dough for 3–4 minutes. Place dough in a bowl, cover tightly and refrigerate the dough for half an hour to rest.

Using a knife, cut a 1/4 piece of the dough off and roll to approximately 1/16th of an inch thick. Cut rings out using a 2-inch pastry ring cutter. Place approximately 1/2 tablespoon of filling into the ring, rub water on the edge of the dough and press to seal. Crimp with a fork if desired. Repeat until all dough is used.

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