

pulse *beat*

Summer • No. 75, 2015

**QUALITY OF 2014 CANADIAN
SOYBEANS**

**SOY CRUSH PLANT Would
Benefit Manitoba**

**AGRONOMIC RESEARCH – Set
Yourself Some Standards**

**Economics of WHITE
MOULD FUNGICIDE**

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FOR RESEARCH**

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pulse beat

Manitoba Pulse & Soybean Growers

Summer • No. 75, 2015

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Editors Roxanne Lewko MSPG
Kristen Podolsky MSPG

Associate Editor Sandy Robinson MSPG

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CANADIAN ADDRESSES TO:

Manitoba Pulse & Soybean Growers
P.O. Box 1760
Carman, Manitoba R0G 0J0
204.745.6488 Fax 204.745.6213
Email mmsg@manitobapulse.ca

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Manitoba Pulse & Soybean Growers – 2015 Board of Directors

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 – Morden Research Station

Dennis Lange, Manitoba Agriculture, Food and Rural Development

Yvonne Lawley, Department of Plant Science, University of Manitoba

Executive Director – François Labelle
Email – francois@manitobapulse.ca

Business Manager – Sandy Robinson
Email – sandy@manitobapulse.ca

Production Specialist – Kristen Podolsky
Email – kristen@manitobapulse.ca

Research Program Coordinator –
Roxanne Lewko
Email – roxanne@manitobapulse.ca

Ph 204.745.6488 • Box 1760, 38–4th Ave. N.E.
Carman, MB R0G 0J0

MEMBER PRIVACY POLICY

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Please direct your comments or concerns to Sandy Robinson at 204.745.6488 or email sandy@manitobapulse.ca

2015 MPSG COMMITTEES AND REPRESENTATIVES

MPSG COMMITTEES – The first named is chairperson

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

Governance H/R – 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, K. Friesen, R. Vaags, A. Scheurer, F. Labelle, K. Podolsky, S. Robinson

Research – J. Voth, A. Turski, B. Martens, F. Prince, F. Labelle, K. Podolsky, R. Lewko and industry advisors

Sub-Committees

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

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

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

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)

Soy Canada – E. Sirski

Sustainability – F. Prince

Western Canadian Pulse Growers Association

- **WGRF** – D. Hilgartner (APG)
- **CGC Western Grain Standards Committee** – E. Sirski



An all-day educational event for farmers and agronomists to sharpen their soybean management skills!

MPSG has a major investment in agronomic research being conducted at the Carman research station and this year we have chosen to highlight this work by hosting a field day. Attendees will tour agronomic research plots, learn how results can be applied to their farm, and interact with researchers.

SOYBEAN MANAGEMENT & RESEARCH TRANSFER DAY

Wednesday, July 22, 2015

University of Manitoba Ian N. Morrison Research Farm
Carman, MB – 1.8 km west of the junction of #3 and #13

Research projects and production questions will include:

- › Volunteer canola management in soybean: what is the action threshold?
- › Soybean crop rotation: what is the best crop to plant before soybeans?
- › Phosphorus fertilization beneficial management practices for soybeans in Manitoba
- › Soybean cyst nematode (SCN) survey: how do I scout for SCN?
- › Optimizing plant spatial arrangement for field beans in Manitoba: what is the optimum row spacing and plant population for pinto and navy beans?
- › Optimizing soybean planting strategies in Manitoba: how did early seeding turn out?

› Visit our website for more information: www.manitobapulse.ca

Pre-registration is required • phone: 204.471.3033 OR email: james@manitobapulse.ca

Registration opens at 8:30 am • Field day 9:00 am to 4:00 pm (lunch provided)

PLEASE NOTE – There will be no tour at Morden or Brandon this year. Locations will be alternated annually.



MESSAGE FROM EXECUTIVE DIRECTOR



François Labelle
Executive Director

Another growing season is here and the only guarantee we have is it will be different from past years. We are well under way with this crop and if the pattern that we started with continues, it could be on the dry side. How things change. Some of us remember the dry years of the '80s. It was interesting – back then many people said, “dry or wet, give me wet as something always grows.” Now that has changed as well – after some of the recent years, many growers now say, “dry or wet, give me dry as at least we know when to stop spending money.” If only we knew what the weather was going to bring. Let's hope it has the makings of a great crop.

RESEARCH

Lots of effort went into getting this year's research program into place and underway. More work is required as our program grows, but we will see beneficial results that you can use on your farm with the ultimate goal of increasing your net margins. Stay tuned next winter for more research results.

We have a few more on-farm trials this year and this is exciting – keep tabs on this, as we want to equip you with the skills to assess if you are getting value for the inputs you spend your hard earned dollars on. No one is looking after you, the grower, on this and lots of claims are made, so be sure to ask for replicated trial data to substantiate those claims or consider joining Manitoba Pulse & Soybean Growers' On-Farm Network to learn how to do the work yourself.

TRANSPORTATION

The work on transportation issues is on-going. We continue to partner with Ag Transportation Coalition to get the ear of the government and our efforts have had some effect. The weekly *Ag Transport Coalition Railway Performance Measurement* highlights

that issues do exist and it continues to get attention from all segments of the industry. This report shows that it's very important we have as complete a view of demand for transportation as possible, so parties can make commitments to infrastructure and resources, so growers can capture as large a share of the world value of their crops as possible. Another area of transportation we continue to work on is looking at costs of the inefficient system, as well as a better understanding of the various modes of transportation used to move our products.

My concern as we go forward on the transportation file, being that this is a long-term strategy to effect positive change, is the agricultural industry needs to stay committed to the process. It takes time and resources, and in the short term it's difficult to measure the benefits and it's much easier to look at the cost. We also need to keep everyone working together; if we get pulled apart and fragmented where we do not have united agreement for positive change, it will be too easy for the powers to say 'no agreement.' Let's work as a cohesive unit and make change happen.

FEASIBILITY STUDY

Some positive news: when we partnered with others to initiate a feasibility study on soybean processing in Manitoba, the study indicated that we do have enough beans to justify a plant and there is a substantial market for meal in western Canada – so it would make sense to have a crush plant in our province. This is not going to happen overnight. We wanted to know if we have reached the critical production points and we have. MSPG is now interested in finding potential investors for a soybean crushing facility in Manitoba, and that could be either companies or grower groups. Please contact me if you'd like more information on the results of the study.

POLITICAL SEASON

As the summer moves into fall, we will be moving into election mode even more than we are now. If you talk to political candidates, take the time to ask them questions about their support for agriculture. Will they commit sustainable funds to research so we do not lose capacity to stay competitive worldwide? What are their views on

continued on page 4



Soybean Scout

What are these weeds and why are they important to scout for in soybeans?



Answers can be found on page 47

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

MPSG WELCOMES TWO NEW STAFF MEMBERS

Summer Agronomy Student



JAMES CARRIERE was born and raised in La Salle, Manitoba, and will be starting his second year of studies this fall at the University of Manitoba pursuing a degree in Agronomy. He is strongly considering obtaining his Masters or enrolling in the Asper MBA program after graduation.

James' primary responsibility will be to implement MPSG soybean research throughout Manitoba. Specifically, he will be focusing on investigating soybean seeding dates, hail damage studies, and variety trials. James will also assist with the summer field tour at Carman and other production and extension activities, including annual field surveys.

"I see working for MPSG as an opportunity to further my education by gaining a lot of information," said James. "One of my long-term goals is to obtain a job that blends both the science and business of agriculture. This summer I believe I will get to experience that synergy."

James is looking forward to improving his crop diagnostic skills this summer. He explains, "For example, a yellowing, stunted soybean plant could be any number of things from soybean cyst nematode to a nutrient deficiency. I want to have the ability to confidently recognize what the problem is and how it may be corrected either short term or long term depending on the situation."

MPSG is pleased to have James join our staff until the end of September, and we look forward to providing him with learning opportunities. Welcome James!

Administrative Assistant



WENDY VOOGT is originally from New York State and moved to Manitoba in 1995. Wendy and her husband Jason have four kids – Cassie (13), Nate (11), Caleb (9) and Jordan (6), and live in Carman, Manitoba.

Wendy will be responsible for data entry and general office duties, such as answering the phone, sorting mail and filing. She will also help with editing communication material and other duties as assigned.

Wendy previously worked at CIBC for fifteen years, ten of those years with agricultural specialists across western

Canada, and for the past two years, worked from home as a medical transcriber.

"Now that our kids are older, I was looking for work outside of the home," says Wendy. "I worked with agricultural specialists at CIBC and Jason works in agriculture, so this opportunity seemed like a good fit for me all around."

Wendy is looking forward to working in the agricultural industry again, even though it is from a different perspective. "My goals right now are to take care of my family and keep up with my kids and their activities," she adds.

MPSG is pleased to have Wendy join our staff, and we look forward to having her in the office. Welcome Wendy!

continued from page 3

improving our transportation system in Canada? With the decreasing number of agricultural producers in Canada it's all the more important we do our part to make certain we are heard, so ask the questions.

CLOSING REMARKS

MPSG continues to work for you to improve your farming operations. One of the keys to our success is knowing what the issues are, so we need to ask you – our members, our funders – are we answering the questions you have, and addressing the issues you see out in the field or market place? Let us know. We can get more done as a group than

as individuals and we would appreciate hearing from you, so give us a call or send us an email, text or tweet.

Set time aside for our Summer Tour – Soybean Management & Research Transfer Day – in Carman on Wednesday, July 22nd. This will be an excellent opportunity for you to meet with researchers, see firsthand what they are working on, give them feedback and also give them ideas for future projects. See page 2 for more details.

Finally, I would like to say thank you to all of MPSG's staff for the hard work they are doing. A lot of effort goes into getting the research work in place,

getting this magazine to print, office administration, communication work, events that are attended, and more.

Work safe and here's hoping for a bountiful harvest. ■

Note to Members

Resolutions to be presented at the 2016 Annual General Meeting must be received by **November 11, 2015**.

Please forward to Sandy Robinson at sandy@manitobapulse.ca on or before that date.



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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 supporting and funding research, extending production information, market development, 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

- Participated in edible bean production meetings in March where over 100 growers attended each event in Altona and Portage la Prairie.
- K. Podolsky attended the Soil Fertility Advisory meeting in Winnipeg and updated the group on current soybean inoculant work that may lead to new recommendations.
- Results from the 2014 Dry Bean Grower survey are being analyzed by student intern Greg Bartley.
- The MPSG Research Committee and all crop Sub-Committees (soybean, edible bean, and peas, faba beans, lentils & chickpeas) met to discuss 2015 research projects and the On-Farm Network.
- F. Labelle, K. Podolsky, K. Friesen and E. Sirski met with members of the Faculty of Agricultural and Food Sciences at the University of Manitoba on April 7th to discuss research collaboration, opportunities and future partnerships.
- Joined Saskatchewan Crop Development Centre's breeding program to provide Manitoba producers with timely access to field pea and faba bean varieties.
- Created a new Seeding Rate Calculator tool for the MPSG Bean App and made it available in the App Store for iPhone and Android.
- Worked with MAFRD to coordinate the 2015 soybean and edible bean variety evaluation trials.
- Hired James Carriere from La Salle, MB to be MPSG's Summer Agronomy Student.
- Developed a Soybean Disease and Insect Identification Guide.
- Implemented several MPSG led research projects including late soybean planting and hail damage studies.
- Updated the research section of the MPSG website, www.manitobapulse.ca/aboutresearch.
- *The Bean Report* hit airwaves May 12th and will run on CFRY, CFAM, CJRB and CHSM radio every second

Tuesday between 1 and 2 p.m. throughout the growing season. This is the third year that MPSG has been running *The Bean Report*.

Market Development and Sustainability

- MPSG board and staff met with Marlene Boersch, Mercantile Consulting Venture Inc., and Rob Roe, Soy 20/20, to discuss results of the soybean processing feasibility study.
- F. Labelle, K. Friesen and E. Sirski met with Minister of Agriculture, Food and Rural Development Ron Kostychyn and Deputy Minister Dori Gingera-Beauchemin to discuss results of the soybean processing feasibility study.
- F. Labelle attended Cigi meeting on March 17th with SPG and APG to discuss work on pulses going forward and options for funding.
- F. Labelle attended CGC meeting on March 17th to discuss harvest samples program, red lentil moisture, dun peas, variety registration and more.
- F. Labelle attended Pulse Canada board meeting in Winnipeg on March 18th to discuss pulse branding, MRL issues, performance measurement work and more.
- F. Labelle attended KAP meeting on March 24th to discuss feedmill licensing, bio-diesel, hydro biosecurity and more.
- R. Lewko attended and participated on the judges panel at the Manitoba Mission ImPULSEible event on March 24th. Five teams presented innovative recipes inspired by pulses. The winner will represent Manitoba at the national event at the end of June.

Communication and Member Relations

- MPSG's Communication/Member Relations/Market Development Committee met to discuss communication and outreach initiatives and priorities for 2015.
- Planning is underway for the 26th season of *Great Tastes of Manitoba*. R. Lewko will be featuring recipes made with pulse flours and purées developed by Red River College.
- S. Robinson and R. Lewko participated in CropConnect committee meetings to review the successful 2015 event and begin planning the 2016 event. Please mark February 10 and 11, 2016 at the Victoria Inn Hotel and Convention Centre, Winnipeg on your calendar.
- F. Labelle and K. Friesen participated in a collaboration meeting with other provincial grower organizations – Canola, Corn, Sunflower and Wheat & Barley – to discuss potential areas where efforts could be joined for efficiency and effectiveness.
- R. Vaags attended Agriculture in the Classroom – Manitoba's Annual General Meeting on April 23rd.

For updated information check the website www.manitobapulse.ca or call the office at 204.745.6488

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FIRST *in the* FIELD



Bryan Rogers
Executive Director,
Grain Growers of Canada

While it has not entirely taken over the media cycle quite yet, the federal election is on track for October 19th. Now is the perfect time to start working with your local candidates and all parties to ensure that agricultural issues are on their radar.

The days of elections being won or lost on agricultural issues are long gone. As farmers know full well, our share of the collective voice has shrunk dramatically over the past century. The sheer number of farms across Canada has decreased by 60 per cent since 1901, and the number of individual farmers is down by a massive 91 per cent. What this means is that we are producing more food with fewer resources, and it also means that young people have a wider range of opportunities to explore in the workforce. While one in eight Canadians are still involved in agriculture and agri-food, the simple fact is – we need to work harder to be heard.

The ag issues in this election will be familiar with transportation being a main one. There are a handful of other key issues which may come up, such as current concerns over pesticide use and other elements of modern farming practices. Then there are the topics that we hope will be raised, namely trade and market access.

This is where your stories come in. What better time to talk to candidates and the public about the incredible strides pulse and soybean producers have taken in sustainability practices? Why not highlight advancements in water and soil conservation practices by talking about modern farming techniques and your on-farm environmental management plans. Farmers have long been the stewards of the land because you work it every day. Healthy soils, water conservation, and pollinator protection are issues that everyone can get behind, and they are all central to your work.

Canada has undertaken an aggressive trade agenda in recent years and the 2015 federal Budget saw significant investment in the Canadian Trade Commissioner offices, the Market Access Secretariat and the

AgriMarketing Program. This trade success has led to improved access to valuable markets such as South Korea, China and the EU. Canada is also heavily engaged in the ongoing Transpacific Partnership (TPP) talks (which were referenced in the Budget).

With Canada's place as the top pulse exporter in the world, you already know how important trade is to your livelihood. Ensure that it remains a political priority by meeting with or writing to candidates and asking what they will do to promote market access and the Canadian brand around the world. Highlight the fact that 2016 is the International Year of Pulses. This will give your candidates something tangible to get behind. Great things are happening in pulses, here and around the world. We have every reason to be excited and so do our politicians.

Over the next few months, Grain Growers will be actively engaged in working with all parties to ensure that agricultural issues have prominent placement in their election platforms. I would encourage you to check the party websites for policy information and sign up for alerts. You will be able to find ongoing updates and contact information online:

Conservative Party of Canada

<http://www.conservative.ca/>

New Democratic Party of Canada

<http://www.ndp.ca/>

Liberal Party of Canada

<https://www.liberal.ca/>

Green Party of Canada

<http://www.greenparty.ca/en>

If there is anything GGC can do to help with putting you in contact with candidates or if there are any specific issues you think should be addressed, do not hesitate to contact our office at any time.

The Grain Growers of Canada provides a strong national voice for over 50,000 active and successful grain, oilseed and pulse producers through its 14 provincial and regional grower groups, representing wheat, durum, barley, canola, oat, corn, soybean, pea, lentil, rye, and triticale farmers from across Canada. Our mission and mandate is to pursue a policy environment that maximizes global competitiveness and to influence federal policy on behalf of independent Canadian grain farmers and their associations. Find out more at www.ggc-pgc.ca. ■

2015 University of Manitoba Scholarship Recipient

Each year, MPSG awards scholarships at the University of Manitoba – degree program and diploma program and at Assiniboine Community College. This issue, we are pleased to introduce our University of Manitoba Diploma Scholarship recipient, **Michael Wilton**.



Michael grew up on a grain farm south of Carman, Manitoba and just finished his second year in the Diploma of Agriculture course at the University of Manitoba.

"My time at the U of M has been a great experience. It's been an opportunity for me to develop new skills and learn about the agricultural industry," says Wilton.

"I've appreciated the hands-on, practical approach to agriculture that the Diploma program takes which I believe has equipped me very well for the future."

MPSG awards a \$500 scholarship to a student pursuing a diploma from the faculty of Agricultural and Food Sciences, who has a minimum 3.0 grade point average and has the highest grade point average in four select courses.

"This scholarship has been a great encouragement to me and an affirmation that the time and energy spent studying has paid off. Financially it is going to assist me as I continue my education at the U of M," emphasized Wilton, who plans to return to university in the fall and work on completing his degree in Agribusiness. After that, he will return to the farm and farm with his dad.

MPSG congratulates Michael Wilton, 2015 University of Manitoba Scholarship winner!

For a Healthy, Hunger-free and Sustainable World

Pulse Canada

Allison Ammeter
IYOP Canada Committee, Chair

Ever since the United Nations declared that 2016 would be International Year of Pulses (IYOP), the pulse world has been busy brainstorming, budgeting, and planning ways to take advantage of such a momentous opportunity.

IYOP aims to increase awareness of pulses—the dry edible seeds of pea, bean, lentil, or chickpea plants. Canada is a global leader in pulse production, with over 30% of world pea production and 40% of world lentil production. Canada is the largest exporter of pulses in the world, exporting to over 150 countries. The Canadian pulse industry will use events, campaigns, websites and social media to ensure that by the end

of 2016, more people know what pulses are, how they can benefit them, and why they are important in Canada.

The hope of IYOP is to position pulses as a primary source of protein and other essential nutrients, so the Global Pulse Confederation chose four thematic areas to focus on:

1) **Food and Nutrition Security and Innovation – Focusing on the health and nutrition benefits of pulses.**

Pulses are high in protein, fibre, and vitamin content; they have a low glycemic index; they're gluten-free and generally non-allergenic; and their flour or purée can be used to improve the nutritional content of many existing food products.

Pulses as part of a healthy balanced diet have been shown to have an important role in preventing illnesses such as cancer, diabetes, and heart disease.

Because of their role in improving soil sustainability, pulses can also improve a farmer's yield, and limit the long-term threat to food security that soil degradation represents in so many places.

In a nation such as Canada, promoting daily pulse consumption can be a cost-effective and sustainable solution for families, to improve their overall health.

2) **Productivity and Environmental Sustainability – Focusing on the environmental benefits of growing pulses.**

Pulses are an important component of crop rotations, as they require less fertilizer than other crops and can fix their own nitrogen. This helps improve the yield of future crop rotations. Pulses also improve soil quality by feeding soil microbes, which helps crops to thrive

continued on page 10



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and which offers greater protection against disease-causing bacteria and fungi. New research in breeding and agronomics will continue to improve our pulses, adding to these environmental benefits.

3) **Market Access and Stability – Ensuring pulses can be grown and marketed locally and internationally, with maximum safety and minimal restrictions.**

4) **Creating Awareness – The International Year designation creates a large and unique opportunity to increase awareness of pulses.**

In many countries, there is little public knowledge of pulses, their attributes, or their ability to contribute to increased food security and environmental sustainability.

IYOP INTERNATIONAL

These theme areas will guide activities internationally, nationally, and locally. The following is a sampling of the IYOP activities in the works for over thirty countries:

- In November, pulses will be featured prominently at the Scientific Symposium on Pulse Nutrition and Health, hosted by the Sackler Institute at the New York Academy of Sciences. This is a health and nutritional event targeted at UN agencies, health related non-governmental organizations and research foundations. There will be a strong focus on sustainability and food security, and there is planned to be an Annals Publication for the New York Academy of Science coming from this event.
- In February, there will be a Pulse Conclave in India. Organized by trade, one of the interesting aspects of this event is that it will feature a humanitarian food product development competition.
- In March, the Pan African Legume Conference will be held in Zambia. Associated with USAID (United States Agency for International Development), it will focus on pulses, food security, and production issues in Africa.
- In October, the United Nations World Food Day Celebrations will occur in Rome, with a major focus on the role of pulses in improving global food security.

Along with these activities happening at an international level, there are many initiatives occurring within countries. For example, Brazil has developed “Projeto Mais Feijão,” or “Project More Beans.” This program will work with school children in Curitiba, teaching them about the benefits of pulses. Not just an IYOP event, this is intended to become a permanent activity aimed at fighting junk food consumption amongst children. The project will prepare teaching materials, and work with education departments and schools to ensure that the message is heard by Brazilian youth.

In Japan, pulses were on display at the FOODEX convention in March, promoting 34 kinds of pulses to 77,000 visitors from 83 countries. An award-winning chef prepared dishes along with a pulse farmer from the north of

Japan, where the majority of pulses are produced.

IYOP CANADA

Canada’s focus is to increase consumer awareness of pulses as well as to increase their use in food processing and manufacturing. The “we” I speak of involves Pulse Canada, Alberta Pulse Growers, Saskatchewan Pulse Growers, Manitoba Pulse & Soybean Growers, Ontario Bean Growers, Canadian Special Crops Association, Farm Credit Canada, Alberta Crop Industry Development Fund and Agriculture and Agri Food Canada – all partnering to make IYOP a success.

The first official Canadian event will be the IYOP launch in Toronto on January 6, 2016. This kick-off event will draw in Canadian media, food companies and chefs. Simultaneously, other countries – ideally one from each time zone – will hold national IYOP launches.

An international pulse brand will be launched alongside IYOP. A major advertising firm was hired to design a brand and tagline. This brand will be launched in November, with the hope that it will eventually appear on all products containing pulses in stores around the world—improving the consumer’s ability to choose well.

In addition to the brand, the Canadian committee has been developing videos that can be shown at all types of food and nutrition events, and incorporated into websites.

A website is also being developed that will provide information about events and activities going on in North America as part of IYOP. Internationally, IYOP.NET will keep you up-to-date on all pulse-related news.

One exciting project we have on the go is a collaboration with the Canadian Agriculture and Food Museum in Ottawa. They are developing an interactive pulse exhibit that we plan to have displayed in Ottawa for a few months, then moved around the country to reach as many consumers as possible in high-impact locations, like summer

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LIFE IS GOOD!

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Find out what Keystone Agricultural Producers has done recently to address the issues that affect all Manitoba farmers.

Q: How much did western Canadian farmers lose last year due to inadequate rail service?

A: According to some sources, Western Canadian grain farmers lost an estimated \$3.1 billion in 2013–14. KAP lobbied the federal government and was an industry leader in getting the trains moving last winter. It continues to lobby for transparent and fair rail service, with a submission to the Canada Transportation Act Review that makes 13 recommendations. Another submission is also in the works.

Q: How much did farmers receive in school tax rebates last year?

A: Farmers received over \$31 million in school tax rebates last year. KAP has tirelessly lobbied the provincial government for the rebate, and continues to lobby for a fair and equitable education tax system that would see taxes completely removed on farmland and production buildings.

Q: What farms are subject to the Workplace Safety and Health Act?

A: All farms are subject to the regulations of the Workplace Safety and Health Act – whether they have employees or not. Workplace Safety and Health inspectors regularly check farms to ensure safety regulations are followed. If you would like free, professional assistance to prepare your farm in the event you are inspected, contact KAP at 204-697-1140.

Q: What certification must a grain dryer operated in Manitoba have?

A: A grain dryer operated in Manitoba must have a CSA 3.8 certification. KAP has worked with the Office of the Fire Commissioner (OFC) to clear up the challenges surrounding dryers without CSA 3.8 certification. KAP's work with OFC also resulted in more inspectors – leading to shorter wait times for dryer hook-ups.

Q: What were the traditional time frames for applying fertilizer in Manitoba?

A: Farmers could apply until November 10 in the fall, and could start again on April 10 in the spring. KAP recently worked with the provincial government to develop more flexible dates for nutrient application – ones that are based on weather and soil conditions, and not on a set calendar date.

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exhibitions, airports, and large shopping malls in 2016 and beyond.

Two of Canada's innovative institutions, Cigi (the Canadian International Grains Institute) and POS biosciences, are developing a two-part course aimed at food processing companies. Together, these courses are designed to increase the knowledge of product development professionals in the food industry, focussing on milling, extrusion, fractionation, and wet processing. Over two, three-day training events, they will give technical information on engineering and economics on the usage of pulses in any food product.

To reach as many health professionals as possible with the message of the benefits of pulses in a healthy, balanced diet, we will record a “lunch and learn webinar” presentation with Dr. John Sievenpiper, a consultant physician at St Michael's Hospital, and Associate Professor at the University of Toronto, whose main research includes pulses.

His presentation will highlight the latest research related to pulses and obesity, blood pressure, glycemic response, satiety and cholesterol, including an overview of minimum effective doses, magnitude of effect, food forms, and duration of research studies. This webinar will be shown in about 20 teaching hospitals in major cities across Canada in conjunction with a pulse-based lunch and local Q & A session.

Culinary promotion is an exciting opportunity but a hard one to nail down. We are holding discussions with Master Chef Canada, as well as several other food media companies to see how they might be able to feature pulses.

All partners are of one mind that pulses can be a very economical, nutritious staple in the Canadian diet. We will be working with local food security organizations—such as community kitchens and cooking clubs—to develop a pulse-based resource kit which will feature simple recipes, cooking tips and interesting facts about

the history of pulses and their health/environmental benefit. This kit will be distributed to interested organizations across Canada for use within their programming, to help Canadians improve their overall health and cooking skills.

A group in the UK has spent a great deal of time developing six lesson plans aimed at schoolchildren ages 9–11. The lessons cover topics such as cooking with pulses, pulse consumption around the world and the health benefits of pulse consumption. The plan is to introduce them at teachers' conventions, so that educators will know they can download them to use in their science, health, or food units.

There is much more that I could say about IYOP. It's an exciting time to be part of the pulse industry, and the plan through IYOP, and all the international and Canadian activities, is to let the world know that pulses are the future of food. ■

The first variance to the November 10 deadline was issued last fall, and the second this spring. In the fall the deadline was extended and in the spring the date was moved forward.

Q: Under the tax deferral on income from sale of breeding stock due to the effects of the 2014 flood, producers in how many municipalities qualified?

A: The tax deferral on income from sale of breeding stock due to the effects of the 2014 flood applies to producers in 27 municipalities. KAP lobbied for a federal income tax deferral after the 2014 flood destroyed thousands of acres of forage and hay land, leaving producers short of feed for the winter and forcing them to reduce their herds. The deferral was announced this past winter.

Q: What is a Workplace Safety and Health regulation that many farmers are unaware of?

A: A Workplace Safety and Health regulation that many producers are unaware of is that farmers must provide employees with a prescribed safety orientation prior to the employee starting work.

Workplace Safety and Health is conducting safety inspections on farms to ensure regulations are adhered to – for the safety of farmers and their employees. If you’ve received a Workplace Safety and Health inspection and have been issued a compliance order, KAP can help you ensure you’re ready for re-inspection. Call the KAP office at 204-697-1140.

Q: Who is not protected by the federal government’s current producer payment security?

A: Producers selling to feed mills are not included in the federal government’s current method of producer payment security – and are left in a vulnerable position. KAP lobbied the federal

government to move quickly on improving producer payment security last fall, including licensing feed mills, and the Canadian Grain Commission (CGC) has now developed a proposal to do this. KAP recently made a submission to the CGC outlining its concerns and recommendations.

Q: What does the arrival of clubroot, verticillium wilt and PED virus in Manitoba stress the need for?

A: New plant and animal diseases in Manitoba stress the need for increased biosecurity protocols on every farm. KAP is working to educate MASC, Manitoba Hydro, and oil and gas companies on the need to undertake biosecurity measures before and after entering farmland.

Q: What largely contributed to last summer’s flood?

A: Drainage waters coming down the Assiniboine River and its tributaries from outside of the province played a large part in last summer’s flood. KAP took a lead in the establishment of the Assiniboine River Basin Initiative which is addressing flooding in the basin through multi-province and state co-operation. KAP has a seat on the executive committee of the board of directors.

Q: How many acres in Manitoba have been assessed under environmental farm plans?

A: Over 10 million acres in Manitoba have been assessed under environmental farm plans. KAP administers this program. Upon completion of an EFP, a producer can apply for financial assistance under Growing Forward 2 to implement best management practices related to nutrient management. KAP is currently lobbying the provincial government to include fuel storage as an eligible BMP. ■



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Jim Everson
Executive Director

It's been a busy first few months for Canada's newest national commodity value-chain association. Soy Canada was launched in September 2014 and is the new national voice for the soybean sector in Canada. Membership includes producer groups from major growing regions, including the Manitoba Pulse & Soybean Growers (MPSG), and exporters, processors and seed companies.

Soy Canada undertook its first market development mission to Japan in February, meeting with Japanese customers and industry associations. It was a very successful mission.

Our next mission will be to China. Soy Canada will join Agriculture and Agri-Food Minister Gerry Ritz's

mission to Shanghai, Chongqing and Beijing in June. Soy Canada is one of a large number of Canadian agricultural associations and companies invited by the Minister to participate. MPSG has also been invited, and Chair Kyle Friesen will be attending alongside Soy Canada to promote Manitoba soybeans. Soy Canada plans to hold roundtable meetings with soybean companies and Chinese industry associations. China is one of Canada's largest markets and forecasts point to continued growth.

China is an important market for Manitoba soybean producers. With increasing acreage and transportation linkages to west coast terminals, Manitoba producers are well placed to take advantage of China's growing market. In 2014, Manitoba exported 203,664 metric tonnes of soybeans to China – accounting for 35% of all Canadian soybean exports to China. With forecasts of increased production in the province and increased demand from China, the timing is right for MPSG and Soy Canada's participation in the mission. Look for a summary of the mission in the next issue of *Pulse Beat*.

Soy Canada has also been engaged in a number of policy issues. The association is part of consultations with the Government of Canada on the development of a domestic Low Level Presence (LLP) policy for genetically modified crops and the promotion of LLP policies internationally. Canadian grains and oilseeds exporters will benefit from this Canadian leadership if importing countries adopt LLP policies which facilitate trade. Canada's draft domestic LLP policy is available for review on Agriculture and Agri-Food Canada's website.

Soy Canada is also working with other commodity groups on a Maximum Residue Level (MRL) working group. MRLs are thresholds established by importers for the amount of chemical residue permitted on crops being imported. Where residue levels exceed import tolerances, trade in



Soy Canada met with customers in Japan in February 2015

the commodity can be disrupted. The working group is working towards strategies to better monitor and provide information to producers on MRLs in importing nations and to standardize MRLs between countries.

As a member of the Crop Logistics Working Group, appointed by Minister Ritz, Soy Canada is part of a group of producer and commodity associations working to improve grain transportation efficiencies.

In March 2015, Soy Canada met with the Canadian Grain Commission (CGC). One of the issues discussed was the harvest survey process managed by the CGC. CGC's survey provides valuable data on the quality of the soybean crop, including protein level, oil content and other key metrics. However, the amount of data provided is not consistent by province or region and levels of participation by producers varies from year to year, reducing the overall value of the survey. Soy Canada has suggested a review of the process to ensure the data is as accurate as possible.

Soy Canada's Board of Directors held its March meeting in Winnipeg. The first Annual General Meeting of the association will be held in Guelph, Ontario on June 25, 2015.

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. ■

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Cranberry Beans	.21/lb	Rye Grass Seed, Annual	.17/lb
Fababeans	.05/lb	Rye Grass Seed, Perennial	.27/lb
Great Northern Beans	.18/lb	Soybeans	5.12/bu
Hay (domestic sales)	69.30/mt	Sunflowers, Confectionery	.14/lb
Honey	.94/lb	Sunflowers, Oil	.108/lb
Kentucky Blue Grass Seed	.39/lb	White Pea Beans (Navy)	.13/lb
Kidney Beans	.21/lb		

New for 2015

Barley	2.01/bu	Millet	.04/lb
Buckwheat	6.25/bu	Mustard	7.64/bu
Camelina	.08/lb	Mustard, Ethiopian	4.61/bu
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Canola	4.94/bu	Rye	2.64/bu
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Cutting the fat off your interest rates lowers production costs, allowing you to stretch your farm's dollar farther and spend your money on necessities like inputs, or bigger purchases including equipment or land.

HOW DO YOU GET A CASH ADVANCE?

The APP is a financial loan guarantee program established under Agriculture and Agri-Food Canada that gives farmers easier access to credit through cash advances. The program is administered by producer organizations across Canada; and in Manitoba field crop advances are available from Canadian Canola Growers Association and Manitoba Corn Growers Association. In Manitoba, cash advances can be taken on nearly all field crops and livestock.

HOW DOES AN APP ADVANCE WORK?

Farmers can apply for a cash advance of up to \$400,000 at any time during the year. For crops, advances are available

continued on page 18

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Anya McNabb

Communications Officer, Pulse Canada

In March, Manitoba students proved that pulses can be incorporated into a breakfast meal, a post or pre-sports snack, or a tasty summer treat. These were just some of the entries at Mission: ImPULSEible Manitoba, a competition that challenges Canadian post-secondary students to create original food products using pulses.

Mission: ImPULSEible is a series of competitions held in participating Canadian provinces. Its goal is to promote the diverse and innovative uses of pulses. Teams are challenged to come up with a food product that uses pulses, and are judged on that product. A winner from each province is chosen to compete for the national championship at the Pulse and Special Crops Convention each summer.

With the International Year of Pulses 2016 coming up, the competition this year focussed specifically on raising

Make Nutritious, Delicious

awareness of pulses and their uses. The dishes were to be “chef-inspired,” convenient to eat and had to showcase one or more Canadian pulses.

“With 2016 designated the International Year of Pulses, it’s important to engage students, schools, and industry about the goals, not only for the year, but why pulses are the future of food,” said Christine Farkas, Manager of Food Product & Culinary Innovation for Pulse Canada.

This year’s Mission: ImPULSEible saw entries from 35 teams from 11 post-secondary schools, making stops in the Halifax, Ontario, Manitoba, Saskatchewan, Alberta, and British Columbia. On March 24th, instructors, students, friends, and industry experts gathered at the Paterson GlobalFoods Institute in Winnipeg’s Exchange District to see what the Manitoba chapter of the competition had to offer.

What the five Manitoban teams – two from the University of Manitoba, and three from Red River College’s

Culinary Arts program – had to offer was the following array of goods:

- **Pulse Yogurt Parfait:** a filling and nutritious breakfast dish, with chickpeas and lentils in the granola, and white kidney beans puréed into the yogurt.
- **Innova Pulse Chips:** a trio of chips of different flavours and colours, made with chickpeas, and green and red lentils.
- **Pulse Macaroons:** this product came with four different flavours made from green peas, navy beans, lentils, and chick peas, and was a healthy twist on your regular macaroon.
- **Manitobar:** an apple-cinnamon flavoured protein bar made with pea protein and navy and black bean flours.
- **Cool Beans Black Bean Ice Cream:** deep-fried ice cream balls, with black beans contributing to the smooth ice cream centre, and roasted chickpeas acting as the crunchy outer layer.

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prior to planting, after planting has been completed, or once the crop is harvested and held in storage. The value of cash advances available to each farmer is dependent on the amount of crop for which they apply, the advance rate for each commodity, adjustment factors such as crop insurance coverage levels, and eligibility limits.

Advances are repaid as the commodities advanced on are sold. Advances must be fully repaid by the end of the advance production period, a period of up to 18 months for field crops (April 1st until September 30th of the following year).

Farmers can apply for an advance directly from their chosen APP administrator. Procedures and fees vary amongst administrators, with further details included below. Once an application form has been completed, the administrator will review and,

if necessary, contact the farmer to verify or obtain missing information. Once approved, final processing times are minimal, with the application processing fee being deducted from the final advance amount.

As we enter the warmer months and the growing season gets into full swing,

spring advances are already being issued by administrators. Whether you’re just starting or running an established farm operation, a cash advance is a low cost, low risk, low collateral solution to the everyday challenges of managing a farm. ■

FOR MORE INFORMATION on the Advance Payments Program, including a full list of APP administrators in Canada, go to: www.agr.gc.ca/eng/?id=1290176119212

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1st place – Cool Beans Black Bean Ice Cream



2nd place – Manitobar



3rd place – Pulse Macaroons

“Students were asked to look at current and upcoming trends relevant in the food industry as they created their concepts,” said Farkas. “Developing trendy and relevant products geared toward IYOP brings light to the opportunities of using pulses in a range of food product applications.”

When the 17 Manitoba students finished presenting these products, the judges had a tough decision ahead of them. Products were graded on tastiness, innovation, and their accompanying marketing/business plans. After much

deliberation, judges Roxanne Lewko of Manitoba Pulse & Soybean Growers, Anya McNabb of Pulse Canada, and Neola Henry of Manitoba Agriculture, Food and Rural Development agreed on the top three prize winning products:

- 3rd place: Pulse Macaroons – *Darwin Gaspar* and *Cailem Winnmill*.
- 2nd place: Manitobar – *Danielle Dubé*, *YuJung Hung*, *Aprajita Saul*, and *Cara Thorleifson*.
- 1st place: Cool Beans Black Bean Ice Cream – *Vien Salimbacod* and *Mattaus Buelow*.

It came down to innovation.

“All five products tasted great, but the Cool Beans black bean ice cream balls really stood out in terms of taste and innovation,” said Roxanne Lewko. “The roasted, chopped-up chickpea coating offered just the right soft-to-crunch ratio. This product in particular really demonstrated a novel and unique way to cook with pulses.” ■





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Pulse Canada

As over 1000 delegates left the Global Pulse Confederation's annual conference in Las Vegas, there was a feeling that couldn't be denied; it's our time! Growers, processors, exporters, brokers and food manufacturers from around the world are getting behind a global pulse logo and campaign set to launch in November 2015. Pulses deliver improved nutrition, better health, and environmental sustainability, and the brand campaign aims to ensure that the world knows.

The launch of the brand campaign will coincide with the kick-off of the United Nations designated International Year of Pulses in New York in November 2015.

DEVELOPING A GLOBAL PULSE BRAND

The pulse industry commissioned Leo Burnett, a Chicago-based ad agency, to produce several concepts for the brand. In-depth consumer interviews took place in Boston, Chicago, Long Beach and Toronto to test these concepts.

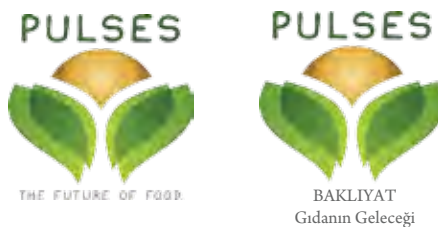
Simultaneously, a series of consultations were held with retailers, food manufacturers, ingredient companies, and pulse trade from around the world. These intensive consultations and consumer insight research influenced the choice of logo and tagline.

Alongside the logo and campaign, a global website for consumers will be launched.

BRAND CONCEPT

The "pulses" logo is designed for use around the world, and will have enough flexibility to allow for local market modifications and translations. The word "pulses" will appear above the logo in every market, and the white space can be used for local adaptations (as in the Turkish example shown below).

Research conducted by Leo Burnett confirmed that the tagline "The Future of Food" has global appeal. The "pulses" brand campaign is designed to inform and inspire a millennial generation; an audience that expects more from food. It represents the unique contribution that pulses make to society's need for improved nutrition, better health, and sustainable food sources.



NORTH AMERICAN ADVERTISING CAMPAIGN

Along with the brand, Leo Burnett will develop an advertising and promotional campaign targeting people under the age of 30 in North America. The campaign will use a combination of social media and traditional advertising to drive consumers to the "pulses" website.

WHAT DOES THE RESEARCH SHOW?

Consumer research shows that very few consumers in North America know what the word "pulses" means. When consumers are told that pulses are chickpeas, lentils, peas and beans, they recognize them, but often consider them a cultural food or food of the past. That said, the benefits of pulses very much align with consumer interests and food trends. The brand campaign will help consumers make this connection, and see pulses as a perfect fit for their diet.

Food manufacturers are looking for alternative protein sources and cleaner labels (reducing use of highly processed ingredients), which means pulses are positioned very well as a future ingredient. But manufacturers need help educating consumers to drive demand. They appreciate the white canvas under the word "pulses" as it provides a clean slate and tremendous opportunity to tell the pulse story of health, nutrition and environmental sustainability.

RELAUNCHING A FOOD CATEGORY

The brand campaign will re-launch pulses as a food category. Brand funding partners are developing a user guide for the logo and will soon promote the logo worldwide to the pulse sector and food industry.

Food manufacturers around the world have already expressed interest in using the logo on food products and securing these partnerships is the next step in bringing the brand to life.

This is our time. Pulses are the future of food. ■

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The list of health benefits of pulses is extensive: sustainable source of protein; high in fibre, both soluble and insoluble; low in fat and saturated fat and free of cholesterol; low in sodium; a source of potassium, magnesium and calcium; an excellent source of folate; a good source of many B vitamins; and a low allergen food. To capture these amazing health benefits, consumers, chefs and the food industry are looking beyond cooking with whole pulses and are considering utilizing pulse flours and purées in their recipes to boost nutritional value.

Pulse flours have mild flavours that are minimized even further through the baking process, and for gluten-free baked goods, pulse flours can increase moisture retention and add back resilience and flexibility. Pulse flours can replace a portion of grain flours in several baked items, including bread, pizza crust, crepes, cookies, pancakes, pie crusts and more.

Pulse purées are good for adding texture, thickening soups and stews, replacing high fat and saturated fat ingredients in baking, and adding moisture to gluten-free baked goods, such as muffins, cakes and brownies.

BEST COOKING PULSES PRODUCTS AVAILABLE AT SCOOP N' WEIGH

Best Cooking Pulses (BCP) is a Canadian, family-owned agrifoods business that has been active in the international pulse trade since 1936. 'Best' products include green and yellow split peas, whole peas, chickpeas, lentils, pulse flours (pea, chickpea, lentil and bean), pea fibre, pea bran meal, and roasted split peas. At Portage la Prairie, Manitoba, BCP utilizes proprietary milling methods to create 'Best' gluten-free pulse flours, pea fibre and bran products for food and pet food markets.

BCP products are available for purchase through their online store (<http://www.bestcookingpulses.com/shop.php>), and now consumers can purchase BCP flours and pea fibre at Scoop n' Weigh, 1770 Taylor Avenue in Winnipeg, Manitoba. Scoop n' Weigh is currently carrying the following BCP products:

shop.php), and now consumers can purchase BCP flours and pea fibre at Scoop n' Weigh, 1770 Taylor Avenue in Winnipeg, Manitoba. Scoop n' Weigh is currently carrying the following BCP products:

- BEST whole pinto bean flour
- BEST whole chickpea (garbanzo bean) flour (certified organic)
- BEST whole yellow pea flour (certified organic)
- BEST whole laird lentil flour
- BEST pea fibre (certified organic)
- BEST split green pea flour

BEST black bean flour will be available at Scoop n' Weigh in September.

BCP will be celebrating their 80th anniversary in 2016, which coincides with International Year of Pulses. BCP is proud to be part of Manitoba's agriculture and food sector and they support Manitoba's rural communities

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Culinary Creations with Pulse Flours and Purées

show will air on
Saturday, December 19, 2015
from 6:30 pm–7:00 pm on
CTV Winnipeg.

MPSG's Roxanne Lewko 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



by creating full-time employment opportunities, reinvesting into their Portage plant, purchasing crops from local producers and supporting local businesses.

PULSE FLOURS AND PURÉES FEATURED INTERNATIONALLY AND LOCALLY

In March, BCP entered the Research Chefs Association Culinology Expo Award Competition in New Orleans with black bean flour perogies, as seen on *CTV Morning Live* on January 21st. Red River College Chef Brad Gray attended to make, cook and serve the perogies at the BCP booth. While BCP did not take first place, there was a lot of interest in the perogies as they were visually interesting, ramped up with enough nutrition for a protein and fibre claim, and showed how culinologists could achieve ‘health by stealth.’

At the Agriculture Awareness luncheon at the legislative building on March 17th, navy bean, saskatoon and carrot purées from Canadian Prairie Garden were featured. Three chefs – one

of whom was Chef Brad Gray – were tasked with utilizing the three purées to come up with dessert options to serve with lunch. Creativity ensued and three outstanding dishes were developed: crème brûlée made with navy bean purée, topped with a saskatoon and honey topping and a carrot cookie, a navy bean and saskatoon cake with a honey and carrot topping, and a complex cake with saskatoon mousse topped with whipped cream, dried carrot and white chocolate. Chef Bray Gray won the competition with his delicious crème brûlée.

MAKING YOUR OWN PULSE PURÉE

Pulse purées are quite versatile and can be added to most recipes to increase the nutritional content without affecting taste or texture, including muffins, cakes, cookies and soups. And it is very easy to make your own purées at home! If using dried pulses, you will have to soak them in water overnight (three cups of water to one cup of seeds – they will increase dramatically in size as they

absorb the water) and then boil them at a gentle boil for an hour or more to soften the seed coat. If using canned pulses, you should rinse and drain them with water to remove nearly 50% of the sodium content. Simply place the cooked or rinsed pulses in a blender with some water and purée for two to three minutes. A good ratio to start with is one-quarter cup water for every one and one-quarter cups pulses. The goal is to reach consistency similar to canned pumpkin. You can always add more water, one tablespoon at a time, if you think the purée is too thick. Purées can be kept in the refrigerator for five days or in the freezer for up to six months, so you can make a large batch and freeze in recipe-sized portions – so they are always ready and available to add to your favourite recipes!

Recipe Corner on page 48 of this issue of *Pulse Beat* features one recipe with black bean flour and another with bean purée. Enjoy! ■

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QUALITY OF 2014 CANADIAN SOYBEANS

Dr. Ning Wang, CGC Grain Research Laboratory, Pulse Program

Dr. Veronique Barthet and Ann Puvirajah, CGC Grain Research Laboratory, Oilseeds Program

This report presents part of the 2014 quality data for Canadian food and non-food grade soybeans from the Canadian Grain Commission (CGC) Harvest Sample Program. Detailed information can be found on CGC's website, www.grainscanada.gc.ca.

Two major types of soybeans are grown in Canada, food grade and non-food grade. Food grade soybeans are used for the production of traditional soy foods such as tofu, soymilk and miso. Quality traits for food grade soybeans are seed size, water absorption, protein content, protein solubility (determined as nitrogen solubility index – NSI), sugar and isoflavone content. Non-food grade soybeans are treated as an oilseed and are processed in crushing plants. The most important quality information for a crushing plant is fatty acid composition and oil and protein content. A crushing plant uses this quality information to ensure it can meet customer specifications for the chemical, physical and nutritional characteristics of the extracted oil. The feed industry, meanwhile, needs protein content information because protein is a factor in the production of high quality meal for animal feed.

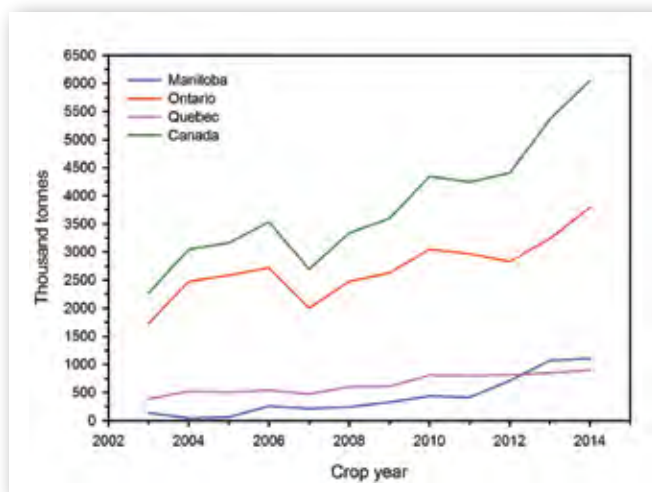
PRODUCTION OF CANADIAN SOYBEANS

Canada produced 6.0 million tonnes of soybeans in 2014, an increase of 11% from 2013 (Figure 1). In Manitoba, production was 1.1 million tonnes in 2014, an increase of 3.7% from 2013. In Ontario, production was 3.8 million tonnes, an increase of 19% from 2013. Quebec produced 898,000 tonnes, an increase of 6% from 2013.

HARVEST SAMPLES

Soybean producers and processors from Ontario, Quebec and Manitoba submitted soybean samples to CGC's Grain Research Laboratory for analysis. CGC received 533 soybean samples consisting of 187 food grade and 346

Figure 1. Soybean production in Canada (Statistics Canada)



non-food grade. All samples were graded by CGC grain inspectors. Composite samples were prepared and analyzed for protein, oil, sugar and total isoflavone content, fatty acid composition and free fatty acid content. Protein and oil content were determined using near infrared measurement calibrated against the appropriate laboratory reference methods. Sugars and isoflavones were analyzed using high performance liquid chromatography (HPLC) methods. Fatty acid composition was determined using gas chromatography and was used to calculate the iodine value of the oil. The free fatty acid content of the oil was also determined and is expressed as a percentage by weight of oleic acid in the oil.

QUALITY OF 2014 CANADIAN SOYBEANS (BASED ON THE SUBMITTED SAMPLES)

Protein and Oil Content

Protein content for 2014 Canadian soybeans (including food and non-food grade) ranged from 31.3 to 51.4% DM (Table 1). Mean protein content in 2014 was 40.1% DM, which was lower than the mean in 2013 (40.8% DM). Mean protein content in 2014 was 37.2% DM for Manitoba, 40.7% DM for Ontario and 42.0% DM for Quebec. Oil content for 2014 Canadian soybeans varied from 16.4 to 24.5% with an average of 21.0%, close to 2013's mean. Mean oil content in 2014 was 21.4% for Manitoba, 21.0% for Ontario and 20.4% for Quebec.

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Table 1. Protein and oil content for 2014 Canadian soybeans (No. 1 and No. 2 Canada combined) by province¹

Province	Protein content, % dry matter (DM)			Oil content, % DM		
	2014		2013	2014		2013
	Mean	Range	Mean	Mean	Range	Mean
Manitoba	37.2	31.3–41.0	40.5	21.4	18.2–24.5	20.9
Ontario	40.7	36.6–46.0	40.9	21.0	18.1–23.3	21.2
Quebec	42.0	32.6–51.4	43.0	20.4	16.4–24.3	18.8
Canada	40.1	31.3–51.4	40.8	21.0	16.4–24.5	21.1

¹Protein content (N x 6.25) is determined by near infrared measurement calibrated against the Combustion Nitrogen Analysis reference method.

Quality of Canadian Food Grade Soybeans

In food grade soybeans, seed size, water uptake capacity and nitrogen solubility index (NSI) are considered to be important quality characteristics for the production of tofu, soymilk and miso. In 2014, food grade soybeans had higher mean 100-seed weight and water absorption capacity than in 2013 (Table 2). The NIS, or percentage of water-soluble protein, was 82.8% in 2014, close to that in 2013 (83.1%). High NSI is preferred for soymilk and tofu production because soybeans with a high NSI tend to give high protein recovery when processed into soymilk, which in turn leads to high recovery in the final product. Average protein content for 2014 Canadian food grade soybeans was 40.2% DM, lower than that for 2013 (42.3% DM). In 2014, mean oil content (20.9% DM) was slightly higher than the mean for 2013 (20.6% DM). Food grade soybeans in 2014 exhibited higher sucrose content and total isoflavones content than in 2013.

Table 2. Quality data for 2014 Canadian food grade soybean composites

Quality parameter	2014	2013
Physical characteristics		
100-seed weight (g/100 seeds)	17.5	16.4
Water absorption (g H ₂ O/g seeds)	1.17	1.08
Nitrogen solubility index (NSI) (%)	82.8	83.1
Chemical composition (% DM)		
Protein content	40.2	42.3
Oil content	20.9	20.6
Sugar content (g/kg DM)		
Sucrose	65.7	62.6
Raffinose	7.1	8.1
Stachyose	36.4	35.1
Verbascose	0.84	0.40
Total oligosaccharides ¹	44.3	43.6
Total isoflavones² (mg/kg DM)	3201	2516

¹Sum of raffinose, stachyose and verbascose.

²Sum of isoflavone aglycones (daidzien, genistein and glycitein), glucosides, malonyl glucosides and acetyl glucosides.

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Quality of Canadian Non-Food Grade Soybeans

In 2014, the average oil content for non-food grade soybeans was 20.9% on a dry matter basis, similar to last year's average of 21.0% (Table 3). The average protein content was 39.6%, slightly lower than last year's average (40.2%). Iodine value average for Canadian non-food grade soybean oil in 2014 was 137.5 units, higher than 2013's average value. There was quite a bit of difference between the provinces. Manitoba had the highest iodine value (139.8 units) compared to Ontario (136.3 units) and Quebec (137.1). This was reflected by

the fatty acid composition. Manitoba had the highest alpha-linolenic acid (C18:3) average (10.2%) and Ontario the lowest (9.3%). Linoleic acid (C18:2) average was the highest in Manitoba (56.2%) and the lowest in Ontario (54.1%). Saturates content averages were very similar in the three provinces (14.9% in Manitoba, 14.9% in Ontario and 15.0% in Quebec). Free fatty acid is a negative quality factor and has to be removed from soybean oil. In 2014, free fatty acid levels averaged 0.15% in Canada. Free fatty acid levels were higher in Ontario (0.17%) than in Quebec (0.12%) and Manitoba (0.12%). ■

Producers must sign up with CGC's harvest sample program in order to participate in the program and to receive the sample envelopes.

Producers can sign up on-line at grainscanada.gc.ca, by email harvest-recolte@grainscanada.gc.ca or by phone 204-983-2978.

Table 3. Quality data for 2014 Canadian non-food grade soybeans by province¹

Province	Protein content, % dry matter (DM)			Oil content, % DM		
	2014		2013	2014		2013
	Mean	Range	Mean	Mean	Range	Mean
Manitoba	37.2	31.3–41.0	39.7	20.9	18.2–24.5	21.0
Ontario	40.7	36.8–45.1	40.5	20.9	18.7–23.3	21.1
Quebec	39.9	32.6–42.1	41.2	20.8	18.9–24.3	18.6
Canada	39.6	31.3–45.1	40.2	20.9	16.8–24.5	21.0

Province	FA, %					Inline Value, Units	
	FFA, %	C16:0	C18:1	C18:3	SATS	2014	2013
Manitoba	0.12	10.3	18.0	10.2	14.9	139.8	134.0
Ontario	0.17	10.4	21.0	9.3	14.9	136.3	133.6
Quebec	0.12	10.2	20.0	9.4	15.0	137.1	143.8
Canada	0.15	10.4	20.0	9.6	14.9	137.5	134.1

¹FFA= Free fatty acid of oil; FA=Fatty acid composition of oil; C16:0 palmitic acid; C18:0 stearic acid; C18:1 oleic acid; C18:2 linoleic acid; C18:3 α-linolenic acid; SATS=Saturates.

Wild Oats Grain Market Advisory

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Lilian Schaer

Agri-Food Project Services Ltd.

A feasibility study has brought the concept of a soybean crush facility in Manitoba one step closer to reality. Based on extensive analysis, study authors have determined that Manitoba has sufficient soybean acreage, production, and market demand to support a soybean crush in the province.

Mercantile Venture Consulting was hired by the Manitoba Pulse & Soybean Growers (MPSG) and Soy 20/20 to evaluate the value-add opportunity such a plant would bring to Manitoba, as well as develop a business case for soybean crushing in the province.

“We have an opportunity to provide more value to growers in Manitoba and it’s always good to have an alternative market that doesn’t rely on exports,” says grower and MPSG Chair Kyle Friesen of Altona MB. “We want to encourage local supply and demand to keep value-added processing in Manitoba to support jobs, the tax base and economic activity.”

The study results show that Manitoba now has the needed soybean production as well as adequate meal demand to make a crush plant viable in the province. Currently, soybeans grown in Manitoba are shipped to Vancouver for export, to the U.S. for export, or to the U.S. for crushing.

PRODUCTION AND DEMAND PROJECTIONS

While Canadian soybean production overall doubled from 2004 to 2014, soybean production in Manitoba and Saskatchewan has increased six-fold, accounting for 20.6 per cent of Canadian soybean production in 2014.

Manitoba alone made up 15 per cent of the nation’s soy production, up from only 1.1 per cent in 2004. Today, approximately 27.6 per cent or 1.54 million acres of Canada’s soybean production area is located in the Prairie Provinces. Looking forward, MPSG estimates that soybean acreage has the potential to expand up to four fold in Western Canada in the next decade.

Global soy demand is expected to continue its rise, with demand for soybeans increasing by 129 per cent to 150 million metric tons, and by 119 per cent to 76 million metric tons for soybean meal by 2024–25. Although Canada’s share of the global soybean, soybean meal, and soybean oil markets remain small, market share is expected to increase.

CURRENT CRUSH CAPACITY

Although Western Canada has considerable canola crushing capacity, there are no large scale facilities for crushing soybeans. Canada’s only existing soy crushing facilities are in Hamilton and Windsor, Ontario and in Trois-Rivières, Quebec. Manitoba’s three crush plants currently only crush canola.

Soybean processing in the United States is a mature, consolidated, and vertically integrated industry, with only four companies – Archer Daniel Midland (ADM), Bunge, Cargill, and Ag Processing (AGP) – controlling approximately 84 per cent of the industry.

LIVESTOCK IN MANITOBA

With significant livestock populations in the province, Manitoba offers a viable domestic market for soybean meal. And there is room for expansion. To maximize pork processing capacity in the province, for example, would require



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an additional one million pigs per year, which would boost meal demand. Future growth in the livestock sector would increase the demand for soybean meal even further, creating additional markets for soybean growers and a soy crush facility. A Manitoba crush plant would also provide meal to livestock farmers in Saskatchewan and Alberta. In fact, as hog numbers have trended down in recent years in the three Prairie Provinces, meal demand is needed to help maximize a crush plant's capacity.

FEASIBILITY FINDINGS

To determine the feasibility of a soy crush facility in Manitoba, researchers evaluated five key parameters: location; market dynamics; crush margins; origin and market advantage; and type and size of plant.

By looking at proximity to soybean production, rail lines, feed mills and end users (particularly the location of hog farms), comparable distance to U.S. crush facilities, and accessibility to additional meal markets, study authors identified an ideal plant location area currently only identified as Location X in Crop District 7.

The net margin for a crush facility at "Location X MB" was found to be favourable compared to a facility at Brewster MN, and remained so even when a 15-year pay back for plant construction and operating costs were considered.

A Manitoba soy crush plant would have a favourable per metric ton margin advantage over northern U.S. crush plants, based on sufficient bean supply, a conservative forecast for soy meal marketing in Western Canada, and worst-case scenarios for freight. Two major risks remain, however: ensuring a consistent and sufficient supply of soybeans, and the size of future meal markets in Western Canada.

A single use plant – a facility that crushes soy only – would need a minimum capacity of 2,000 metric tons per day, which, based on 2014 soybean production numbers, would require between 37 and 55 per cent of current total soybean production on the Prairies. A multi-use plant could

crush soybeans and then switch to crushing canola for the remainder of the crop year.

Overall, the study concludes that a switch crush plant in Manitoba would bring many benefits for agriculture, including local market access for growers who could avoid unreliable rail freight and providing a local protein feed sources for livestock farmers. The provincial economy as a whole would also benefit in the form of increased tax income for government, and overall economic spin-off generated by facility construction and job creation. Preliminary figures estimate pre-tax benefits at approximately \$190 million annually.

MSPG has already met with provincial government representatives to discuss the study and is now working on next steps to carry out more analysis and look at releasing study results to potential parties who might be interested in constructing such a facility.

"We want to discuss with them what the opportunities might be and get feedback on what kinds of resources they might be able to commit to moving this forward," says Friesen, adding that they also plan to make contact with some of the larger grain and crush

industry stakeholders to determine their level of interest.

Friesen estimates it could take five to seven years before Manitoba growers see a soy crush facility in their province, and that's provided everything progresses relatively smoothly. He emphasizes the grower organization is not seeking funding partners, but rather will be looking for a private company to take the lead in getting a facility established.

"We don't have the capital, the people or the expertise to be involved in getting this off the ground. Our role is to investigate the potential on behalf of growers and the larger industry, which we've done with this study," he says. "If somehow we could have producer involvement in a facility, that would be welcome as it would mean more value captured by farmers, but it's not a requirement to move forward."

This project was made possible with funding from the Canada and Manitoba governments, through Growing Forward 2, a federal-provincial-territorial initiative.

More information on the feasibility study is available by contacting François Labelle at Manitoba Pulse & Soybean Growers at 204-745-6488 or visiting www.manitobapulse.ca. ■

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For more information about the MCM Food Panel,
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The Manitoba Consumer Monitor Food Panel is a University of Manitoba project. Funding is provided by the Canada and Manitoba governments through Growing Forward 2, a federal-provincial-territorial initiative.

UNIVERSITY
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Growing Forward 2

Will You be Applying Fungicide to Your Dry Beans this Year?

Kristen Podolsky, MSc
Production Specialist, MPSG

Fungicide applications are an expensive input and I'm glad to report that there has been significant work done to help you make an informed decision. On-Farm trials have been conducted at Carman, Manitoba for three years (2012–2014) with the objective to determine if a fungicide application provides a yield benefit and to compare products. The results are summarized in Table 1. Although an economic analysis was not conducted, an economic return would have been expected in **one out of three years**. This demonstrates that it does not pay to spray every year and that an informed decision will help you determine when it's necessary.

Table 1. Effect of fungicide treatment on pinto bean yield at Carman, MB

Treatment	2012	2013	2014
	lbs/ac		
Untreated	2530	2472	2600
Acapela	2528	2637	2456
Allegro	2566	2770	2477
Lance	2598	2882	2467
Lance – split application	–	–	2420
Propulse	–	2764	2493
Expected economic return?	No	Yes	No

Fungicide applications primarily target Sclerotinia (white mould), so prediction models are based on the risk of this disease occurring. An in-depth risk assessment worksheet has been developed by the University of Nebraska-Lincoln and it has been adapted for Manitoba farmers and agronomists to use (see adjacent page). There are three primary factors that are considered in this risk assessment to determine the risk of Sclerotinia developing and therefore the need for a fungicide application:

1. Actual temperature and rainfall pre-flowering
2. Forecasted temperature and rainfall during flowering
3. Field specific factors including variety, row spacing, canopy density and field history

Once you determine the risk for a certain field, you also need to take into account the yield potential and economic value of the crop. Fungicide applications generally protect yield, rather than create it. We plan to continue running On-Farm fungicide trials with the addition of the product Serenade. In the meantime, an in-depth economic analysis of product performance from Guelph, Ontario is available on page 37 of this issue.

HOW DO YOU MAKE THE DECISION TO UNDERCUT OR DIRECT HARVEST?

The edible bean industry across the Great Plains is seeing a gradual transition to upright varieties. This has reduced disease pressure and fungicide use, but is also making the option to direct harvest more attractive. Harvest management has long been discussed by the MPSG edible bean research committee. The decision to direct harvest often needs to be made before the seed goes in the ground. We are working towards a decision tool that takes into account the following factors to facilitate an annual decision that is both practical and economical:

- Bean price
- Cost of operations
- Harvest losses
- Quality

The most difficult factor to determine is likely harvest losses. To help quantify this, MPSG is conducting field scale trials at Carman comparing multiple varieties of pinto and navy beans to determine their suitability for direct harvest. In other words, we are undercutting and direct harvesting each variety and then comparing the yield and harvest losses. If harvest losses can get below 200 lbs/ac at a

price of \$27–34/cwt, then the reduced return of \$50–65/ac may be offset by the additional labour and equipment costs associated with undercutting. Proponents of undercutting will also counter with the costs of rolling and desiccation, and potential quality issues.

Last year, the upright pinto variety La Paz looked most promising by minimizing direct harvest losses to <200 lbs/ac and final yield came within 300 lbs of the yield achieved with undercutting Envoy. We will continue in 2015 focusing on five navy bean varieties (T9905, Lightning, Indi, Portage and Cascade) and three pinto bean varieties (Windbreaker, La Paz and Monterrey). The varieties are chosen based on upright characteristics and early maturity.

WHAT ROW SPACING AND PLANT POPULATION PROVIDES THE GREATEST RETURN?

Current recommendations are largely based on work from North Dakota with older bean varieties. In 2015, an MPSG funded research project will examine a range of seeding rates and row spacing for both an upright and bush type pinto and navy bean variety. By studying these factors together, we will determine if the optimum seeding rate changes depending on row spacing or plant type, and vice versa. Looking forward in agriculture, I believe additional yield and profit gains will come from investigating the synergies between agronomic practices and harvesting the free input of solar energy.

At MPSG we prioritize agronomic, variety and market development for dry beans amidst balancing the needs of a diverse soybean and pulse industry. The multi-commodity approach results in resource efficiencies but it can also be difficult to establish a network of focused research dedicated to smaller acreage crops such as dry beans. We've set out a roadmap for our research program that will address agronomic gaps and deliver results to the dry bean industry. ■

Fungicide Decision Worksheet for Managing White Mould in Dry Bean

Complete this worksheet for your dry bean field(s) at the V-4 stage or one to two weeks prior to fungicide timing to assess the risk of white mould infection. The risk score along with yield potential and crop value can be used to aid in the decision of whether or not a fungicide application is required.

Adapted from University of Nebraska-Lincoln Extension (H. Schwartz)

			YOUR SCORE
Weekly total rainfall pre-flowering (weekly average up to V-4)	< 0.1"	1	
	0.1–0.5"	2	
	0.5–1.0"	3	
	> 1.0"	4	
Average daily high temperature pre-flowering (weekly average up to V-4)	< 18°C	4	
	18–21°C	3	
	22–28°C	2	
	> 28°C	1	
Humidity (%) or hours of dew or free water on foliage (weekly average)	0–25% (< 6 hrs)	1	
	26–50% (< 12 hrs)	2	
	51–75% (< 18 hrs)	3	
	>75% (< 24 hrs)	4	
Forecasted/actual rainfall expected during flowering (weekly average between V-4 and R-4 stages)	< 0.1"	1	
	0.1–0.5"	2	
	0.5–1.0"	3	
	> 1.0"	4	
Forecasted/actual daily high temperature during flowering (weekly average between V-4 and R-4 stages)	< 18°C	4	
	18–21°C	3	
	22–28°C	2	
	> 28°C	1	
Dry bean crop rotation and/or other susceptible hosts included in rotation (ex. canola)	≥ 3 years	1	
	< 3 years	2	
Susceptible hosts and/or fungal apothecia observed nearby (less than 2 km) before flowering (R-1)	No hosts, No Apothecia nearby	1	
	Hosts OR Apothecia nearby	2	
	Hosts AND Apothecia nearby	4	
Timing and amount of nitrogen fertilizer applied	Planting < 100 lbs/ac	1	
	Planting > 100 lbs/ac	2	
	Split application	3	
Plant spacing, effects on canopy density, and microclimatic conditions favouring white mould	Wide rows, low–moderate density	1	
	Wide rows, moderate–high density	2	
	Narrow rows, moderate density	3	
	Narrow rows, high density	4	
Varietal reaction (based on upright growth habit and/or genetic resistance) to white mould	Resistant	1	
	Unknown	2	
	Susceptible	4	
Dry Bean Disease Risk — Total Score:			
> 30 = High Risk 20–30 = Moderate Risk < 20 = Reduced Risk			

Terry J. Buss, Farm Production Advisor – Crops, Manitoba Agriculture, Food and Rural Development

In recent years it seems that many in the agricultural industry have gotten into the research business. On a regular basis, farmers receive a large assortment of graphs, charts, analysis and recommendations from a wide variety of sources. All manner of agronomic information can be found with a few Google searches. I view all of this as positive overall, but not everything that is called research actually turns out to be research.

In a perfect world, this situation wouldn't exist. I'm a bit surprised the situation exists anyways. For the kind of agronomic field research that my farming clients are most interested in, there is not a lot of debate about what constitutes proper experimental design, methodology and analysis. In other words, there exists an established set of standards for small plot and field scale agronomic research. I believe it is critical that farmers use these standards. One common misconception is that research cannot be understood and assessed by an individual unless they have received specialized training. I don't believe this to be true. There are some straightforward, easily applied standards that every farmer can use to assess the research evidence they are being provided. You don't have to be a rocket scientist. Here are a few standards I would encourage you to use:

1. NO RESEARCH EVIDENCE MEANS I'M NOT INTERESTED.

This may sound too obvious to mention. But I commonly have clients contact me about new products that have been marketed to them without any accompanying research evidence. The information they have been provided often includes lengthy

technical explanations about how the product works or various testimonials from happy customers but none of this is sufficient. The provision of research evidence by the product supplier should be the first standard a farmer employs when considering something new.

2. I TRY NEW PRODUCTS BECAUSE OF RESEARCH EVIDENCE, NOT BECAUSE THEY'RE CHEAP.

Another point that may seem obvious, but I get a lot of calls from clients about products that indicate modest yield increases of 10% for a cost of \$10 an acre or less. Does the fact that something new is cheap make research evidence less important? My answer is a straight no. Any new product being considered should be supported by research evidence demonstrating that reliable yield increases occur. The need for research evidence does not diminish just because product cost is low. Remember, a few bucks an acre adds up pretty quick.

3. WELL-DESIGNED RESEARCH INCLUDES REPLICATION OF TREATMENTS – AND THE MORE REPLICATION, THE BETTER.

In order to find out whether a new product really increases yield at a location, repeated measures of yield from field areas treated and not treated with the product need to be taken. This means that the replication of treatments has to be part of the experimental design. This also means that simply splitting a field in half, applying a new product to one side and not to the other side, and then harvesting one sample strip from each side doesn't cut the mustard. There is no way to know if the difference measured between the two yield samples is real or just the result of random chance. You've got a 50% chance that yield will be higher on the side where the new product was used. That's basically a coin toss. Experiments such as variety trials where

only one yield sample for each variety is harvested at each location have a similar problem: the replication needed to determine real differences at a location does not exist. The best experimental designs include as much replication as possible – at least three replications of each treatment (and hopefully more) at each location and as many locations as possible within a growing region.

4. I ONLY CONSIDER RESEARCH EVIDENCE THAT INCLUDES STATISTICAL ANALYSIS – NO IFS, ANDS OR BUTS.

The numeric differences measured in yield between treatments in an experiment could have been caused by random chance or errors made by those conducting the experiment. Statistical analysis sorts this out and lets us know which treatments caused true yield differences. The analysis also tells us how big the yield difference between treatments must be in order for them to be real (this is called least significant difference or LSD). And all of this information is guaranteed to be true either 90% or 95% percent of the time depending on how the analysis was done. Who wouldn't want this type of information? I do not consider research evidence that does not include statistical analysis and I would encourage you to do the same.

5. I ONLY CONSIDER RESEARCH EVIDENCE THAT MEASURES WHAT I SELL.

The farmers I work with sell grain. Not roots, not leaves, not stems or any other part of the plant. Why then, when considering a new product, would research evidence which does not include real and reliable grain yield increases influence them? Often this type of evidence highlights increases in plant root mass, plant leaf size or even seedling growth rates. It can be pretty compelling. Plants that are bigger, faster and better are potentially a good thing. But increases in these parameters are not a substitute for evidence of real and reliable yield increases. I only consider research evidence that gives me the complete picture and that includes what happens at harvest. ■



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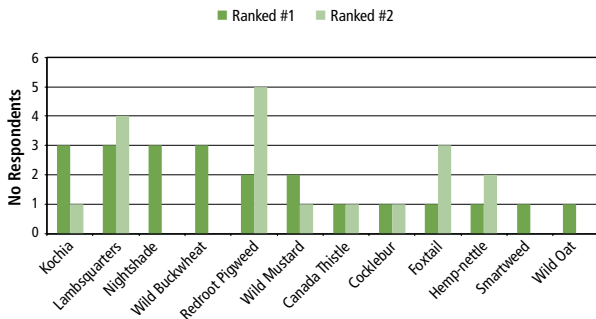
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DRY BEAN SURVEY UPDATE

In fall 2014, all dry bean growers received a survey of production practices. The goal is to conduct this survey annually and use the data to direct production, policy and market development activities of MPSG that will benefit our members. Over 19,000 acres were represented in the 2014 survey, which represents 13% of dry bean acres grown in 2014. I am pleased with this feedback given it was the first year of the survey and the fact that it was mailed out during harvest – which will be changed for next year.

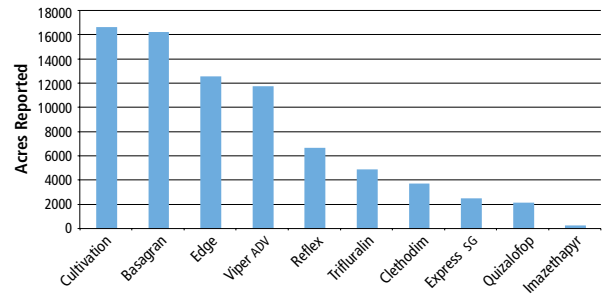
The results are currently being analyzed and you can expect to see a full report soon. Here is a glance of the weeds and herbicide data. Not surprisingly, kochia and lambsquarters were the two top-ranked weed problems. The most widely used herbicides in dry bean production are Basagran, Edge and Viper ADV. Cultivation remains an equally important management tool. I hope you find this insight valuable and please ensure you participate in the next survey to increase the representation. ■

Worst Weed Problem in Dry Beans in 2014



Weed Control Practices in Dry Beans in 2014

Respondents' acres only. Includes acreage treated more than once with the same product and/or treated the same acreage with more than one product.



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DISEASES

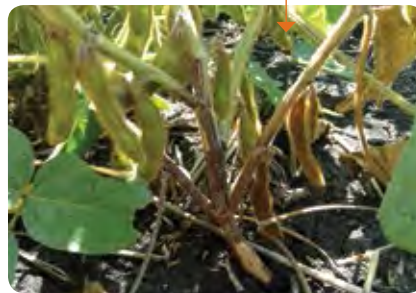
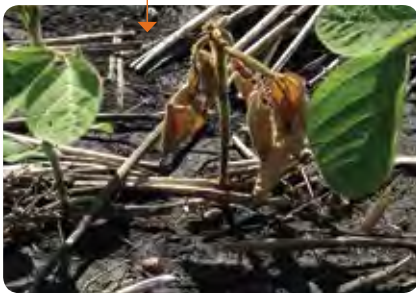
Seed and seedling diseases – *Phytophthora*, *Pythium*, *Rhizoctonia*, *Fusarium*



Sunburn – physiological, not a pathogen



early season – *Phytophthora* root rot – late season



Cercospora blight



Septoria brown spot



Phyllosticta leaf spot



Bacterial blight



Downy mildew



Pod and stem blights



White mould – *Sclerotinia*



INSECTS

Seedcorn maggot



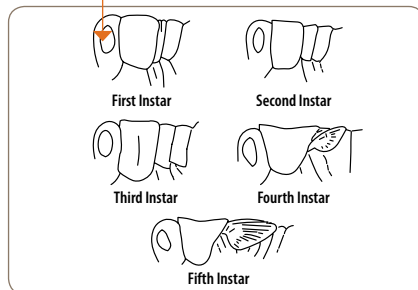
Cutworms



Wireworms



Grasshopper



Soybean aphids



Two-spotted spider mites



Green cloverworm



Corn earworm



Photos courtesy of Kristen Podolsky, MPSG • John Gavloski, MAFRD • Vikram Bisht, MAFRD

Hard to Control Weeds and Frequently Asked Questions

Brian Jenks, Weed Scientist, North Dakota State University, North Central Research Extension Center, Minot, ND

BIENNIAL WORMWOOD

Biennial wormwood has been thriving in the northern plains in recent years due to wet soil conditions. Biennial wormwood, as the name states, is a biennial plant that grows vegetatively the first year and then sends up a stalk and produces seed the second year. The main focus should be to control the first year plants before they bolt. The primary challenges of biennial wormwood are that it can emerge throughout the season and is not easily controlled by herbicides. Recommendations for biennial wormwood control are:

1. Use labeled herbicide rates; do not cut rates.
2. Some pre-emergence herbicides do provide fair to good control

such as Spartan (Authority), Valor (Valtera), and Metribuzin. Higher rates will be more effective. Sharpen (Heat) provided excellent control in a greenhouse study, but I have not evaluated it in the field. Aim (Cleanstart is a pre-package tank mix of Aim and glyphosate) has been less effective than Sharpen (Heat).

3. Apply post-emergence herbicides when the weed is one to two inches tall. You will see significantly less control if you wait until the weed is three inches tall or more. Split applications of Basagran or glyphosate 7–14 days apart have provided good to excellent biennial wormwood control. Liberty has also provided good to excellent biennial wormwood control.

GLYPHOSATE-RESISTANT KOCHIA

One of the main reasons that no-till crop production has been successful has been due to the cost-effectiveness

of glyphosate. However, with many farmers relying solely on glyphosate in Roundup Ready (RR) crops, we now have several weeds that are resistant to glyphosate. The current list in North Dakota includes waterhemp, common ragweed, Canada fleabane and now kochia. Glyphosate-resistant kochia is now present in several areas of North Dakota and Manitoba (confirmed in 2014). The wet conditions of recent years have probably slowed the spread of kochia; a couple dry years may result in faster spread of resistant kochia across the northern plains. Glyphosate-resistant kochia may be as big a threat to crop production in the northern plains as Palmer amaranth is to the southern U.S. The key to controlling glyphosate-resistant kochia (or resistance in general) is diversity (crop, herbicide, cultural practices, etc.). If we rely on one or two crops along with one or two herbicides, we will be facing resistance challenges.

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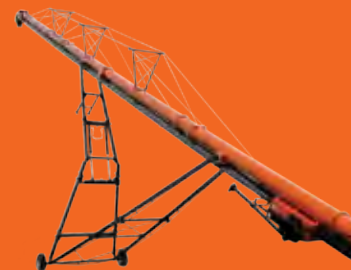
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So how can farmers control glyphosate-resistant kochia in soybean?

We have conducted studies the past two years looking at alternatives to glyphosate for pre-emergence control. The most effective treatments were Spartan (Authority), Spartan Charge (Authority Charge), Authority MTZ, Metribuzin, and Sharpen (Heat). There are some restrictions with using Sharpen (Heat) with other Group 14 herbicides in soybean. Gramoxone provided good to excellent kochia control. Metribuzin provided good residual control and would be a good fit in soybean or peas if the soil pH isn't too high. Valor (Valtera) provided fair control, but not as effective as Spartan (Authority) products. In our experience, the Group 14 herbicides such as Sharpen (Heat), Spartan (Authority), and Valor (Valtera) provide better foliar (burndown) control of kochia when applied with an MSO adjuvant. We expect residual control from Spartan (Authority), Valor (Valtera), and Metribuzin, but expect very

little residual control of kochia from Sharpen (Heat).

VOLUNTEER CANOLA IN SOYBEAN

Canola is a profitable crop for the northern plains, but one of its challenges is that it tends to volunteer for several years. Controlling volunteer RR canola in RR soybean can be a nuisance, but it is controllable. Some pre-emergence herbicides can provide good (not perfect) control including Metribuzin, Valor (Valtera), and Pursuit. A few post-emergence herbicides provide fair to excellent volunteer canola control such as Raptor (Solo), Pursuit, Basagran and Flexstar. Obviously, future crop rotations and label restrictions must be considered when choosing these herbicides. One of the most important keys to controlling volunteer canola is to not let it get too big. There is a huge difference in control when you spray a three- to four-leaf canola compared to bolting canola. Where possible, a grower should consider alternating herbicide systems, for example Liberty followed by RR or vice versa.

HOW LATE CAN I SPRAY GLYPHOSATE IN SOYBEAN?

This was a common question in 2014. Another common question is what can I tank mix with glyphosate for better weed control? Another herbicide? An adjuvant? Glyphosate's best friend may not be a tank mix partner or adjuvant, but rather a PRE. A pre-emergence herbicide may improve overall weed control more than anything else you can tank mix with glyphosate. Fields receiving a pre-emergence herbicide application will result in fewer and smaller weeds that need to be controlled by glyphosate. Because these weeds will be smaller, they will be easier to control. Relying solely on glyphosate for weed control in soybean frequently leads to resistant weeds. Use a PRE and spray weeds when they are small (not 8–16 inches). If weather conditions delay your herbicide applications, the glyphosate label states a second application may be made no later than the flowering stage of soybean. ■

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C.L. Gillard and D. Depuydt

University of Guelph, Ridgetown Campus

Last year, I wrote an article on white mould fungicide performance in the December issue of *Pulse Beat*. This is a follow up article to discuss the economics of fungicide use. In 2012 and 2013, seven foliar fungicides were compared at their low and high label rate, along with a biological called Heads Up which was applied as a seed treatment at planting (Table 1). Each product was applied twice with the first application at early flowering (plants had three small pods present), and a second application occurred 10–14 days later. For Allegro and Propulse, a single application at early flowering was also tested. Each year, two studies were planted about two weeks apart at the Huron Research Station near Exeter, Ontario. The studies were intensively managed to promote disease development, including the regular use of overhead irrigation. In every study, the white mould pressure was strong,

with 100% of the plants infected in the untreated control and (eventually) 50–65% of the plants dying. Profit margins were calculated using an average crop insurance value for the crop, minus the fungicide cost and an average custom application rate.

Disease severity was measured three times after the first fungicide application, and these values were used to calculate the area under the disease progress curve (AUDPC), a common way to measure the progress of disease over time. To put it simply, the higher the AUDPC value, the higher the disease severity over time (Table 1). Disease severity was highest for the untreated control, and all treatments had lower disease except Heads Up, Vertisan and Priaxor (low rate) delivered minimal disease control. Priaxor (high rate) and Acapela performed moderately well. The top treatment was a high rate of Allegro applied twice, which had similar disease scores to Lance, Propulse (high rate two applications only) and Senator.

All of the studies were combined to compare seed yield (Table 1). The untreated control had the lowest yield with Heads Up, Priaxor (low rate), and Vertisan giving similar results. Priaxor (high rate) performed only slightly better. Acapela had similar yield to most of the top fungicides, except for Senator (high rate) which was the top yielding treatment. The low rate of Propulse had weaker yield than the top treatments of Allegro (high rate) and Senator (both rates). Seed weight tended to follow the trends seen for yield, but only the untreated control and Heads Up had a dramatic drop in seed weight.

A second application of Allegro (trt 5 vs 4) and Propulse (trt 8 vs 7) reduced disease scores and increased yield only slightly, compared to a single application. This is an important point – I believe you have to pull the trigger quickly and time the first fungicide application at very early in flowering to have the best chance for success with these products.

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Table 1. Area under the disease progress curve (AUDPC), yield and 100-seed weight for fungicide experiments in Exeter, ON, Canada, 2012–2013.

	Fungicide	Rate L or kg ha ⁻¹	AUDPC		Yield t ha ⁻¹		100-seed weight (g)	
1	Untreated	0.0	1398	a	1.7	f	26.5	d
2	Lance	0.77	713	efgh	2.5	abc	28.2	abc
3	Allegro	0.6	628	gh	2.6	abc	28.3	abc
4	Allegro*	1.0	766	efgh	2.6	ab	28.1	abc
5	Allegro	1.0	577	h	2.8	ab	28.8	ab
6	Propulse	0.5	830	def	2.2	cde	28.0	abc
7	Propulse*	0.75	811	efg	2.4	bcd	28.4	ab
8	Propulse	0.75	645	fgh	2.6	abc	29.4	a
9	Senator	1.73	763	efgh	2.6	ab	28.6	ab
10	Senator	2.25	638	fgh	2.9	a	29.1	ab
11	Vertisan	0.8	1063	bc	1.9	ef	28.1	abc
12	Acapela	0.88	785	efg	2.4	bcd	28.8	ab
13	Priaxor	0.3	1029	cd	2.0	ef	27.6	bcd
14	Priaxor	0.45	911	cde	2.1	de	27.9	abcd
15	Heads Up ST	–	1238	ab	1.9	ef	26.8	cd

*Single application at early (30%) bloom stage. All other foliar treatments were applied at the early and full (100%) bloom stages.

a-h LS Means followed by the same letter within columns are not significantly different according to Fisher's Protected LSD (P<0.05).

Separate profit margins were calculated for each planting date because the fungicides responded differently (Table 2). For the first planting, most of the fungicides generated a greater profit margin than the untreated control. The best treatments for disease severity and yield also had the highest profit margins for the 1st planting. Senator (high rate) was the top treatment, with a profit of almost \$1204 over the untreated control. Propulse, Allegro, Lance and

Acapela performed similarly, with a profit (over the untreated control) ranging from \$612–1040. Crop yield was lower for the 2nd planting, which reduced profit margins by more than 45% for most of the fungicides, except Allegro. Only the Allegro treatments (trts 3, 4, 5) had a higher profit margin than the untreated control, with a net profit of \$558–707. At this point, Allegro seems to be giving the most consistent returns, in high and low yielding crops.

As a grower, you have to make a decision to apply a white mould fungicide before the disease is visible in your crop. This can be an expensive investment, with a price tag of \$100+ per hectare. This research makes this decision easier in two ways. First, it identifies the products that consistently control white mould each and every year. And at the same time, it identifies products that should return a profit for the investment that you make. ■

Table 2. Profit margins over fungicide costs (CA\$ ha⁻¹) by treatment for white beans, 2012–2013.

Treatment	Rate (g a.i. ha ⁻¹)	Profit Margin			
		1st Planting		2nd Planting	
1 Untreated	0.0	1,889.16	<i>g</i>	1,078.08	<i>c</i>
2 Lance	0.77	2,638.86	<i>bcd</i>	1,451.75	<i>abc</i>
3 Allegro	0.6	2,660.53	<i>bcd</i>	1,636.28	<i>ab</i>
4 Allegrox	1.0	2,673.26	<i>bcd</i>	1,784.94	<i>a</i>
5 Allegro	1.0	2,561.62	<i>bcd</i>	1,798.01	<i>a</i>
6 Propulse	0.5	2,501.28	<i>bcde</i>	1,167.11	<i>bc</i>
7 Propulse*	0.75	2,596.91	<i>bcd</i>	1,501.02	<i>abc</i>
8 Propulse	0.75	2,848.71	<i>abc</i>	1,369.01	<i>abc</i>
9 Senator	1.73	2,928.97	<i>ab</i>	1,307.80	<i>abc</i>
10 Senator	2.25	3,093.08	<i>a</i>	1,499.73	<i>abc</i>
11 Vertisan	0.8	2,099.03	<i>fg</i>	1,019.54	<i>c</i>
12 Acapela	0.88	2,537.97	<i>bcd</i>	1,452.04	<i>abc</i>
13 Priaxor	0.3	2,167.39	<i>efg</i>	1,166.21	<i>bc</i>
14 Priaxor	0.45	2,343.67	<i>def</i>	1,183.58	<i>bc</i>
15 Heads Up ST	–	2,129.90	<i>efg</i>	1,180.30	<i>bc</i>

*Single application at early (30%) bloom stage. All other foliar treatments were applied at the early and full (100%) bloom stages.

a-g LS Means followed by the same letter within columns are not significantly different according to Fisher's Protected LSD (P<0.05)



CEREAL RESEARCH CENTRE – MORDEN

The Cereal Research Centre (CRC), Morden, formerly the Morden Research Station, is one of Agriculture and Agri-Food Canada's national network of science and technology centres and is located at Unit 101 Route 100 in Morden, Manitoba. CRC, Morden serves the producers of western Canada and helps to develop crops for domestic and export markets here in Canada. The centre focuses on the development of technologies that enhance profitability and environmental sustainability for producers and end users, as well as contribute to the health and wellness of Canadians. CRC, Morden is dedicated to the development of superior varieties of high quality and disease resistant cereals, oilseeds and pulse crops that minimize producer risks and enhance opportunities in sustainable crop systems.

CRC, Morden operates on a full section of land, and has exceptional talent and capacity to undertake agricultural research. David Wall, Associate Director, RDT (Research, Development, and Technology), says it's the people and programs that make them unique. "We have the capacity and the right mix of people – pathologists, agronomists, breeders, molecular geneticists – to be the envy of many centres across Canada," he explains. "We also have unique facilities, such as the biocontainment facility we use to work on new or exotic races of plant pathogens – one of the first certified for use in Canada."

When AAFC's Cereal Research Centre relocated last year, its staff were moved to Morden and Brandon, which brought the total number of full-time equivalent employees in the Science and Technology branch at Morden up to 62, including 20 research scientists – an impressive number. CRC, Morden also oversees two scientists at the University of Manitoba's Department of Biosystems Engineering, one scientist at the Richardson Centre for Functional Foods and Nutraceuticals, and four scientists at the Canadian Centre for Agri-Food Research in Health and Medicine – all in Winnipeg.



The future of CRC, Morden is bright and there will be some exciting research being undertaken over the next number of years. "All programs will be strengthened," emphasizes Wall. "We'll continue to see improvements in disease resistance and breeding, there will be increased emphasis placed on agronomic work, and new technology will be brought to bear, particularly in molecular genetics. We'll be able to breed varieties with more precision using molecular markers." In addition

to accessing state-of-the-art equipment, recent expansion to their greenhouse and growth facilities will increase capacity and facilitate more research as well.

Thanks to research project funding from the Manitoba Pulse & Soybean Growers (MPSG), they are developing rapid detection techniques to improve pathogen diagnosis, so scientists will know what pathogens to concentrate on. They're even looking at combining

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disease resistance in pulse varieties. Plant breeders at CRC, Morden are working on early maturing edible beans and soybeans to improve their adaptability to the north and west, and they continue to look for new pulse crops to adapt to the prairies. Other MPSG funding has allowed them to improve the food value of pulse crops by studying the protein composition of beans, antioxidants and other potential beneficial health aspects. Going forward, cultivar development will focus on breeding methodology – quality traits and disease resistance – and focus will be placed on adaptation of new pulse types to western Canada.



New greenhouse

From a crop development perspective, CRC, Morden is geographically situated in southern Manitoba, an ideal location that allows them to work with varieties suitable for the east and the west. Historically, this has led to them introducing important crops to farmers across Canada, including peas. Before pea production shifted to Saskatchewan and Alberta, most of the development work was done at CRC, Morden. Dr. S.T. Ali Khan, a plant breeder, made a huge contribution to the pulse industry by introducing peas.

CRC, Morden also prides itself on networking with people and other research stations across Canada – Alberta, Saskatchewan, Ontario, Quebec, the Maritimes – and even the United States, to help fulfill their full breadth of agricultural research. “We have a broad range of expertise at the centre in areas of agronomy, pathology – in fact, we have the largest concentration of pathologists in Canada,” beams Wall.

Growth room for bean cold tolerance screening



“We can execute work in gene mapping, molecular marker development, soil and water research, plant breeding, integrated crop management and more.”

2015 marks CRC, Morden’s 100th anniversary, and to commemorate this significant milestone the centre is hosting a celebration on Wednesday, August 12th. It will be a full day open to the public and will feature an official ceremony, greetings on behalf of the government, congratulatory messages from dignitaries, and tours of the facilities and plots. The day will also provide the opportunity to showcase some of their historic, current and future work.

When the centre first opened, it was run as a farm – they had programs in horticulture crops and cereals (early rotation studies), and a bee and livestock program (cattle, horses, chickens and sheep). The livestock program dissolved and the last of the cattle were gone by 1960. “There was an early mention of pulse crops and soybeans in the mid-1930s–40s,” says Wall. “They were likely long-season varieties that didn’t do well here at that time.”

Wall says one of the most memorable accomplishments from the past 100 years is the overall impact the centre



has had on prairie agriculture, from inception to present day. “The number of varieties and different plant species that we’ve introduced into the prairies is phenomenal,” explains Wall. “55 varieties of fruit (apples, plums, cherries, crab apples, apricots), 25 varieties of vegetable crops (tomato, sweet corn), 57 varieties of trees/shrubs and 98 herbaceous perennials.” Over the years CRC, Morden has also introduced a large number of pulses and other field crops, such as buckwheat, corn, flax and sunflowers.

Today CRC, Morden focuses on pulses, oilseeds and cereal crops, and has received continual investment from the government over the years. Over the past couple years the government has invested in new irrigation and tile drainage systems, greenhouses and a phytotron at Morden, and the laboratory facility has undergone \$1.5 million in lab renovations to accommodate the new programs that came from Winnipeg.



Field pea trials

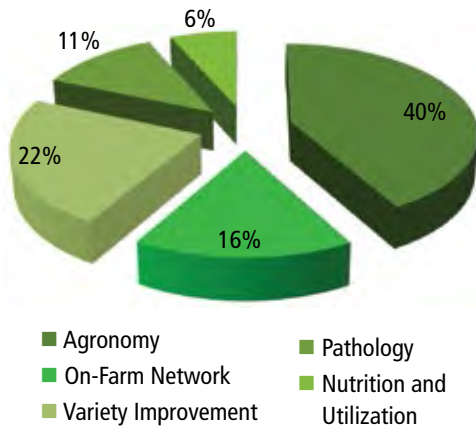
CRC, Morden plots and facilities have been toured numerous times by farmers, producer groups and industry over the years. MPSG has held their annual summer tour at CRC, Morden for many years. The vast amount of quality pulse and soybean work to be seen, paired with their beautifully landscaped grounds and a very helpful and accommodating staff compliment, offer a scenic and organized atmosphere for attendees. The MPSG tour is moving to Carman for 2015, but we will be back in 2016. ■

Photos courtesy of Dr. Anfu Hou, Research Scientist

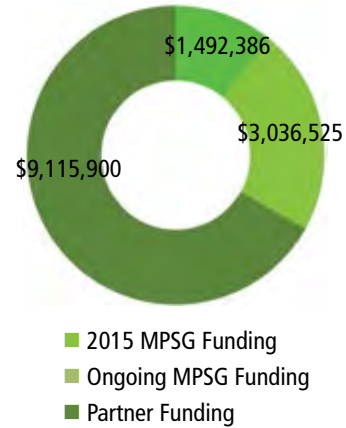
2015 APPROVED FUNDING FOR RESEARCH

Numbers at a Glance

\$4.5M Research Investment by Priority Area



Leveraging of Check-off Dollars
\$1 of Check-off → \$3 from Research Partners



Manitoba Pulse & Soybean Growers (MPSG) are investing nearly \$1.5 million towards 25 new soybean, edible bean and field pea research projects and delivery of programs for 2015. Increased collaboration and relationships within the soybean and pulse research community have led to targeted research projects aimed at improving the profitability of soybean and pulse crops for Manitoba farmers.

Specifically, new soybean research will investigate crop quality aspects, improve varietal traits and develop recommendations for efficient input

use. Dry bean research will determine the optimum plant spatial arrangement, continue comparing variety suitability for direct harvest and characterize health benefits in adults and children. Novel field pea research will determine the optimum established plant stand and investigate on-farm intercropping. Research partners in 2015 include the University of Manitoba, Agriculture and Agri-Food Canada (Morden and Ottawa), the Food Development Centre, and Red River College. Several projects are being led by MSPG as well.

In addition to the new 2015 approved research, MSPG has a current invest-

ment of \$4.5 million to support over 60 ongoing research projects valued at \$13.6 million. In 2014, the major funding partners were Growing Forward 2 (\$453,000), Western Grains Research Foundation (\$257,000) and the Western Economic Development program (\$242,000). MSPG prioritizes the leveraging of research dollars to maximize the value back to producers and applications to these programs are currently under review for 2015.

Research reports and more information about our research program is available at www.manitobapulse.ca.

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Look for the MSPG Bean App in the App Store!

The MSPG Bean App officially entered the App store in May and is available FREE for download. A new **Seeding Rate Calculator** has also been added. The MSPG Bean App now features three comprehensive decision tools and is a great resource for farmers and agronomists...



1 Seeding rate calculator – *are you using the economically optimum seeding rate?*

2 Plant stand assessor – *did you reach your target plant stand?*

3 Yield estimator – *how many beans are out there?*

RESEARCH LEAD	PROJECT TITLE	START YEAR	MPSG FUNDING
ON-FARM NETWORK			
Agri Skills	Soybean special input trial	2015	\$33,600
TAC	Effects of seed treatment on soybean productivity	2015	\$36,750
Agri Skills	Pinto fungicide trial	2015	\$33,600
Agri Skills	Suitability of pinto and navy bean varieties for direct harvest	2015	\$115,000
Agri Skills	Pea–Canola Intercropping	2015	\$46,200
MPSG	Comprehensive soybean seed treatment evaluation	2015	\$13,660
TAC	Effects of lower seeding rates on yields – expanding trials in western Manitoba	2015	\$75,600
U of M – Lawley	Soybean residue management	2014	\$75,900
TAC	Evaluating the effect of foliar fungicides on soybean yield and maturity	2014	\$117,600
TAC	Comparing liquid vs. liquid + granular inoculant on soybean yield	2013	\$97,650
TAC	The effect of lower seeding rates on soybean yields – western Manitoba	2014	\$75,000
SOYBEAN – Agronomy			
MPSG	Soybean hail damage re-growth assessment	2015	\$66,015
MPSG	Late planting of early maturing soybeans	2015	\$25,719
MPSG	Soybean inoculant trial	2015	\$8,960
U of M – Flaten	Phosphorus fertilization beneficial management practices in soybeans in Manitoba	2014	\$64,653
U of M – Entz	Research and technical support for on-farm transition to organic soybean production	2014	\$20,000
U of M – Tenuta	Soybeans for improved soil health	2014	\$322,348
AAFC – Mohr	Effect of soil temperature at different planting dates and residue management on soybean	2014	\$49,600
AAFC – Mohr	Enhancing Manitoba soybean yield and quality under sub-optimal conditions	2014	\$136,074
AAFC – Mohr	Agronomic management of soybean in Manitoba	2013	\$163,900
U of M – Lawley	Soybean crop rotations benefits for Manitoba farmers	2012	\$268,440
U of M – Gulden	Volunteer canola in soybean production	2013	\$60,000
AAFC – Larney	Comparison of dry bean and soybean for agronomic traits, inputs, diseases and nitrogen-fixing benefits to following crops, water use and harvest losses	2013	\$15,000
SOYBEAN – Pathology and Variety Improvement			
AAFC – Hou	Evaluation of soybean breeding lines for iron deficiency chlorosis (IDC) resistance in greenhouse	2015	\$52,000
AAFC – Hou	Soybean protein content variation among genotypes grown in Manitoba and Ottawa	2015	\$144,000
AAFC – Morrison	Variation in soybean seed quality parameters: The Manitoba Advantage	2015	\$62,400
	To be announced	2015	\$202,262
U of M – Daayf	Alternatives to reduce root rots in soybean and other pulses	2014	\$105,000
AAFC – Cober	Short-season soybean improvement and very short-season herbicide tolerant soybean development	2013	\$96,000
AAFC – McLaren	Prevalence, incidence and virulence of Phytophthora root rot of soybean in Manitoba soybean fields	2013	\$300,000
AAFC – McLaren	Identification of the pathogens associated with root rot of soybean	2012	\$24,000
AAFC – Hou, Cober	Evaluation of soybean breeding lines for iron deficiency resistance	2012	\$24,000
DRY BEAN – Agronomy			
U of M – Gulden	Optimizing plant spatial arrangement and weed management for field bean production	2015	\$236,325
MPSG	Manitoba Crop Variety Evaluation Trials for dry beans	2015	\$25,000
U of M – Tenuta	Identification and significance of plant parasitic nematodes of pulse crops and soybean	2013	\$182,500
U of M – Ayele	Mitigating the deleterious effects of above normal soil moisture on the productivity of pulse crops through seed treatment	2014	\$80,000
AAFC – Marsolais	Developing herbicide tolerance in dry beans	2013	\$50,000
U of G – Gillard	Dry bean agronomy and pest management studies	2013	\$50,000

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RESEARCH LEAD	PROJECT TITLE	START YEAR	MPSG FUNDING
DRY BEAN – Pathology and Variety Improvement			
AAFC– Hou	Development of dry bean cultivars/germplasm with high yield, disease resistance and marketable seed quality for production in Manitoba	2013	\$271,000
AAFC – Hou	Investigation of feasibility of improving dry bean protein sulphur-containing amino acids and effects on agronomic traits	2013	\$54,000
AAFC – Conner	Identify advanced dry bean breeding lines or coop entries with resistance to common bacterial blight, anthracnose and white mould. Develop new methods for controlling halo blight in dry beans.	2013	\$75,000
CGC – Wang	Evaluation of nutritional, physio-chemical and cooking quality traits in Manitoba-grown dry beans for breeding use	2014	\$36,000
AAFC – Conner	Evaluation of root rot resistance in dry bean cultivars	2013	\$60,000
AAFC – Yu	Development of molecular markers linked to disease resistance of edible beans to common bacterial blight and anthracnose	2012	\$30,000
AAFC – McLaren	Root rot pathogens of dry bean; identification, distribution and risk assessment in Manitoba	2013	\$45,000
FIELD PEA			
MPSG	Evaluation of seeding rate and fungicide use in field pea	2015	\$5,725
SPG – CDC	Variety development of field peas and faba beans	2015	\$21,800
AAFC – Conner	Evaluation of root rot resistance in field pea cultivars	2013	\$40,000
AAFC – McLaren	Root rot pathogens of field pea; identification, distribution and risk assessment in Manitoba	2013	\$45,000
SOY AND PULSE – Nutrition, Utilization and Value-added			
RRC– McRae	Consumer taste testing of recipes containing pulses	2015	\$10,670
MSVU – Luhovy	The effect of whole cooked beans and peas on satiation, satiety and food intake in children	2015	\$15,800
U of M – Aluko	Extraction and functional characterization of cholesterol-binding indigestible proteins from Manitoba-grown pulses	2015	\$91,300
CCARM – Zahdraka	Effect of black and navy beans on blood vessel function and modelling	2015	\$10,000
FDC – Meseyton	Pulse coated cheese variety study	2015	\$24,000
FDC – Nivet	Development of a pulse-based protein drink mix for the vegan athlete	2015	\$20,000
FDC – Appah	Developing pulse-based shelf stable shili using retort processing	2015	\$16,000
CCARM – Zahradka	Characterization of bioactive compound absorption and excretion, and relationship to improvements in cardiovascular function	2014	\$40,000
U of W – Holloway	Joining the green revolution: value-added fermentations of peas and beans	2014	\$32,860
U of M – Carlberg	Can increasing whole and fractioned yellow pea flour consumption in Canada reduce healthcare expenditures?	2014	\$30,000
DELIVERY OF PROGRAMS			\$100,000
2015 NEW FUNDING APPROVED + Delivery of Programs			\$1,492,386
2015 NEW AND ONGOING FUNDING			\$4,528,911
2014 Reserve Carried Forward		\$685,902.53	
2015 Research Allocation		\$1,100,000.00	
Total 2015 Funding Available		\$1,785,902.53	
2015 Research Investment Approved		\$1,492,386.00	
2015 Reserve To Be Carried forward		\$293,516.53	

AAFC – Agriculture and Agri-Food Canada

CGC – Canadian Grain Commission

CCARM – Canadian Centre for Agri-Food Research in Health and Medicine

FDC – Food Development Centre

MPSG – Manitoba Pulse & Soybean Growers

MSTVU – Mount Saint Vincent University

TAC – Tone Ag Consulting

U of G – University of Guelph

U of M – University of Manitoba

U of W – University of Winnipeg

CLANCEY'S STATS

Brian Clancey

Senior Market Analyst and Publisher

International dry edible bean markets have lost their bullish lustre since the start of the calendar year with weighted average prices for North American beans trading at almost 8% less since January 1 than between August and December.

Edible beans have been the weakest sector in international pulse markets, which have managed to gain just over 8% in value between the two periods mainly because of strength in lentils. Farmers in North America appear to have responded to the difference in price direction.

Seeding intentions reported by the USDA and Statistics Canada suggest they will grow as many dry edible beans as last year. On the other hand, they intend to plant more lentils and field peas for an overall increase in pulse area to a near record 10.75 million acres.

Markets believe total pulse area will probably push past 11 million acres this spring because of a massive increase in red lentil seedings in Canada and a general increase in lentil and field pea plantings in the United States. If the weather cooperates, total pulse area in Australia could be up over last year as farmers plant more faba beans and field peas. By contrast, forecasts of a below normal monsoon on the Indian subcontinent has raised concerns pulse seeding there could slip further depending on the timeliness and distribution of rains.

A key reason interest in growing dry edible beans is down in North America is that large and medium calibre white bean markets have turned bearish. Farmers in Argentina grew significantly more white alubia beans than last year, while competition for available demand remains strong because of production gains in Egypt.

Since January 1, average export asking prices for large white beans are down 31% from the August through December period last year, while average prices for great northern and other medium calibre white beans are

down 24%. Prices for small calibre beans such as navy, dropped less because they did not keep pace with last year's advances in trading levels for medium and large calibre white beans.

The story for coloured beans has been mixed. Small acreage classes such as light and dark red kidney, cran, small red and pink have maintained their values better than the major classes such as pinto and black. However, that relative strength has encouraged farmers outside North America to increase land in those niche classes,

with the result markets outside North America are seeing price weakness.

More significantly, the longer prices in North America hold a premium to world trading levels, the more product is expected to be imported from China and other suppliers. Some domestic packagers and canners fear the North American focus on premium buyers makes it easier for other origins to increase their share of the "economy" market, ultimately limiting grower interest in minor classes of coloured beans.

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North American Pulse Production Summary

	2011	2012	2013	2014	2015	5-year Average
Area (acres)						
Lentils	2,986,000	2,978,000	2,982,000	3,391,000	3,935,000	3,214,000
Peas	2,817,000	4,399,000	4,203,000	4,750,000	4,855,000	4,116,000
White Beans	350,000	473,000	338,000	467,000	496,000	428,000
Coloured Beans	930,000	1,367,000	1,041,000	1,342,000	1,323,000	1,253,000
Chickpeas	253,000	408,000	411,000	396,000	337,000	365,000
Total	7,336,000	9,625,000	8,975,000	10,346,000	10,746,000	9,376,000
Production (MT)						
Lentils	1,829,000	2,037,000	2,881,000	2,615,000	3,154,000	2,467,000
Peas	2,765,000	3,847,000	4,680,000	4,233,000	4,573,000	3,840,000
White Beans	270,000	419,000	305,000	409,000	423,000	364,000
Coloured Beans	695,000	1,152,000	854,000	1,061,000	1,051,000	991,000
Chickpeas	185,000	313,000	342,000	250,000	243,000	262,000
Total	5,744,000	7,768,000	9,062,000	8,568,000	9,263,000	7,924,000
Carry In (MT)						
Lentils	1,131,000	1,169,000	546,000	322,000	119,000	685,000
Peas	695,000	294,000	194,000	399,000	223,000	515,000
White Beans	79,000	42,000	71,000	2,000	26,000	47,000
Coloured Beans	233,000	61,000	164,000	105,000	121,000	122,000
Chickpeas	22,000	11,000	54,000	100,000	59,000	41,000
Total	2,160,000	1,577,000	1,029,000	928,000	685,000	1,410,000
Supply (MT)						
Lentils	2,960,000	3,206,000	3,427,000	2,937,000	3,273,000	3,152,000
Peas	3,460,000	4,141,000	4,874,000	4,632,000	4,796,000	4,355,000
White Beans	349,000	461,000	376,000	411,000	449,000	411,000
Coloured Beans	928,000	1,213,000	1,018,000	1,166,000	1,172,000	1,113,000
Chickpeas	207,000	324,000	396,000	350,000	302,000	303,000
Total	7,904,000	9,345,000	10,091,000	9,496,000	9,948,000	9,334,000

BASED on data from Statistics Canada and USDA. Forecasts by STAT Publishing.

Long-term dry edible bean production trends in North America reveal that there has been a general decline in seeded area. Average seeded area between 2010 and 2014 showed marginal growth over what was sown during the 1990s, but interest in growing dry edible beans is down sharply in both the United States and Mexico. Falling production in Mexico is reflected in lower per capita consumption, whereas declining production in the United States has been offset by rising imports.

This raises an important point about what drives interest in growing pulses. To the extent farmers believe they can make more money growing edible beans than other crops, they should want to plant more. But, market liquidity and quality risk can offset the benefits of higher income potential, making farmers favour crops that are easier to sell. This is clearly at play in Manitoba, where soybeans have pulled land from dry beans and other pulses. Whether this pattern repeats itself in

Saskatchewan and Alberta as more suitable soybean varieties are developed, is yet to be seen.

Rising competition for land use in North America and increased production by exporters outside North America has contributed to a focus on domestic users and importers who need North American quality product. While having helped keep prices at a premium to world markets, it has limited growth in area and makes it harder to expand demand.

Even so, there are limits to how wide the spread between North American and world bean markets can rise because of the ability of packagers and canners to supplement their needs with imports. The implication for growers is that when prices are at the upper end of their historic ranges, it is not a good idea to hold product unless there are obvious production problems in key importing or exporting countries.

This has already played out in white beans, where production problems in Argentina forced medium and large

calibre bean prices higher. But, with production returning to normal levels and output among its competitors remaining at higher levels, prices will ultimately be forced to levels that encourage rather than discourage consumption. ■

MARK YOUR CALENDAR

Crop Diagnostic School

July 7–9 and July 14–16,

Farmers Only Day – July 17

See page 36 for more details.

2015 SMART Day

Wednesday, July 22, 2015

See page 2 for more details.

Great Tastes of Manitoba

Saturday, December 19, 2015

6:30 pm – CTV Winnipeg

Check our website regularly for updates

www.manitobapulse.ca

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Em. darryl@walhallabean.com

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Ray Penner - Manager
P.O. Box 761 Winkler, MB Canada R6W 4A8
Ph. (204) 325-0767 Fx. (204) 325-0768
Em. ray@walhallabean.com

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MANITOBA PULSE & SOYBEAN BUYER LIST – MAY 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	✓
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	✓
Nebraska Bean	✓					402-887-5335	Clearwater, NE	
Nutri-Pea Ltd.				✓		204-239-5995	Portage la Prairie, MB	
Nu-Vision Commodities	✓					204-758-3401	St. Jean Baptiste, MB	
Parrish & Heimbecker Ltd.					✓	204-987-4320	Winnipeg, MB	✓
Paterson Grain				✓	✓	204-956-2090	Winnipeg, MB	✓
• FeedMax Corp.				✓		204-523-0682	Killarney, MB	✓
Quarry Grain Commodities					✓	204-467-8877	Stonewall, MB	

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COMPANY	EDIBLE BEANS	FABA BEANS	LENTILS	PEAS	SOYBEANS	PHONE	LOCATION	CGC REGISTERED
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	✓
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 MPSG office at 204-745-6488 to register.

NOTE – These companies are authorized to deduct and remit levy to MPSG. This list is provided by MPSG 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 – Kochia. This seedling has pale green, long elliptical leaves that whorl out from the centre and is covered in long, fine hairs. In 2014, kochia was confirmed as Manitoba’s first glyphosate resistant weed; it was found in two soybean fields in the Red River Valley. It is already assumed that the majority of kochia

populations are resistant to group 2 herbicides, which makes in-crop control even more difficult. Be sure to scout for kochia before and after your herbicide applications in soybeans this year to ensure you are ahead of the game.



B – Volunteer canola. Compared to wild mustard, volunteer canola is paler green and much less hairy than wild mustard. Herbicides to control volunteer Roundup Ready canola in Roundup Ready soybeans are an added production cost and new research has found that while volunteer canola may be unsightly, it doesn’t always reach economical levels in soybeans. The

economic threshold for volunteer canola in narrow row soybeans has been found to be 2.4 plants/m² (Gulden et al. 2014). If volunteer canola is present at this density in your soybean field, it is estimated to cause ≥5% yield loss and it will likely be economical to spray it.

Recipe Corner



Lazy Perogy

Preparation time: 1 hour / Cooking time: 1 hour 30 minutes / Serves 8

1 1/2 cups (375 mL) potatoes, mashed

1 1/2 cups (375 mL) **navy, pinto, or great northern bean purée***

1 cup (250 mL) cheddar cheese, grated

2 cups (500 mL) cottage cheese

1/4 cup (50 mL) green onion, diced

1 egg, beaten

1/4 tsp (1 mL) salt

1/2 tsp (2 mL) pepper

4 cups (1 L) fresh spinach, chopped

9 lasagna noodles, cooked

1 1/2 cups (375 mL) onion, diced

1/4 cup (50 mL) soft margarine

1/4 lb (114 g) bacon, cooked crisp and crumbled



*Instructions for making your own bean purée can be found on page 22 of this issue of *Pulse Beat*.

Preheat oven to 350°F (180°C). Spray a 9" x 13" baking dish with a non-stick vegetable spray. In a bowl combine potatoes, bean purée and cheddar cheese. In separate bowl, combine cottage cheese, green onion, egg, salt and pepper. Add spinach and mix well. Place lasagna noodles on the pan bottom. Spread bean mixture over first layer of noodles and cover with next layer of noodles. Spread cottage cheese mixture over second layer of noodles. Cover with the last of the noodles. In a skillet, sauté onion in margarine until translucent. Remove from heat and spread over final layer of noodles. Cover with foil and bake on middle oven rack for 1 hour and 15 minutes. Remove from oven and garnish with bacon. Bake uncovered for 5 minutes. Cool for 10 minutes, covered, before serving. Enjoy.



Speckled Chocolate Chip Cookies

Preparation time: 10 minutes / Baking time: 12 minutes / Makes 48 cookies

1 cup (250 mL) **black bean flour**

1/2 tsp (2 mL) baking soda

Dash salt

1/2 cup (125 mL) unsalted butter

1/2 cup (125 mL) sugar

1/4 cup (50 mL) packed brown sugar

1 egg

1 tsp (5 mL) vanilla extract

1 cup (250 mL) semi-sweet chocolate chips

Preheat oven to 350°F (180°C). In a small bowl, stir together bean flour, baking soda and salt. In mixing bowl, cream together margarine and both sugars. Beat in egg and vanilla until light and fluffy. Stir in dry ingredients until blended. Fold in chocolate chips. Drop by small teaspoons 2 inches (5 cm) apart onto nonstick baking sheets. Bake for 10–12 minutes or until golden brown.



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