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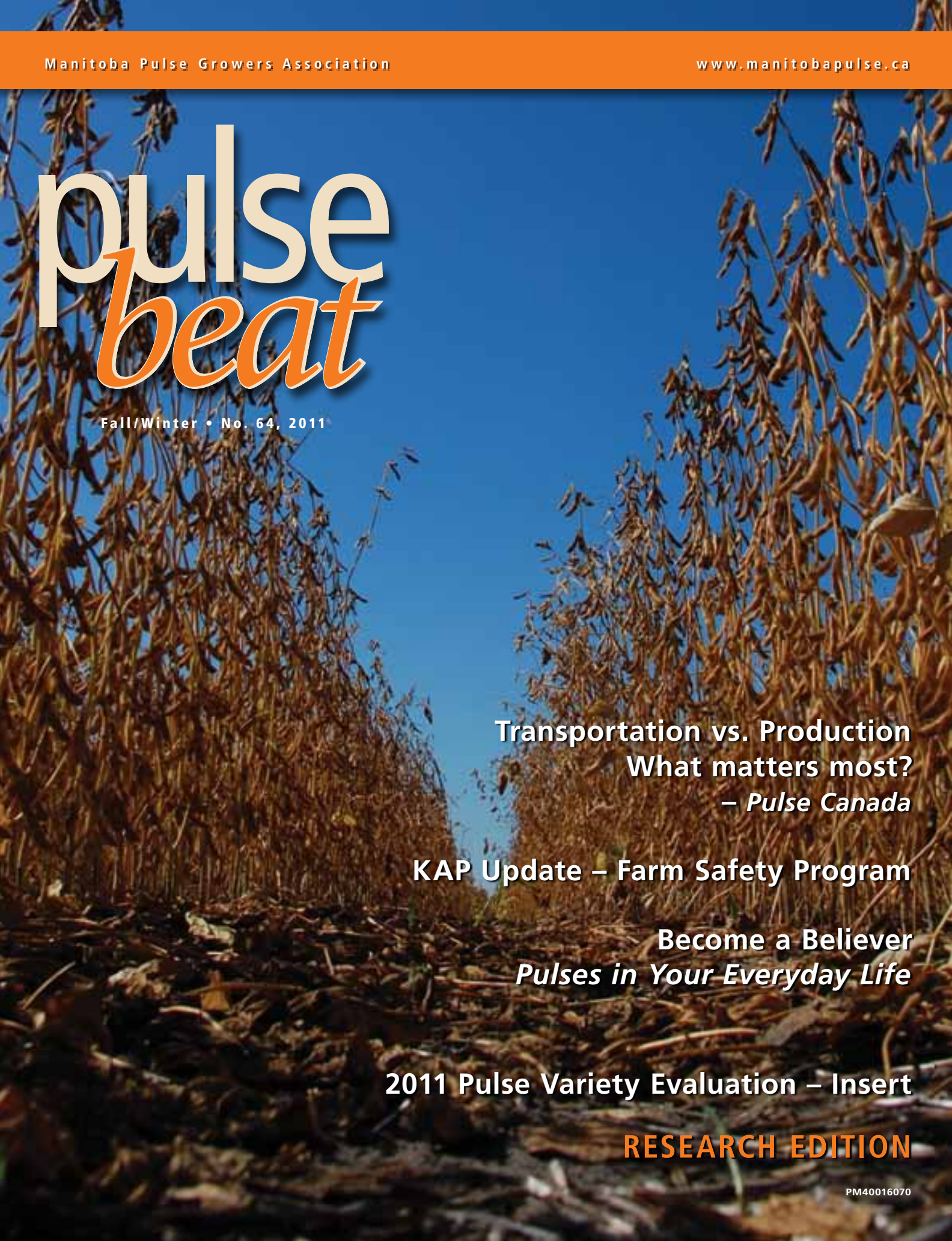
pulse beat

Fall/Winter • No. 64, 2011



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pulse beat

Manitoba Pulse Growers Association

Fall/Winter • No. 64, 2011

Publisher Manitoba Pulse Growers Association Inc.

Editor Monika Robertson MPGA

Associate Editors Sandy Robinson MPGA, Roxanne Lewko MPGA

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RETURN UNDELIVERABLE CANADIAN ADDRESSES TO:

Manitoba Pulse Growers Association Inc.
P.O. Box 1760
Carman, Manitoba R0G 0J0
204 745-6488 Fax 204 745-6213
Email mpga@manitobapulse.ca

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Please direct your comments or concerns to Monika Robertson at 204.745.6488 or email monika@manitobapulse.ca

In this Issue

PRESIDENT'S REPORT

Andrew Saramaga
President

The MPGA office was asked by the Consorcios Regionales de Experimentación Agricola (CREA), a technological networking group from Argentina, about visiting a few farming operations in Manitoba this fall. So, in September I welcomed the group to my farm. Many of the delegates involved were agronomists that work on large-scale farms or were involved in the agri-business sector in Argentina. The CREA group is a networking group that meets on a regional and national level to discuss different management, production and technological ideas and theories used in their agronomic situations.

CREA has a yearly travelling tour where they alternate between a domestic location within Argentina and a global location, where they learn about the agronomic challenges, production methods and crops grown in other global locations. In the past they have visited the United States corn and soybean belt, the Brazilian Matto Grosso corn and soybean belt, and other South American countries like Paraguay and Chile. This trip was their first to Canada.

The group started in Ontario visiting a farm in the southern region. They then headed west to Winnipeg. After spending the night in Winnipeg, the group with the assistance of Todd Stewart, past-chair of MPGA, arrived at my farm northeast of Winnipeg for a discussion and tour. The group arrived shortly after 9:00 a.m., just as I was loading a customer with winter wheat seed. The group immediately dispersed around the farmyard looking at and snapping pictures of the different machinery, bins, and outbuildings until I was able to greet them. We were able to spend about two hours talking in the yard about the crops we grow, why we grow them, equipment costs, and farm policy. While touring one of the machinery sheds to talk about equipment, they saw a most unusual piece of equipment to them, a swather. They asked what this unit was for, and I proceeded to explain that we use it to windrow crops such as forage seeds, cereals, and canola. It was great to show them unfamiliar equipment!

By late morning we got on the road to tour some fields, we stopped by a soybean field, a sunflower field, and a swathed canola field. During our field tours we talked about expected yields from this year's soybean, sunflower and canola crop and what the average yields are in this area of the province. I believe they were slightly taken aback when I said we can have soybean yields in the high-40s to low-50s in Manitoba considering our varieties are in the 00 maturity grouping (2300–2500 heat units). That is what they have for average yields as well, but in a much warmer climate.

After lunch, we went for a drive to Grand Beach to show them one the world's most popular beaches where the group dipped their toes into Lake Winnipeg and walked along the shoreline amazed by the soft white sand beach in the middle of the prairie region. After a few group pictures and pleasantries, the delegation went back to Winnipeg where the next day they planned to visit Pulse Canada, and then hit the road to Saskatoon.

It was an amazing experience to have a group like this come for a visit. The discussion went in all sorts of directions but it was great to learn about their ways and experiences and what their group does, while discussing how we do things on our farm.

The MPGA office and directors have had a busy summer and fall with meetings, tours and events of which you can find more information in the office update and *MPGA Working for You*. Our next big event will be the Manitoba Special Crops Symposium February 8th and 9th at the Victoria Inn Hotel and Convention Centre. Along with NSAC and MCGA, we will also be hosting the Manitoba Special Crops Production Day in Brandon on March 1st. We will once again be bringing timely agronomic topics to our producers. Wishing you a prosperous 2012.

Roxanne Lewko
Executive Director

All producers in Manitoba had an incredibly challenging 2011. Intense spring flooding followed by incredible heat and dry conditions did not bode well for any crops, and pulses were no exception. According to acres as reported by Manitoba Agricultural Services Corporation (MASC) all pulse crops experienced a drop in production this year, except for soybeans. Soybean acres were up by almost 60,000, which really reflects the dedication Manitoba producers have to this crop and the success they've experienced with it thus far. All other pulse crops did not fare so well. Pea acres were down by 70,000 acres, largely due to the spring flooding in western Manitoba, where the majority of our peas are grown. We are hopeful that we will get most of those acres back in 2012. Edible beans also took a large hit – down by 95,000 acres. This decrease is due to a number of factors, including low market price, intensive management requirements (compared to growing soybeans), and a wet spring. Acres should rebound in 2012, as prices have increased this fall and they are once again a very profitable crop to grow in rotation. Lentils were down from 10,000 acres in 2010 to 892 acres in 2011, and faba beans also decreased from 4,600 acres in 2010 to 2,000 acres in 2011. Soybean acres reached 587,400 and accounted for 88.9% of the pulse acres in Manitoba this year. MASC reported nearly 51,700 edible bean acres and 19,000 pea acres. Yields varied greatly this year, and were highly dependent on whether or not you received timely rains in July and August. Overall quality was very good.

MPGA's office continues to buzz with activity. Since May, we've been busy with tours, taping another episode of *Great Tastes of Manitoba*, updating our Call for Research Proposals, expanding our researcher database, taking part in strategic planning for the Canadian Soybean Council, volunteering at Agriculture in the Classroom events, taking part in the Canadian Special Crops Association convention, meeting with financial institutions and investment specialists to learn how to better manage our accounts, planning for the 6th annual Manitoba Special Crops Symposium and the 2nd annual Special Crops Production Day, meeting with Agriculture and Agri-Food Canada (AAFC) to discuss pulse research priorities in Manitoba and vacant positions at AAFC stations in Manitoba, and many other activities as found in *Working for You* on page 24.

MPGA was incredibly pleased that the provincial government hired a full-time pulse specialist, based out of the MAFRI office in Carman. Dennis Lange took on this position in June. MPGA finds great value in having Dennis there as an information resource and liaison to pulse producers all across the province. He jumped in with both feet and has been doing an excellent job so far. Gathering and analyzing the data featured in our variety trial insert is one of Dennis' top priorities. MPGA places a lot of value and respect in a provincial pulse specialist and there is no doubt Dennis will be a great asset to our industry.

Public research at AAFC locations in Manitoba and across Canada is extremely important to MPGA. We've been meeting with AAFC officials to relay this message and to ensure that filling vacant or pending retirement positions is a priority. We will continue to push for this and be involved in the discussions and decisions that are made. Manitoba is in a unique position in that we produce all sorts of pulse crops – edible beans, peas, faba beans and a few

continued on page 4

continued from page 3

lentils – as well as soybeans. Therefore, public research on all of these crops is important and it's incredibly difficult for us to let any work on any of those pulse types go. We want to keep all of it; however, reduced government funding, in combination with fewer vacant or retirement positions being filled, is a challenge. We're working diligently to find a solution that works for all parties.

Our fall 2011 *Great Tastes of Manitoba* episode aired on October 22nd and featured *Gluten-Free Baking with Pulse Flours*. Recently, the interest in gluten-free food has increased dramatically, so we thought it fitting to showcase that pulses are gluten-free and delicious. We also wanted to showcase that pulses can be consumed in forms other than the whole seed. Recipes prepared included a chocolate cake, blueberry-lemon quick bread and apple crisp. We purchased the pulse flours at Bulk Barn, but they can also be found in your local supermarket. Jim Ingebrigtsen was entertaining and funny as always and Al Bowness from Manitoba Liquor Marts created some tasty gluten-free martinis. For a copy of the recipes and liquor pairings featured on the show, please visit *www.foodmanitoba.ca* to download a copy, or contact the office for a gluten-free recipe and information booklet. *Great Tastes of Manitoba* episodes can also be found on YouTube at *www.youtube.com/user/GreatTastesTV*. The pulse episode will re-air on Saturday, March 24th at 6:30 pm on CTV Winnipeg.

MPGA just recently launched a new website – please check it out at *www.manitobapulse.ca*. We moved to a blog-style format, gave it a more professional, modern look and incorporated our new logo. We hope you find it easier to navigate through. In an attempt to increase the research knowledge transfer from our office to our membership, we've revamped the research section to include project descriptions, summaries and yearly reports. This section also has a searchable database, so if you search for "soybeans and row spacing," all projects that MPGA has funded involving soybeans and row spacing will come up. We haven't gone far back in history with project reports, but all recently funded ones are at your disposal. We hope you find it useful and informative. A listing of projects funded in past years can also be found on our website. If you're looking specifically for a research report on one of those projects, please ask the office and we'll make it available for you. If there's pulse research information you're looking for and cannot find, please let us know and we will add your idea to our list of research priorities found in our Call for Research Proposals. Our Call went out on October 5th to more than 80 pulse and soybean researchers in Manitoba, across Canada and in the United States. It is also available on our website. We are always looking to fund projects that producers in Manitoba will find valuable and obtain results that they can apply to their own farming practices. If there's research work you'd like to see MPGA fund, but don't see it listed, let one of our directors know or call the office.

Please mark your calendars – the Manitoba Special Crops Symposium is taking place February 8th and 9th at the Victoria Inn Hotel and Convention Centre. Note the venue change! The committee decided to move after years of requests from producers and exhibitors for more accessible parking with adequate space for large trucks, free parking, better access to the exhibit area for tradeshow participants (no loading dock), adjacent speaker and tradeshow rooms, and easier access for rural attendees. We are confident that the Victoria Inn Hotel and Convention Centre can meet all of those needs, as well as our own. Dr. Patrick Moore is the keynote speaker this year discussing *Sustainable Development and Health, the Value of Genetically Modified Foods.* He is the founder of the environmental movement and a former activist with Greenpeace. Dr. Moore often differs with many policies of major environmental groups, and is skeptical of human responsibility for climate change. He is expected to provide a very thought provoking presentation! Please check out the symposium's website, *www.manitobaspecialcrops.ca*, for a complete agenda and speaker bios.

Another event to mark on your calendars is the Special Crops Production Day. It is taking place on Thursday, March 1st at the Keystone Centre in Brandon. Also note the venue change from last year! Similar to the symposium, but without a tradeshow, it features concurrent speaker sessions giving agronomic and marketing presentations. The pulse topics will be geared more specifically to soybeans, as they are a relatively new crop in western Manitoba gaining momentum. New for this year, there will be a wine and cheese event at the end of the day. When the agenda is available, it will be posted on our website.

MPGA wishes you a safe and happy Christmas, and we hope you're able to spend quality time with family and friends over the holidays. Stay warm this winter.

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Notice of Annual General Meeting

Notice is hereby given that a meeting of the members of Manitoba Pulse Growers Association (MPGA) Inc. will be held at the Victoria Inn Hotel and Convention Centre, 1808 Wellington Avenue, Winnipeg, MB during the Manitoba Special Crops Symposium on February 8, 2012.

The agenda for the meeting is as follows:

1. To approve the minutes of the 2011 members meeting
2. To receive the financial statements of MPGA for the current fiscal year
3. To appoint the auditor of MPGA
4. To receive the board and managers report
5. To elect three directors to the MPGA board of directors

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

See below for Call for Nominations.

2012

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where growing minds meet

Presented by MPGA, MCGA, NSAC and MAFRI

February 8th and 9th

at the

NEW LOCATION!

Victoria Inn Hotel and Convention Centre
1808 Wellington Avenue, Winnipeg

- Concurrent sessions both days featuring agronomic, marketing, and pest management topics for edible bean, soybean, sunflowers, and corn
- Daily Tradeshow from 8:30 am–3:30 pm each day
- Keynote Speaker
  February 8th, 3 pm – Dr. Patrick Moore – A founder of the environment movement and known as The Sensible Environmentalist, Dr. Patrick Moore reveals the myths and misinformation that distort current environmental debates. An informed, provocative speaker, Dr. Moore persuasively argues for us to rethink our conventional wisdom about environmental challenges, and in so doing, provides the audience with new ways in which to see the world.
- MPGA Annual General Meeting on February 8th
- Wine and Cheese Reception on February 8th
- Marketing Address – February 9th, 2:30 pm – Michael Krueger, The Money Farm

For an updated speakers list and detailed agenda please visit www.manitobaspecialcrops.ca

Call for Director Nominations

Each year three director positions come up for election.

If you are interested in becoming a director on the MPGA Board, now is your opportunity. This year the terms of directors Andrew Saramaga, Albert Turski and Fred Greig are expiring.

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

Nominating Committee:

Randy Froese at
204-362-2997

Murray Chorney at
204-785-3686

Andrew Knowles at
204-785-3194

Elections will be held at the MPGA Annual General Meeting February 8, 2012.

EDIBLE BEAN COMMITTEE REPORT

Randy Froese
Chairperson

What an interesting finish to a crazy year! We began with a disaster of a spring with an excess moisture problem, to a lack of moisture by the late summer, and then an early fall. It seems to have been a much more challenging year than producers could have hoped for. Having been on the Manitoba Pulse Board for just about a year now, I have appreciated the opportunity to get to know many different producers from all around the province and have become much more aware of the farming situation across Manitoba. From the struggles related to getting crop in the ground, to harvesting variable yields, which were dependent on the amount of rain we had during mid-August, it has been a struggle province wide.

Despite the trials this year, there seemed to be average productivity in edible bean yields throughout southern Manitoba. Due to the decreased number of acres in edible beans this year, we have reached a new price plateau. The question now is, how long will these prices stay? It looks like the supply and demand chain has now changed, and swung to the producer's favour, which is a great change! This could mean that the price of edibles could stay strong right into next year. With the price being almost double of the last four years, that price jump could entice producers to grow more dry beans in the upcoming season.

With the ideal growing conditions Manitoba has to offer in producing edible beans and a bean price that makes money, I can see many more acres swinging back from soybeans and canola. The total acres of edible beans grown in 2011 were down at 51,182 acres. Of the total acres, the breakdown was as follows: Navy = 20,131; Pinto = 13,342; Black = 9,804; Kidney = 4,465; Cranberry = 1,443; and others = 1,997.

So, for 2012, I hope to see a strong rebound in acres, and an opportunity to get our Manitoba dry bean acres back around the 100,000 mark!

The research projects MPGA would like to fund in the 2012 season look very promising. We have field scale trails of undercutting vs. flex heading for harvest management purposes, fertilizer trials including macro- and micro-nutrients (including zinc, copper, and iron) and much more! MPGA is hoping to get valuable information, so we can pass that information back to you, the producer!

Although another year has quickly passed us by, and for many this is a year we would all like to put in the past, 2012 brings a more positive outlook with a much drier fall throughout most of Manitoba. On behalf of MPGA, as the chair of the Edible Bean Committee, we would like to thank industry, our consumers, and most importantly the producers for supporting our organization!

Our 2012 year will kick off at the Manitoba Special Crops Symposium on February 8th and 9th at our NEW Winnipeg venue – Victoria Inn Hotel and Convention Centre. I am looking forward to hearing the great agronomic topics and discussing MPGA's future initiatives with you. We look forward to working with all of you in the 2012 crop year!

2011 MPGA COMMITTEES

MPGA COMMITTEES – *The first listed is chairperson*

Executive – A. Saramaga, F. Greig, A. Turski, R. Lewko

Finance – F. Greig, J. Voth, R. Lewko, S. Robinson

Variety Trial Results Committee – M. Robertson, R. Lewko, D. Lange

Peas, Faba Beans, Lentils & Chickpeas – F. Greig, D. Lange, F. Labelle, B. Conner, C. Rempel

Edible Beans – R. Froese, K. Friesen, J. Sawatzky, J. Voth, D. Lange, F. Labelle, A. Hou, C. Rempel, B. Conner

Soybeans – A. Turski, A. Saramaga, M. Chorney, R. Froese, R. Vaags, F. Greig, A. Knowles, D. McAndrew, D. Lange

MASC – M. Chorney, R. Froese, K. Friesen, F. Greig, A. Saramaga, J. Voth, R. Vaags, D. Lange (advisor)

Market Development – K. Friesen, M. Chorney, F. Greig, J. Sawatzky, A. Knowles, A. Turski, R. Vaags, J. Voth

MPGA REPRESENTATIVES

Pulse Canada – K. Friesen, R. Froese (alt.), R. Lewko (advisor)

Canadian Grain Commission Pulse Sub-Committee – J. Froese (expires May 2014), R. Lewko (alt.)

Keystone Agricultural Producers – M. Chorney, R. Vaags, M. Robertson, R. Lewko

- General Council – M. Robertson
- Pulse/Oilseed Sub-Committee – R. Lewko
- Commodity Group – M. Chorney, R. Vaags

MCVET/PGDC – J. Sawatzky, F. Greig (alt.), D. Lange

OOPSC – A. Saramaga, D. Lange (alt.)

Canadian Soybean Council – A. Saramaga, A. Knowles (alt.), R. Lewko

- CSC Export Development Committee – M. Froebe

Western Canadian Pulse Growers Association

- WGRF – F. Greig (expires 2014)

Albert Turski
Chairperson

Another crop year has passed and from what I have been hearing, the conditions and yields were as variable as if we were on opposite sides of the planet. I think most of us who were able to plant had conditions as horrible as we could imagine; never mind seeing the late date on the calendar. Even after a wet seeding, some very nice stands of soybeans were seen. For the producers that received a rain or two in our August drought, yields were in the top range for the province, although the early frost may have touched a few of the later varieties. I feel that once producers crunch their numbers, they will be surprised to find that soybeans left them in a financially better situation than some of their other crops – a good sign for soybean acres in Manitoba.

MPGA's annual crop tour took place August 4th at Richardson International's Kelburn Farm. It was nice and dry and we were able to see all the varieties grown next to one another, but maybe a little too early to see pod set. Attendance was once again 90% industry, so MPGA will have to discuss future tours and determine how to get more interest from producers. A later date most likely would be more interesting so we are able to see the yield potential of some of these plants. I cannot over emphasize how important variety selection is in your crop plans. Taking a few hours in the morning to actually view the varieties out in the field could be very helpful in your winter decision making.

I had the opportunity to speak to some producers over the summer in regards to where they would like to see MPGA research dollars flow. Row spacing wasn't number one, but seedling disease seemed to be of more interest. A lot of guys are pushing their rotations, and with the high input costs looming over our heads, some other crops just seem to be a riskier venture than with soybeans. MPGA continues to look at field scale funding projects, so, let let us know if there is anything more specific you would like to see. MPGA has revamped the website and provided project descriptions and yearly reports on all 2011 projects. Take a look at the site and search the research projects to see what interests you.

We also would like to hear from more of our producers regarding their experiences with the *Genuity Roundup Ready 2 Yield* (GENRR2Y) varieties. The variety trial insert included in this issue will hopefully answer some of the questions you may have about these new varieties.

At least with the long open fall, the field work should be all done, and in some instances, catching up for a couple years of wet conditions. Now the next job is to carefully pick the varieties that will be best suited for your area for next spring.

Keep warm, they are calling for a colder than average winter and let's hope Mother Nature is easier on us next year. I hope to see you all at the Manitoba Special Crops Symposium in February at its new location at the Victoria Inn Hotel and Conference Centre in Winnipeg.

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Fred Greig
Chairperson

Well to say the growing conditions for most of Manitoba this year were challenging, may be the understatement to end all understatements. It is not that I want to dwell on the negative, but to not mention it would dismiss the frustrations and challenges producers faced and are still facing.

The excess moisture conditions drastically reduced pea and lentil acres in the province this past growing season. This, however, was less of a factor for soybeans, which will continue to see acres increase in Manitoba. Soybeans continue to outperform other crop types in excess moisture situations.

Producers need to keep a few variables in mind when working on marketing and seeding intentions for next year. First, the current pea price levels should encourage planting in 2012, if field conditions allow. An accurate quality and quantity estimate on old crop was not available at the time of writing this report and will most likely affect current prices and new crop contract levels. The same holds true with lentils as we watch to see what Saskatchewan producers will be planting. Secondly, the wildcard of winter and early spring moisture may result in planting decisions being postponed until closer to spring. As usual, it should be an interesting winter of price volatility for producers and processors. The continuing global financial crisis will continue to add unpredictability to markets of which, all producers need to keep in mind when pricing all commodities again. The last variable, as I see it, is the CWB or lack of the CWB. It will most certainly affect cropping plans and whether you are a proponent or not, the uncertainty will affect both sides of the issue equally.

As producers review the data from new varieties grown this past year, it reminds me of the importance of independent variety testing. On my farm, weather conditions over the past two years have made it almost impossible to accurately assess their performance. The MCVET trials continue to provide important, unbiased data to aid producers in choosing crop varieties for the upcoming growing season. MPGA continues to fund and report variety performance data to all producers in Manitoba. The variety trial insert can be found in this issue. Copies can also be viewed online from MPGA's website.

Research that will positively impact the farmer's bottom line is still the main focus of MPGA, and will continue to be through the 2012 crop year. Normally, a sharp drop in check-off dollars from reduced acres would reduce or interrupt current research projects. MPGA has managed contingencies in the budget over the past years to allow for a reduction in check-off levels. Reserve funds have allowed MPGA to fund longer-term research projects with the confidence in our ability to meet our research commitments.

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BOARD MEETING – JUNE 28, 2011

Canadian Soybean Council Update – Grain Farmers of Ontario (GFO), Fédération des producteurs de cultures commerciales du Québec (FPCCQ) and MPGA met to discuss the future structure of the Canadian Soybean Council (CSC). In order to increase provincial participation and knowledge transfer, it was mutually decided among members that CSC wind-down its formal structure but retain the registered trademark name and logo for the purpose of promoting Canadian soybeans. The board of directors has been replaced with a working group of members from each association who will meet via conference call at least once a month. There will be one point of contact, at the GFO office, with all members being informed of the day to day operations of CSC.

2011 Pulse and Soybean Tours – Our tours went over quite well in 2010 so we will be running a very similar format in 2011. We already have the locations booked and will make each tour available to sponsorship again. It was decided that we would gather one-page summaries of each topic from the soybean tour and make available online for producers to read and download.

Special Crops Production Day in Brandon – The 2011 event was a huge success. We will partner with NSAC again in 2012 and look at acquiring sponsorship. We will also plan a wine and cheese event at the end to bring more value to attendees.

Update on Research and Research Proposals – The MPGA Call for Research Proposals will be sent out earlier in 2011. It will give more time for the MPGA board to review the proposals and provide an opportunity to inform the researchers of their acceptance at an earlier date. The distribution list of researchers who receive our call will also be expanded to include more pulse and soybean researchers in Manitoba, Canada and the United States. We also provided Malcolm Morrison, a researcher with an MPGA funded project 'Development of a Manitoba Soils Test for Cadmium' with a few grower names to assist in his soil testing.

CFIA Risk Management Document re: Russian Dandelion – CFIA provided MPGA with a risk management document indicating a desire to introduce Russian Dandelion as a crop in Canada, as this crop can be harvested and used to make rubber. Although they have not included Manitoba in their desired growing areas, MPGA is opposed to bringing a relative of the common dandelion to Canada. MPGA has provided a letter to CFIA indicating our opposition to this proposal.

Pulse Canada Governance – As a member of Pulse Canada, we have the opportunity to provide input into their governance structure and strategic planning process. Our views on their board composition, decision making process, succession planning, board meetings, policies and procedures, strategic planning, and vision, mission and values were submitted and compiled with the views of the other provincial pulse organizations and the Canadian Special Crops Association.

Great Tastes of Manitoba

MPGA participated in the 22nd season of *Great Tastes of Manitoba* (GTOM). Rated in the top 50 shows in Manitoba, the *Great Tastes of Manitoba* is an educational cooking program that features Manitoba food at its best. Host Jim Ingebrigtsen and Roxanne Lewko from Manitoba Pulse Growers explored *Gluten-Free Baking with Pulse Flours*. Give into temptation with a moist chocolate cake that will sweeten up any fabulous party or sharpen your bread-baking skills with Roxanne's fresh blueberry-lemon quick bread. End the week with a warm, comforting crunchy apple crisp.

Al Bowness from Manitoba Liquor Marts will select wines, beers or spirits to go along side your sweet plate.

The original episode aired on Saturday October 22nd but the show will re-air on Saturday March 24th, 2012 from 6:30 PM –7:00 PM on CTV TV Cable 5.

To receive your copy of the recipes featured on *Great Tastes of Manitoba* please call the MPGA office at 204.745.6488 or visit us online at *www.manitobapulse.ca*.

CANADA–COLOMBIA FTA NOW IN EFFECT

Pulse Canada joined Prime Minister Stephen Harper and International Trade Minister Ed Fast at the announcement of the implementation of the Canada-Colombia Agreement in mid-August. The Canada-Colombia FTA immediately removed the 15% import duties on Canadian peas, lentils, chickpeas, canaryseed and buckwheat, and will re-establish competitive, duty-free access for Canadian beans which were previously subject to a prohibitive 60 per cent tariff. This tariff has been removed for the first 4,000 tonnes of beans, with the duty-free tonnage over 12 years until the market is completely open. This is a significant achievement that the Canadian pulse industry has been working towards since 2004.

A similar agreement was signed between the US and Colombia in 2006, but is still awaiting approval by Congress and has yet to come into force. Once passed, the US-Colombia agreement will also immediately eliminate tariffs for U.S. peas, lentils, chickpeas, canaryseed and mustard seed.

CCOA VISIT TO CANADA

With a rapidly growing population and food manufacturing industry, China has emerged as an attractive market for Canadian pulses. In 2010, Pulse Canada signed a Memorandum of Agreement with the Chinese Cereals and Oils Association (CCOA) to work on food product development using pulse ingredients. Pulse Canada is now narrowing the focus of the project to identify the food product areas of greatest commercial potential by working with food companies in China and studying many attributes of potential targeted food sectors such as noodles, baked goods, snack foods and more.

In mid-July, a delegation from CCOA visited Canada. The group included representatives from CCOA, the Academy of the State Administration of Grain as well as a senior representative from a major flour miller and bakery product manufacturer. The group visited pulse utilization researchers in the Montreal, Winnipeg, Edmonton and Saskatoon areas over five days, including visits to the Canadian Grains Commission and CIGI. The focus of the visit was on Canada's pulse food product development capacity.

This project is just one area where Pulse Canada, through the investments of key stakeholders like MPGA, is working to expand markets for pulses leading to continued, profitable growth for Canadian growers, processors and exporters.

RAIL SERVICE ACTION PLAN ON TRACK

Following the March 18 release of the final report of the Rail Freight Service Review Panel, pulse industry representatives have met with both Minister Ritz's office and staff for the new Ministers responsible for Transport, Minister Denis Lebel and Minister Steven Fletcher. They stated that the government intends to move forward with the action plan laid out on March 18th.

In that regard, the Government will appoint a facilitator in fall 2011 who will work with railways and shippers to develop a boilerplate service agreement that will form the basis of commercial negotiations. Transport Canada will also seek Cabinet approval to draft legislation that will ultimately give shippers a statutory right to an agreement and a process to establish one should negotiations break down. At this point, it appears that legislation will be brought to the House in 2012.

Pulse growers and members of the pulse and special crops trade have made staying in front of the issues and providing leadership a top priority, not only within the agriculture community but within the Canadian shipping community. Pulse Canada and the CSCA have created a boilerplate service level agreement and have been working with shipper groups across the country to reach a common understanding on the core elements of the agreement. This work will help quicken the pace of the facilitation process and ensure that the pulse and special crops industry's interests are addressed.

PARTICIPATION IN THE SUSTAINABILITY CONSORTIUM

Pulse Canada has been invited to work with The Sustainability Consortium (TSC), a group that is emerging as the most important of several sustainability-focused groups and consortiums within the food value

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chain. TSC is an organization of global companies working to build a scientific foundation for the measurement of environmental impacts embedded in retail products. Retail/food/agriculture industry members of the Consortium include BASF, Cargill, Mars, Kellogg's, McDonald's and Walmart.

Pulse Canada's first contribution to the group will be the as-yet-unpublished results of the a recent Life Cycle Analysis (LCA) of peas and lentils. This information will be one of the first data sources used in the pilot implementation of TSC's new sustainability measurement tool, and open-source LCA database. The opportunity to use the pulse LCA as a form of case study within TSC enables the Canadian pulse industry to highlight documents, science-based environmental benefits of peas and lentils to an influential food industry audience.

Among other benefits, the forthcoming report shows that non-renewable energy use of a four-year crop rotation in western Canada is reduced by 25 and 21% when including peas and lentils in the rotation, with energy savings and reduced GHGs extended to all crops in the system.

INSTITUTE OF FOOD TECHNOLOGISTS (IFT) EXPO – NEW ORLEANS

Pulse Canada, Saskatchewan Pulse Growers and the Canadian International Grains Institute shared a booth at the Annual Institute of Food Technologists (IFT) Food Expo in New Orleans, LA from June 11 to 14, 2011. IFT provided an opportunity for the pulse industry to promote the nutritious, healthy, sustainable and functional attributes of pulses to the food manufacturing industry. The Canadian pulse industry booth featured Chef Peter Phillips from Boffin's Club (SK) who demonstrated lentil burgers, chickpea falafel pita pockets with pea fibre, navy bean pasta with lentil marinara sauce, chocolate lentil cake pops and pea popper extruded snacks (from CIGI). The food samples drew a crowd to the booth and assisted in illustrating the possibilities for pulse ingredients. Several important contacts were made with food industry representatives in a variety of ingredient companies and food processors.

LOBLAWS IN-STORE NUTRITION PROJECT

As part of its efforts to share the health and nutrition benefits of pulses with consumers, Pulse Canada has partnered with Loblaws on an in-store nutrition promotion pilot study underway in Ontario. For the pilot, Loblaws has hired 10 dietitians to work in 20 grocery stores in Ontario to provide tours, educate consumers on healthy choice products, and carry out in-store food demonstrations. The idea grew from Loblaws' efforts to find unique ways to engage consumers about health and nutrition promotion.

Focus group research has shown that a lack of familiarity is a key reason preventing consumers from eating more pulses. Pulse Canada sees this project as an opportunity to address this barrier to pulse consumption by giving consumers an interactive, in-store education on the uses and benefits of pulses.

As part of this partnership, Pulse Canada and provincial grower groups have provided the *Pulses: Cooking with Beans, Peas, Lentils and Chickpeas* booklet for the in-store dietitians to distribute during the pilot project. If successful, Loblaws plans to expand the program to all Ontario Loblaws stores (about 42) in early 2012 and, to other provinces in the following months.

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NEW GOVERNMENT, NEW OPPORTUNITIES

The provincial election is over, and KAP is looking forward to a productive working relationship with the new government. There are many areas in which KAP and the province can work together to help farm families be successful.

KAP hopes the province will take advantage of the expertise our farm organization offers through in-depth consultation. We need to deal with key issues such as creating a comprehensive water management strategy, implementing ecological goods and services programming, revamping education finance, and working to provide stable funding for general farm organizations.

Manitoba farmers are seeking action from the province on these and many other issues, and we look forward to working together with the government to ensure our goals are achieved.

FREE FARM SAFETY ASSESSMENT AVAILABLE

KAP has taken a proactive approach in farm safety and health and is offering a Farm Safety Program to farmers across the province to help make our workplaces safer. The program is supported by a grant from the Research and Workplace Innovation Program of the Workers Compensation Board of Manitoba.

KAP has hired Amanda Briese, a Farm Safety Specialist, to carry out the program for a two-year term. Amanda was raised on a family farm in the Beausejour area and is still involved in every aspect of its operations today. She knows what living on a farm is all about and has the education and knowledge to help other farms incorporate safety into everyday farm life.

OVERVIEW OF THE PROGRAM

- Any type of farm that has employees is welcome to participate in the program.
- All individual farm information will remain confidential and will be held at the KAP office.
- Participants have a one-on-one session with the Farm Safety Specialist to undertake a risk assessment and to identify risk management strategies.
- Following the assessment, the farmer is provided with a detailed written report highlighting the risk areas and action items that are recommended to alleviate potential hazards.
- A second follow-up visit to the farm is scheduled in order to review the report with the farmer and to evaluate the actions that have occurred since the report was provided.
- Depending on the results of the evaluation more recommendations to the farmer may be made in order to continue the development of safety and health on the farm.

WHAT A TYPICAL VISIT INCLUDES

- The farmer gives the Farm Safety Specialist a tour of the farm and explains the processes, functions, and operations in each area.
- A checklist is used throughout the tour to evaluate different aspects regarding safety and health.
- During the tour a number of different questions that pertain to safety and health will be asked by the Farm Safety Specialist to get a feel for the farmer's awareness.
- The farmer is also encouraged to ask questions throughout the visit in order to gain more understanding and knowledge of farm safety and health.
- Following the tour the Farm Safety Specialist will discuss the recommendations that will be written in the report and go over different safety and health information that is provided to the farmer.
- The Farm Safety Specialist is always available to discuss any issue that pertains to safety and health on the farm at any time.

The farm safety assessment is a free service to all farmers who have employees and we encourage you to participate and take advantage of the program.

To participate and get your free farm safety assessment, please contact:

Amanda Briese
Farm Safety Specialist
204-792-3294
email: abriese@mts.net

*If you are a farmer who wants to influence farm policy and help improve the business climate for agriculture in Manitoba, we hope you will attend KAP's annual meeting from January 25 to 27, 2012 at the Delta Winnipeg. Visit **www.kap.mb.ca** for more information.*

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Recent Changes Allow for a Stronger Focus on Promotion

The agricultural industry is in constant flux as markets change, opportunities arise and technology advances. It's within this flux that agricultural organizations must operate and find a way to balance consistent and reliable strategies with appropriate flexibility and adaptation.

With industry changes in mind, members of the Canadian Soybean Council (CSC) have made the decision to cease activities as an organization and function as a committee solely focused on promotion. Members of the CSC are the Manitoba Pulse Growers Association (MPGA), La Fédération des producteurs cultures commerciales du Québec (FPCCQ) and Grain Farmers of Ontario (GFO).

"The three organizations are committed to working together to promote high-quality Canadian soybeans through a combined marketing effort in both export and domestic markets," says Crosby Devitt, manager of research and market development at GFO. "We have decided to focus CSC's activities solely on promotion of Canadian soybeans and as such, CSC has wound down its formal structure," he continues.

The board of directors of CSC has been replaced with a working group of members from the three provincial commodity organizations. The registered trademark name and logo of CSC will be maintained as it is easily recognized in international and domestic markets.

CONTINUED PROMOTION

A promotional activity that recently occurred under the CSC banner was an incoming mission of important soybean buyers from Asia. "In September, CSC hosted soybean users from Singapore, Malaysia, Taiwan and Thailand in Canada and showcased Canadian soybeans," says Devitt.

The 14 delegates toured through soybean facilities in Manitoba, Ontario and Quebec during the key harvest period and were able to see the quality and value of Canadian soybeans first-hand. The group toured a soybean farm and met with soy farmers in all three provinces. Soybean breeding and research were always highlighted along the tour as the delegates did a field plot tour in Manitoba and visited the Agriculture and Agri-Food Canada research station in Harrow, Ontario. Delegates also learned about what happens to soybeans once they leave the farm during their tour of London Agricultural Commodities in Thamesville, Ontario, a processing facility in Quebec and through a tour of the Port of Montreal. The quality of Canadian soybeans was also highlighted during a tour of the Canadian International Grains Institute research facilities in Winnipeg, Manitoba.

The Asian delegates are representatives from companies that purchase Canadian soybeans, including soy beverage manufacturers, tofu producers and other soy food product companies.

"It's these types of activities that CSC, under the new working group, will focus on," says Devitt. "We will leave the lobbying and government relations work to our supporting commodity organizations and focus entirely on promoting Canadian soybeans," he continues.

In addition to their latest incoming mission, CSC also has plans to attend the Soy and Grain Trade Summit in St. Louis in November. At this event, they will be promoting high-quality Canadian soybeans to many soybean buyers from around the world. A trade mission to Japan and Southeast Asia is planned for early 2012.

Denis Tremorin
Manager, Sustainable Production
Pulse Canada

Consumers in Europe are becoming more interested in the 'sustainability' of the food that they eat. Will this put Canadian food exports at risk because of the distance that the food has to travel to reach the market? The answer might surprise you. The transportation of food generally has a much smaller environmental footprint than the footprint created in producing the crop. In other words, from an environmental footprint perspective, whether a crop was grown locally is much less important than how a crop is grown, and what crops are grown in rotation.

Food companies like Unilever and General Mills are investigating the environmental impact of the products that they manufacture as well as the impact of transportation. Unilever estimates that energy use in their agricultural supply chains is ten times greater than in their manufacturing, while General Mills estimates 90 to 95 percent of the food industry's environmental footprint occurs in commodity production.[1] In more specific examples, Pepsico has found that 36% of the carbon footprint of their UK potato chips is tied into growing potatoes and sunflowers (for oil), while only 10% is tied into transportation.[2] Barilla, the Italian pasta manufacturer, has found that 5% of the greenhouse gas emissions from a box of pasta result from the transportation of goods, while 58% of the emissions result from agriculture.[3]

The same principle of what is important holds true for Canadian crops; transportation's carbon footprint is small relative to production's carbon footprint. CN has developed a transportation carbon calculator[4] for the shipment of goods by vessel, rail and truck. In an example of shipping 5000 tonnes of containerized ag product from Regina to Rotterdam, the CN calculator estimates a transportation carbon footprint of 130 kg of carbon dioxide (CO_2) per tonne of product. By comparison, trucking grain products 2000 km from Eastern Europe to markets in Western Europe has a carbon footprint of 110 kg of CO_2 per tonne, highlighting the efficiencies of rail and marine transportation. But if the biggest share of the environmental footprint occurs in producing the crop, the substantial differences are going to show up based on what is going on behind the farm gate.

A recently published journal article[5] out of Agriculture Canada's Swift Current Research Station estimates the carbon footprint of crops in Western Canada. The estimated carbon footprints of canola, mustard, spring wheat, peas and lentils are 861, 626, 492, 270 and 200 kg of CO_2 per tonne, respectively. In that study, the carbon footprint of *growing* crops ranged from 1.5 to 7.5 times greater than the footprint of *shipping* them from Western Canada to Europe.

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A key element influencing the measurement of sustainability is the crop rotation. The greatest energy consumption in agriculture comes from fertilizer production, transport and application, and most pulses use little or no nitrogen fertilizer. A soon to be published life cycle analysis report by the Saskatchewan Research Council concludes that the inclusion of pulses in a four-year cropping system can reduce non-renewable energy use of the entire system by 24%[6].

The Swift Current research also estimates the impact of crop rotation on the carbon footprint of durum wheat[5]. Durum grown in a cereal monoculture rotation has a carbon footprint of 372 kg CO_2 per tonne, while durum from a rotation that includes oilseeds and pulses has a carbon footprint of 264 kg CO_2 per tonne. The reduction in footprint attributed to the cropping rotation alone is roughly equal to the carbon footprint of transporting Canadian durum to Europe.

Pulse Canada is currently investigating two resources for their practicality of use by producers and their accuracy of use for carbon footprinting of pulse crops for food companies. The first is HOLOS[7], an on-farm carbon calculator developed by Agriculture Canada, which is specific to Canadian conditions and crops. The second is the Cool Farm Tool[8], an on-farm carbon calculator that was developed by Unilever and the University of Aberdeen.

Since farm practices are such a large driver of carbon emissions, it is important to understand what is being done to reduce emissions from agriculture. One of the key focus areas is on specific practices such as tillage and fertility management. The widespread adoption of conservation tillage in Canada has a major impact on the relative ranking of environmental footprints from different production regions. Zero tillage reduces on-farm fuel use, and reduces the requirement for fertilizer as soil fertility improves under diversified, zero till regimes. The improvement in soil fertility is tied to an increase in soil organic matter, which in turn is a way that agriculture stores carbon from release to the atmosphere. Nutrient management is another important consideration. Canadian producers have moved away from broadcasting and fall banding to side-banding fertilizer at time of seeding. This precision timing and placement of fertilizer allows farmers to use less fertilizer, which also reduces greenhouse gas emissions.

So what can consumers and food companies do when they want to reduce food's carbon footprint? Ask the right questions, like how the food was grown, in what rotation, as well as the question about how far from markets. And one thing to keep in mind is that the consumer can never go wrong eating more pulses!

[1] Measuring Sustainable Agriculture: Summary of Ideas and Findings *http://www.pulsecanada.com/measurewhatmatters*

[2] Pepsico UK website *http://www.pepsico.co.uk/purpose/environment/reports-and-updates/2010-environment-report/passionate-about-growing*

[3] 2008 Barilla Sustainability Report *http://www.barillagroup.com/corporate/en/home/responsabilita/filiera.html*

[4] To use the CN calculator, go to the website: *http://www.cn.ca/en/greenhouse-gas-calculator-tool.htm*

[5] Gan, Y., Liang, B.C., Hamel, C., Cutforth, H., Wang, H., 2011. Strategies for reducing the carbon footprint of field crops for semiarid areas. A review. Agronomy for Sustainable Development (published online). *http://www.springerlink.com/content/7412412565q18573/*

[6] Life Cycle and Socio-Economic Analysis of Pulse Crop Production and Pulse Grain Use in Western Canada (to be published) – Saskatchewan Research Council

[7] To download the HOLOS on-farm carbon calculator, go to the website: *http://www4.agr.gc.ca/AAFC-AAC/display-afficher.do?id=1226606460726&lang=eng*

[8] To download the Cool Farm Tool on-farm carbon calculator, go to the website: *http://www.growingforthefuture.com/content/Cool+Farm+Tool*

Benefits for Grain, Pulse and Special Crops Farmers

The federal, provincial and territorial governments are investing $1.3 billion over five years into Growing Forward programs, on a cost-share basis. Growing Forward supports a profitable agriculture sector through increased competitiveness, innovation and risk management.

The grain, pulse and special crops industry has developed an On-Farm Food Safety program: ExcelGrains, a HACCP-based manual designed for grains, pulses and special crops producers. This program is nationally recognized by the Canadian Food Inspection Agency (CFIA) and administered and maintained by the Canadian Grains Council.

Grains, pulses and special crops producers can apply for up to $2,000 to help implement ExcelGrains on their farm, as well as offset the first audit cost and any equipment that supports ExcelGrains. This funding is provided by the **Growing Forward, Food Safety Program, for Farms**.

Applicants to the Food Safety Program, for Farms are eligible for up to 90 per cent of the total cost accrued. (retroactive costs and capital expenses are not covered). For example: Up to $2,000 is available to implement the **ExcelGrains** program, including first audit costs and/or to buy new equipment that supports their program (on a 90:10 cost-share basis, with the producer paying 10 per cent). See the Approved Food Safety Equipment list on *manitoba.ca/agriculture/growingforward* under the Food Safety Program, for Farms link. Currently, the program is available for such equipment as rodent control devices, pressure washers and calibration equipment for sprayers.

HOW TO APPLY FOR FOOD SAFETY PROGRAM, FOR FARMS

1. Complete an application. Application forms for this program are available at your local Manitoba Agriculture, Food and Rural Initiatives (MAFRI) Growing Opportunities (GO) Office or online at *manitoba.ca/agriculture/growingforward*.
2. Submit your application to your local GO Office or mail it to the address on the back of the application form. A Food Safety Program, for Farms approval package, will be sent to you. It includes a checklist of tasks that must be completed before you can make a claim for funds.
4. Purchase the items you need or have the work performed on your farm.
5. Once you have the receipts, you can submit them for payment at your local GO Office, or send them to:

Manitoba Agriculture, Food and Rural Initiatives CVO/Food Safety Knowledge Centre Food Safety Program, for Farms 545 University Crescent, Winnipeg, MB R3T 5S6

PROGRAM TIMING

Grain producers' interest/use of the current program will determine the length of time it is available (up to 2013). From the time the producer receives his approval letter, the producer will have **15 months** to complete their project. The Food Safety Program, for Farms' goal is for all Manitoba farmers and producers to have approved, up-to-date food safety systems.

For more information, see the application form which has the terms and conditions for the program.

For more information about:

- program eligibility or how to apply, contact your local Manitoba Agriculture, Food and Rural Initiatives GO Office
- the location of your nearest GO Office, call Manitoba Government Inquiry, toll free, at 1-866-626-4862
- program details, go to *manitoba.ca/agriculture/growingforward*

ExcelGrains Canada

Canada's grain industry, with support from the Manitoba and Canada governments, is hosting an ExcelGrains Canada workshop. ExcelGrains is a Canadian farm food safety initiative managed by the Canada Grains Council and an industry committee.

These workshops will provide information that can lead to a farm certification showing farmers used safe production practices for cereals, oilseeds, pulse and special crops. Producing safe foods and protecting it from hazards is the primary focus as we work to maintain and develop markets.

Sign up now for a workshop in your area by contacting your local MAFRI Go Office. Once a date is set we will contact you with the specific workshop information.

Pulses in Your Everyday Life

Tracey Drabyk-Zirk
Rural Leadership Specialist
Manitoba Agriculture, Food and Rural Initiatives, Beausejour

In an era of nutraceuticals and functional foods, it is a perfect time to work on promoting pulses. With correct processing and packaging, pulse products can be sold as health supplements in health food stores, grocery stores and pharmacies. This is a specialty market but, with the appropriate scientific backing, it could be more profitable.

Focused marketing strategies on the specific health benefits of products would be a key component to a campaign. For example, rather than promoting the benefits of pulses in general, a focused strategy could show the added fibre intake with 250 mL of pulses compared to one cup of bran.

Surveys done in the past on pulses showed that pulses are seen to be healthy but not very tasty and many assume they are the food of vegetarians only. If we want to increase pulse consumption, we will have to show people why everyone should include pulses in their diets. We will also have to show people how to cook pulses so that they taste good.

Have you ever walked by a food demonstration and thought, "That food looks gross!" With a little enticing, you taste it and…like it!!! Sales are known to increase by 400 to 800% when taste samples are provided.

As producers of pulses, you should consider how many pulse meals you consume in a week. How many pulse products do you prepare and serve to guests as a sales opportunity? I grew up in a vast potato production area. One family would serve potatoes, even if lasagna was the main course. It was a new mindset to think of having these dishes all in one meal. After repeatedly being exposed to the combination, it no longer is unusual to me. Did any of you view cold pizza for breakfast as unusual the first time you heard about it? As a practice becomes regular it becomes accepted.

As consumer trends change, there are some real opportunities for the pulse industry. Is anyone considering a breakfast cereal using pulses? Breakfast bars and home meal replacement sales have been on the rise for some time. Pre-prepared meals continue to be a growing segment of the market. Manufacturers seek flavour, appearance and ability to retain texture and colour when reheated from a frozen or cold state. Consumers want these properties as well as a healthy, nutritious product. Pulses can satisfy these requirements as well as add a valuable source of carbohydrates and protein to a meal. They also provide a good source of fibre, calcium, iron, thiamin and riboflavin.

Where to start? Once a strategy is in place, information can quickly be disseminated by Manitoba Pulse Growers Association through an "educate the educators" campaign. Providing the nutritional, health and preparation information to health and food professionals like nutritionists, food writers, food-industry workers and teachers can be effective ways to get information out to the community.

There is no fast lane to product development. There is the potential of adding profit with a long-term plan to develop and market pulse products that appeal to consumers. "Time's-a-wasting," consider getting started on your campaign today.

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UPCOMING WEBINARS INCLUDE

Robert Thompson	**December 13** – Senior Fellow for the Chicago Council on Global Affairs, Professor Emeritus University of Illinois at Urbana-Champaign Washington, DC – Technology and Innovation APN – *Feeding 9.1 Billion: Challenges and Opportunities*
Earl Geddes	**December 15** – Executive Director, Canadian International Grains Institute, Winnipeg, Cereal Grain Expose – *Will you market your wheat or sell it? What's the difference?*
Ron Plain	**December 16** – College of Agriculture, Food and Natural Resources, University of Missouri, Columbia, Missouri – Livestock APN – *US and World Livestock Situation*
Thomas Mielke	**November 29** – Oil World, Hamburg, Germany – Commodity Market Analysis APN – *World Oilseed Situation and Outlook*
Terry Betker	**January 9** – BackSwath Management Inc. – Succession Planning APN – *Introduction to Succession Planning*
Robert Napier	**January 12** – Napier Agrifutures – Succession Planning APN **–** *Succession Planning, World Perspective*
John Baker	**January 19** – Beginning Farmer Centre Admin – Succession Planning APN – *Succession Planning*
Drew Lerner	**April 17** – World Weather Inc. Kansas City, Kansas – Crop Production APN – *Western Canadian Weather Outlook for 90 Days*

UPCOMING ON-LINE WORKSHOPS

Intermediate Managing Risk (options)

- Each workshop includes fifteen 90-minute sessions
- Resource: Paul Cassidy, Mitcon Inc.

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BGI – 22.5 management training credits.

November 15 – December 15, 2011
February 7 – March 8, 2012

Advanced Managing Risk (options)

- Each workshop includes six 90-minute sessions
- Resource: Paul Cassidy, Mitcon Inc.

Talk with your Agri-Excellence learning advisor to include this course in your learning plan.

BGI – 9 management training credits

January 17 – 26, 2012
March 20 – 29, 2012

Biodiesel

- Each workshop 90-minute session
- Resource: Rex Newkirk, CIGI

February 1, 2, 8 & 9, 2012

APN – MPGA Producers will receive a 25% discount when subscribing. **To receive your 25% coupon**, email Monika at *monika@manitobapulse.ca* or call the MPGA office at 204-745-6488. For information on registering for any of the above workshops, visit *www.ourflc.com* or call 1-888-569-4566.

MPGA–*Working for You!*

Production/Agronomic

- Hosted Summer Tours August 3rd and 4th. The Pulse Tour was held at AAFC's Morden Research Station and the Soybean Tour was held at Richardson International's Kelburn Farm. In Morden we toured edible bean, soybean, pea, faba bean and mung bean plots and received updates on current research activities. At Kelburn Farm we rotated groups through education stations and toured the soybean variety trial site.
- Planning for the 6th annual Special Crops Symposium has begun. The venue for this event has changed to the Victoria Inn Hotel and Convention Centre at 1808 Wellington Avenue, Winnipeg, MB.
- Planning for the 2nd annual Special Crops Production Day has begun. The venue for this event has changed to the Keystone Centre in Brandon.
- Met with MAFRI and CFIA officials to discuss soybean cyst nematode avoidance and mitigation strategies.
- Attended WADO's Field Day in Melita, where soybeans were featured.

Research

- MPGA's Call for Research Proposals was updated with our 2012 priorities and e-mailed to 84 pulse researchers from our database. The submission deadline is November 15th. Final research proposals will be selected in December and we will notify researchers in January.
- Attended AAFC's Manitoba Regional Research User meeting on Food, Nutrition and Innovative Products for Health and Wellness on June 1st at the St-Boniface Research Centre in Winnipeg. This provided an opportunity for AAFC to update us, other government, and industry and university leaders in innovation on the research taking place at AAFC in the Manitoba region.
- Attended a Pulse Science Cluster meeting in Saskatoon to review all Science Cluster projects and discuss their status and progress so far.
- Met with AAFC officials to discuss pulse research priorities in Manitoba and urged them to fill any vacant or pending retirement positions, including breeders, researchers and technicians.
- Held crop committee meetings to review all submitted research proposals and finalized recommendations for funding to bring to the board.

Market Development

- Taped *Great Tastes of Manitoba – Gluten-Free Baking with Pulses* on August 18th. The show aired October 22nd at 6:30 pm on CTV, and will re-air on March 24th.
- Participated in Canadian Soybean Council's (CSC) 2nd Incoming Asia-Canada soybean program put on in conjunction with Canadian International Grains Institute (CIGI). The participants toured soybean farms, seed facilities, processing plants, grain terminals and AAFC research and breeding plots in Manitoba, Ontario and Quebec.
- Participated in MAFRI's Open Farm Day with a booth set up in Steinbach at Supper from the Field. We had an opportunity to speak to consumers who were touring the farmer's market and attending the supper.
- Participated in the Association of Support Services to Seniors Annual Conference in Winnipeg. MPGA set up a booth and spoke to the meal educators and coordinators about the benefits of adding pulses to your diet. It was also an opportunity to inform individuals on where to purchase pulse products and fractions. Both the *Cooking with Pulses* and *Pulses and the Gluten-Free Diet* cookbooks were a hit.
- Participated in the Canadian Diabetes Association – Winnipeg Expo where we were able to talk about the benefits of pulses for an individual living with diabetes. Again, both cookbooks were a hit.
- Participated in monthly foodManitoba group meetings.
- Attended the Soy & Grain Trade Summit in St. Louis with the other CSC members to promote high-quality Canadian soybeans to buyers from around the world.

Policy

- Attended KAP meetings including: General Council meeting, Commodity Group meetings, and Grains Oilseed Pulse Sub-committee. At the Commodity Meeting held on July 21st, a group discussion was had on addressing Bill 46. It was decided all agricultural commodity groups would provide a signature of support to the Manitoba Pork Council in a letter published in the *Winnipeg Free Press*.
- Attended MAFRI's On-Farm Food Safety for Grains/ Pulses/Special Crops Steering Committee meeting to discuss the effectiveness of the spring producer training seminars and to create a schedule for the fall training seminars.
- Attended several meetings with Canadian Soybean Council (CSC) members to discuss strategic planning and future priorities. It was decided that CSC will exist for promotional purposes and continue with incoming and outgoing trade missions.

Communications

- Planning began for a redesign to MPGA's website. We met with the developer to come up with an updated sitemap and design concept. The new website went live in November, so check out the new features at *www.manitobapulse.ca*.
- An updated banner stand was created for MPGA to take to various events throughout Manitoba. The creation of a new logo last year, along with our new website, provided us an opportunity to develop more of a brand image.
- Attended Canadian Special Crops Association Convention in Vancouver on July 10th–13th. An industry tour, several networking receptions, and informative speakers were enjoyed.

Our work continues! *…continued on page 25*

NEW MAFRI BUSINESS DEVELOPMENT SPECIALIST – PULSES

After more than a year-long vacancy, MPGA is pleased to announce the Manitoba Agriculture Food and Rural Initiatives, Business Development Specialist – Pulses position has been filled by **Dennis Lange**. Those producers and industry members who have been involved in pulses for a number of years will likely be familiar with Dennis. He has been an agronomist in southern Manitoba for the last fourteen years providing advice on dry bean production, with some focus on soybean as well. Dennis also served on the MPGA board as a producer director for nine years.

Back on the board now as an appointed director, Dennis brings his expertise on agronomic and business related information associated to pulses year-round. Having direct contact with the Manitoba government for policy-related concerns will also be beneficial for Manitoba producers.

Heading up the MPGA funded Variety Trail Results, Dennis is heavily involved in gathering and evaluating the variety samples for the trials. Results are based on maturity, plant architecture and yield at the various core sites in Manitoba.

The MGPA staff and board are hoping to rely on Dennis' experience in the dry bean business to help move the industry forward, with a strong focus on our continued success in soybeans. Dennis is most excited about the new *Genuity Roundup Ready 2 Yield* (GENRR2Y) varieties.

"The soybean acres in Manitoba are continuing to grow and we are learning as we go," states Lange. "I am looking forward to educating the growers and industry in regards to agronomics and other issues that come up with soybeans. There are also a lot of potential business opportunities like the soy cheese program at the University of Manitoba, so I am hoping to do some legwork on sourcing products. Just help grow the industry."

Lange is also excited about new and upcoming pulses in Manitoba – winter pulses, mung beans and finding the next big thing in soybeans. "It's still a growing industry and we need to keep our eyes on the horizon as to what other pulses are out there," says Lange.

We can't forget about dry bean production in Manitoba though. "Manitoba producers have been leaders in dry beans for a number of years, but acres have backed off a bit," notes Lange. "Dry beans have a fit for Manitoba producers; hopefully we will see a bounce back."

Lange believes pulses still have a bright future in Manitoba as they fit into the rotation nicely by breaking disease cycles in cereals and can be financially beneficial. "They can be more work, but the returns are there," adds Lange.

The MPGA board and staff are looking forward to growing the pulse industry in Manitoba with the help of Dennis. Welcome aboard!

continued from page 24 **MPGA–*Working for You!***

- Participated in AITC's Amazing Ag Adventure in Brandon in June and at Richardson International's Kelburn Farm in September. Over 300 Grade 4 and 5 students at both locations learned about pulse production and the environmental and health benefits of pulses.
- Attended Manitoba Farm Writers and Broadcasters Association spring workshop and tour where we learnt the Do's and Don'ts of Video Production. MPGA was interested in this event in order to gather more information on producing videos of our summer tours to post online.
- Took part in a General Managers/Executive Directors meeting that KAP hosted for all of the commodity groups in Manitoba. Board governance, strategic thinking, and lobbying strategies were just a few of the topics discussed.
- Four directors and R. Lewko participated in a Leadership at its Best seminar put on by Syngenta for the pulse industry in Canada. Directors and staff from all other provincial pulse organizations and Pulse Canada also participated. The seminar delivered leadership development initiatives, including greater strategic awareness, enhanced communication skills, spurred creativity and improved engagement within grower associations.

For updated information check the website – www.manitobapulse.ca or call the office at (204) 745-6488.

www.manitobapulse.ca

- ▶ New sections FOR PRODUCERS – *where all information relating to pulses in Manitoba can be found*
  - Growing pulses
  - Harvest sample program information
  - Resources with important links for weather, production/agronomic and government information
- ▶ New FOR CONSUMERS section
  - Consumers can learn what are, how to cook with, and where and how to purchase pulses
  - Updated recipes section with high-quality photos
- ▶ New RESEARCH section
  - All current MPGA funded projects have been added to the site in a searchable database with a project description. *As the final reports are submitted those will also be placed online for everyone to view.*

2011 CASH ADVANCE PROGRAM

Manitoba Pulse Growers Association Inc.

MPGA CASH ADVANCE OFFICE

Toll Free – Ph: (877) 598-5685 Fax: (877) 598-5686
Box 188, Carman, Manitoba R0G 0J0
Email: mbcorn@mts.net Website: www.manitobacorn.ca

The post-production prices for the 2011 Cash Advance Program for Special Crops are now available. If you have already taken the pre-production portion of your advance these are the prices that will now apply to your current advance and to any additional money you receive on the portion of the crop that you harvest and store. If you have not yet taken an advance on your 2011 crop there is still lots of time to apply.

The federal government has approved the following post-production advance rates for this year:

White Beans	**$**	**0.17**	**/pound**
Great Northern Beans	**$**	**0.18**	**/pound**
Kidney Beans	**$**	**0.20**	**/pound**
Cranberry Beans	**$**	**0.20**	**/pound**
Pinto Beans	**$**	**0.16**	**/pound**
Other Coloured Beans	**$**	**0.16**	**/pound**
Peas	**$**	**3.51**	**/bushel**
Soybeans	**$**	**6.00**	**/bushel**
Fababeans	**$**	**0.06**	**/pound**
Desi Chickpeas	**$**	**0.13**	**/pound**
Kabuli Chickpeas	**$**	**0.16**	**/pound**
Lentils	**$**	**0.11**	**/pound**
Corn	$	3.50	/bushel
Confectionery Sunflowers	$	0.16	/pound
Oilseed Sunflowers	$	0.14	/pound
Alfalfa Seed	$	0.75	/pound
Annual Rye Grass Seed	$	0.13	/pound
Perennial Rye Grass Seed	$	0.23	/pound
Kentucky Blue Grass Seed	$	0.30	/pound
Hay for Domestic Sales	$	55.00	/tonne
Honey	$	0.75	/pound

- **Applicants must be members in good standing with the Manitoba Pulse Growers Association, Inc.** or the corresponding Associations for the crop on which you are taking the advance.
- Applicants may not have outstanding balances under any other APP program, other than what is indicated on the application form and may not be in default under any other Cash Advance programs past or present.
- **Each producer, partnership or corporate farm may receive up to $100,000.00 interest-free, and up to $400,000.00 in total. These totals must include any loans received as a partner or shareholder in any other entity, and these totals must include all Cash Advance Programs (i.e. CWB, Canola, Livestock, etc.). Loans over $100,000.00 will have an interest rate of Prime – ¼% applied to them.**
- In fall if you are intending to use some of your crop for seeding yourself, **EXCLUDE** that amount from your application.
- **If you sell your crop under a Price Pooling Contract you may not get an advance on that portion of your crop.**
- The Pulse Cash Advance program is administered by the Manitoba Corn Growers Association – 38–4th Ave., N.E., Carman, Manitoba.
- Administration fees are **$250.00 for all advances.**
- The federal government guarantees only a portion of each loan, so to protect your Association a **2% deposit will be deducted.** Any extra charges (o/s interest, etc.) that may occur will be deducted from that deposit before the balance is refunded.
- Credit checks may be made prior to issuing advances and Bin checks may be done on your stored grain. If your grain is in storage, you will need to provide storage tickets. **BUT** if your crop is in **price pooling it is ineligible.**
- A Priority Agreement signed by your financial institution is required. If more than one financial institution is used, a separate Priority Agreement must be signed by each one. If any suppliers hold a lien on the crop, each supplier must sign a separate Priority Agreement.

Repayments – Please Read Carefully

- Repayments must be made **directly** to the MCGA and **must be made as the crop is sold** and **on first crop sold**; or on any crop that has been adjusted through Crop Insurance and for which you have received a payment; or on any of the crop which has been disposed of in any other way. The repayments must be made within 30 days of the crop being sold. Repayments, with cheques made out to: **Manitoba Corn Growers Association, Inc.**, must be sent to the address above, along with copies of the sales receipts.
- The Cash Advance must be paid off by the crop year-end: **September 15, 2012**. The advance can't be rolled into the next year's program.
- **IMPORTANT:** If the crop is not sold by the program year-end or if the advance is paid off without accompanying sales receipts, interest of Prime – ¼% must be paid on the outstanding balance, or on the amount not accompanied by receipts, *right back to the day that you were issued your Advance.* The government then treats it as an operating loan and not an advance loan on your crop.

  Late repayments are charged interest at a rate of Prime +3% from the date it should have been repaid until the date payment is received.
- Application forms or more information can be obtained on our website or by contacting the MCGA office.

FINAL DEADLINE FOR APPLICATIONS IS MARCH 15, 2012

USE OF SOYBEANS TO PRODUCE DAIRY-LIKE PRODUCTS

Susan Arntfield, Karen Pitura, Mingjue (Shirley) Wu, and Gary Fulcher
Food Science, University of Manitoba

While the presence of soy milk in the market as an alternate to cow's milk is well established, the production of other dairy-like products is not as well advanced. In this study we looked at using high protein soybeans to produce a frozen dessert and cheese-like products. While the combination of dairy and soy material was initially considered for the work, the fact that both dairy and soy proteins are considered major food allergens led to the realization that a 100% soy product would have stronger commercial appeal.

Three different starting materials were used, all from a high protein soybean (PR702A07RR). The whole seed as well as high-oil and low-oil press cakes prepared from this soybean variety were used. Protein and fat contents are given in Table 1. There was batch to batch variation in fat content of the press cakes from the Richardson Centre. Protein contents were determined on one batch only. The higher protein content in the press cakes compared to the whole seed was considered beneficial in terms of production of soy-based products and both the cheese-like products and frozen desserts made from the press cakes had a better texture. As the protein level in the press cakes was similar, the high oil press was the preferred starting material, in that it was easier to produce and required lower levels of fat addition when making cheese-like products.

Table 1. Protein and fat contents of soy materials used for production of cheese-like products.

Sample	% protein (N*5.71)	% fat
High-protein soybeans	6.84	19.0±0.9
Low-oil press cake	8.41	7.5±0.5
High-oil press cake	8.37	10.8±0.7

FROZEN DESSERT

The preparation of a frozen soybean dessert began with preparing soymilk by extracting protein from the press cake using approximately one part press cake to seven parts water. To this sugar, vanilla and a pinch of salt were added and the ice cream-like product was prepared using a small scale automatic ice cream maker. Initially all formulations produced icy products with signs of layering when frozen. To overcome this problem several stabilizers were investigated; the inclusion of 1% sodium alginate (food grade) resulted in a creamier texture that resembled ice cream. The addition of flavours (vanilla, chocolate and strawberry) seemed to mask any beany soybean flavour. There is still room for improvement on the texture, as the product does not have the richness of an ice cream.

CHEESES

As was the case with the frozen dessert, initial experiments confirmed that there were advantages in working with the high-oil press as the starting material. The initial step in the production of cheese was to make tofu from the extracted soymilk. To produce a cream cheese-like product, it was then necessary to add oil, pectin, gums and salt. The pectin and commercial gums were required for texture. In the end, approximately 5% added oil, with pectin, gum and salt added at approximately 1% each produced the most acceptable product in terms of texture. A noticeable beany flavour was obtained with the early editions of this product. Addition of flavours, in particular, herbs (local grocery store), lemon and cucumber (from Virginia Dare) flavours seemed to give a more desirable taste.

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Frozen soybean dessert

Cheese-like soybean spread

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Attempts were made to produce a hard cheese-like soy product. Reducing pH and adding rennet as is done for normal cheese production did not produce the coagulation necessary for cheese. Using the formulation for the cream cheese-like product with increased pectin and gums (up to 5% of each) produced a firmer product, but the product was sticky and did not resemble a hard cheese. To get the required texture, we used agar flakes and compared two levels of press cake concentrations (3:1 water to press cake and 5:1 water to press cake), three levels of agar flakes (0.1, 0.3 and 0.5 g) and three levels of a corn starch product (0, .3 and .5g). To prepare the cheese-like product, agar flakes had to be mixed with cold tap water, and boiled. The starch was added to the hot agar and mixed with the press cake extract, oil and salt. From this experiment, it was concluded that the 5:1 soy concentration provided a milkier appearance than the 3:1 mixture. As the 0.5 g agar flakes didn't dissolve well in water the best formulation contained 0.3 g agar flakes and 0.5 g starch dissolved in 10mL water and mixed with 10 mL of the 5:1 soy mixture. Images of these cheeses can be seen in Figure 1. Alternates to the starch are being considered and flavours will be required to overcome the beany taste, but the texture is close to that of a hard cheese. Inclusion of carrot powder adds some nutritional benefits and produces an orange colour that is typical of many cheeses.

Figure 1. Hard cheeses from soybean with various levels of agar and starch.

DEVELOPMENT OF A MANITOBA SOILS TEST FOR CADMIUM

Malcolm Morrison, Mark Sandercock, Byron Irvine, and Cindy Grant
Agriculture and Agri-Food Canada
Eugene Gawalko
Canadian Grain Commission (CGC)

At the Morden Research Station, Agriculture and Agri-Food Canada (AAFC) researchers are examining the relationship between the amount of cadmium in Manitoba soil and in the soybean seed it produces. As part of this research, soybean fields are tested in the area from Carman south to the border and the Manitoba Escarpment east to the Red River. Results will be used to develop a cadmium soil test to ensure the continued production of safe, high quality, nutritious and marketable soybeans for Canadians.

Some countries, including Canada, have placed limits on the amount of cadmium in grain. Cadmium can be taken up by crops and, when consumed in high amounts over a long time, can accumulate in the body and have been linked to several diseases.

In the mid-'90s, Durum wheat with as little as 100 parts per billion was turned away by European nations, reducing Canadian exports. Now, all new durum wheat varieties registered in Canada must be low cadmium accumulators.

Trade regulations established by the World Health Organization (CODEX Alimentarius, 2008) set a maximum of 200 parts per billion for soybeans, grains and pulses traded internationally. The European Union and China have already imposed import limits on the amount of cadmium that food soybeans can contain.

In order for Manitoba to develop a market for safe, food-quality soybeans, the amount of cadmium in the seed must not exceed Canada's and the international standards.

Preliminary work has shown that there is a relationship between the amount of cadmium in the soil and in soybean seed. It is time to take the soils test from the research station to the farmer's field. Many crops that are grown in Manitoba can take-up cadmium, including soybean. The silty soils, formed at the bottom of ancient lakes or seas, which are common in Manitoba, have more available cadmium than clay soils.

The Manitoba Pulse Growers Association, AAFC and CGC have sponsored research examining the relationship between the amount of cadmium in the soil and in soybean seed. Mark Sandercock, from the Morden Research Station, has sampled soil and seed from fifty fields in an area from Carman south to the border and the Manitoba Escarpment east to the Red River. The soil and seed samples that were collected this summer (2011) will be analysed for their cadmium content. This is just a random snapshot of farms from this area, but it will show how much cadmium varies across a field and whether the seed is approaching health and international export limits.

The goal of this research is to develop a cadmium soil test that farmers can use to decide which varieties to grow. On a soil high in cadmium, for example,

farmers can choose to grow a low cadmium accumulating variety. The test will also improve the understanding of the variability of cadmium in a field and across the region.

This proactive research will add value to the work of AAFC's soybean breeding program, which is increasing the number of low cadmium accumulating food grade varieties available for farmers. Of the Canadian soybean varieties tested so far, approximately 30% of them are genetically low accumulating types.

If you live in the sampling area and are interested in joining the research team by having your fields and soybean seed tested, please contact Mark Sandercock at the Morden Research Station, at *msandercock@agr.gc.ca* or (204) 822-7260.

WEED MANAGEMENT WITH COVER CROPS IN ORGANIC PULSE CROPS

Martin Entz, Rachel Evans, Keith Bamford, Joanne Thiessen Martens
Department of Plant Science
University of Manitoba

Organic pulse production can be challenging since pulse crops generally do not compete well with weeds. In 2009, the Manitoba Pulse Growers Association funded a project on "weed management in organic pulse production." Research trials were conducted in 2010 and 2011 to learn more about various approaches to weed management, including early-season in-crop weed control operations, pulse crop varieties, and weed suppression with cover crops. This article focuses on our cover crop research.

Suppressing weeds in pulse crops through the use of cover crops is a novel approach in Manitoba. Cover crops are crops planted outside the main growing season for the purpose of providing soil conservation and other benefits to the cropping system. Using cover crops for weed suppression may reduce the amount of tillage required for weed control and provide additional soil cover.

EXPERIMENT DESCRIPTION

Cover crop experiments were conducted at the Ian N. Morrison research farm at Carman, MB in 2009–2010 and 2010–2011 with separate trials for soybeans and navy beans. The purpose of these experiments was to see whether cover crops grown before the pulse crops would be able to suppress weeds without competing with the pulses for resources such as moisture, nutrients, and light.

Five different cover crops, along with a control treatment (no cover crop), were established in fall (mid-Sept. 2009; late August 2010) in preparation for the following year's pulse crops. These cover crops were chosen for various reasons:

- fall rye cover crops are known to suppress weeds and are used successfully in soybean production systems in the U.S.;
- winter wheat, another winter cereal, could provide similar benefits as fall rye;
- oats, barley and oilseed radish, planted in fall, could provide some weed suppression while using less soil moisture than winter cereals and eliminating the need to terminate the cover crop the following spring before planting the pulse crop.

The following spring, each cover crop plot was divided into "tilled" and "no-till" cover crop termination treatments. In tilled treatments, cover crops and weeds were soil incorporated with a rotovator immediately before seeding soybeans and navy beans. In no-till treatments soybeans and navy beans were direct-seeded; in the fall rye and winter wheat treatments, this meant seeding directly into the standing cover crop (Fig. 1). Pulses were solid-seeded in 15 cm (6-inch) rows.

In the control and oat, barley and oilseed radish no-till plots, weeds were flamed when the pulses were just beginning to emerge. The untilled fall rye and winter wheat cover crops were terminated by mowing with a flail mower just after rye and wheat flowering. Pulse crops were about 15–20 cm tall at this time (Fig. 2). No further weed control was conducted in any treatments.

Figure 1. Seeding pulse crops directly into a standing fall rye cover crop, Carman 2011.

RESULTS

Results presented are mainly from the fall rye and winter wheat treatments of the 2009–2010 soybean trial. Results from the 2010–2011 soybean and navy bean experiments are currently being compiled.

Cover Crop – Pulse Crop – Weed Dynamics

The fall rye and winter wheat cover crops provided excellent weed suppression in the no-till treatments. However, in these treatments, mowing fall rye and winter wheat cover crops did not provide complete termination and there was some regrowth from these crops, especially the winter wheat. This regrowth, along with the killed cover crop residue, suppressed soybean and navy bean growth in these treatments but also provided very good weed suppression.

Pulse Crop Yield

In 2010, soybean yield ranged from 1130 to 2170 kg/ha (17 to 32 bu/ac; Fig. 3). The fall rye cover crop system produced similar yields as the control, in both tilled and no-till treatments. The winter wheat cover crop system responded differently to the cover crop termination treatment: the no-till system produced the lowest yield due to

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poor termination of the winter wheat, while the tilled system produced the highest yield in the trial.

PRELIMINARY CONCLUSIONS AND ONGOING RESEARCH

These preliminary results indicate that winter cereal cover crops suppressed weeds and did not reduce soybean yield, as long as the cover crops were terminated adequately. However, when winter wheat was used as the cover crop, termination by mowing was not effective and resulted in excessive competition with the soybean crop.

Results from the 2011 soybean and navy bean experiments will give an indication of how consistent these cover crop effects are in soybeans and whether similar effects will be observed in navy beans.

For more information on this study or our other organic pulse research, contact Martin Entz at *m_entz@umanitoba.ca*.

Figure 2. OAC Prudence soybeans growing within the canopy of a winter wheat cover crop, a few days before terminating winter wheat by mowing, Carman, 2011.

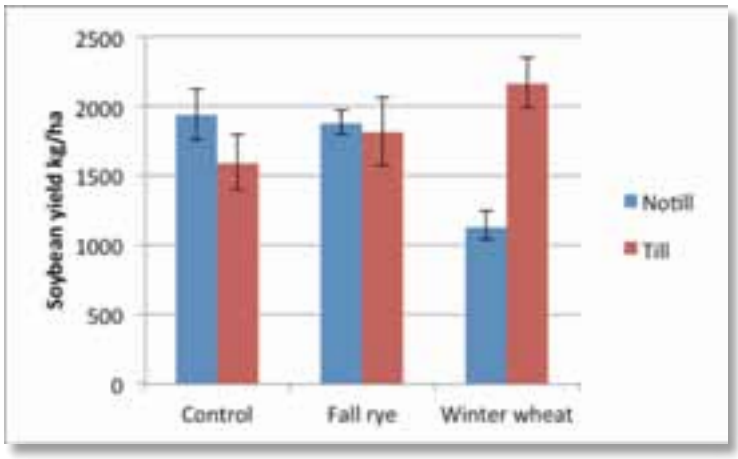

Figure 3. Soybean yield as affected by cover crop type and termination treatment. Error bars represent ± the standard error of the mean.

Debra L. McLaren, Maria A. Henriquez and Robert L.Conner
Agriculture and Agri-Food Canada
Brandon Research Centre

The 2011 dry bean and field pea disease survey activities funded by MPGA were conducted as outlined in the Pulse Science Cluster program. All field activities of these studies were completed despite the excessively wet conditions that occurred during May and June of this field season. The 2011 laboratory work on pathogen identification is ongoing, but some preliminary results are available.

ROOT ROT PATHOGENS OF FIELD PEA IN MANITOBA

Root rot is a major disease of field pea in Manitoba and is capable of causing significant yield reductions due to compromised root systems and reduced plant stands. Cultivars with complete resistance have yet to become available and control of root rot is difficult. Previous studies indicated that the most prevalent causal agents for root rot in field pea in Manitoba were Fusarium solani and Rhizoctonia solani. However, recent findings also indicate the presence of F. avenaceum in root rot affected field peas in Manitoba and North Dakota. These reports suggest that the pathogen population may be changing over time, and emphasize the need to obtain up-to-date information on the pathogen species involved. To screen for host resistance and design effective control measures, it is critical to determine the prevalence of root rot pathogens of pea.

The third year of a four-year study approved by MPGA was initiated in 2011 to survey crops of field pea for root diseases. The inclement weather and flooding in southwest Manitoba, where field pea is most commonly grown, resulted in the seeded field pea area in the province being reduced significantly. The survey of 24 pea crops for root diseases was conducted from early to late July when most plants were at the late vegetative to early bloom stage. Ten plants were sampled at each of three random sites for each crop surveyed. The thirty pea plants were rated for severity of root rot using a disease severity scale of 0 (no disease) to 9 (death of plant). Root rot symptoms were observed in every field, as in 2010, but average disease severity was higher in 2011. Excessive soil moisture early in the season and flooding favoured pea root rot development. Fifteen symptomatic roots were collected per field for isolation of root rot pathogens in the laboratory. Fusarium spp. were more frequently isolated from diseased roots than were Rhizoctonia spp. Pathogenicity tests of the predominant isolates of Fusarium will be conducted using a susceptible pea cultivar during the winter/spring of 2011–2012 in order to confirm the capability of the pathogen(s) to cause disease.

Conditions such as excess moisture affect root growth and can increase damage from root rot pathogens such as Fusarium spp.

ROOT ROT PATHOGENS OF DRY BEAN IN MANITOBA

In Manitoba, root rot is a major disease of dry bean and can cause significant yield reductions due to weakened root systems and poor plant stands. In some cases, the whole primary root system can be destroyed. The root rot problem can be exacerbated when bean production fields are used in short rotations. Resistant cultivars are not yet available and control of root rot is difficult. Fusarium solani and Rhizoctonia solani were the most prevalent causal agents of dry bean root rot identified in past Manitoba disease surveys. However, other Fusarium species such as F. acuminatum, F. redolens and F. graminearum have the potential to infect dry bean cultivars as demonstrated in recent studies. Changes in the pathogen population may be occurring over time and these findings stress the need to acquire new information on root rot pathogens in Manitoba bean crops in order to screen for host resistance and design effective control measures.

In 2011, year three of a four-year study funded by MPGA was initiated to survey crops of dry bean at 33 different locations in southern Manitoba where most dry beans are grown. The survey for root diseases was conducted during mid- to late-July when most plants were at the early bloom stage. Protocols for plant collection, root rot rating and isolations were the same as for field pea. In 2010 and 2011, root rot was observed in every field and average disease severities were similar. As with pea roots, Fusarium spp. were more frequently isolated from diseased bean roots than were Rhizoctonia spp. During the winter/spring of 2011–2012, pathogenicity tests of the predominant isolates of Fusarium will be conducted using a susceptible bean cultivar.

With both dry bean and field pea, an in-depth study of root rot pathogens is being conducted in association with the use of molecular biology techniques. To date, eight primers have been developed for detection of the root rot pathogens associated with these crops. Development of primers and PCR-based assays for rapid detection and differentiation of the pathogens will provide fast, sensitive and specific tests for application in the diagnosis of root rot pathogens of field pea and dry bean. This information can then be used by plant pathologists and pulse breeders to develop cultivars with improved resistance to root rot. Field pea and dry bean cultivars with better root rot resistance will result in reduced yield losses and ultimately improve the profitability of pulse production in Manitoba.

Acknowledgements – *The funding provided by MPGA and the Pulse Science Cluster for these studies are greatly appreciated. Technical support provided by D.J. Hausermann, T.J. Kerley, T.L. Henderson, W.C. Penner, and D.B. Stoesz is gratefully acknowledged.*

N. J. Holliday
Department of Entomology
University of Manitoba

The Manitoba Pulse Grower's Association has funded a study on the effects of plant bugs on yield quantity and quality of dry edible beans. The study has three components: field surveys of commercial crops to determine what plant bugs occur on beans and when, laboratory studies of how plant bugs of different ages affect beans at different growth stages, and field studies of how plant bug infestations affect yield quality and quantity.

We surveyed a total of 17 navy bean, 10 pinto bean and 9 soybean commercial fields between 2008 and 2010. Each field was sampled weekly from crop emergence to harvest, with 20 sweep net samples taken at each of five locations. We hand harvested at each sample location to relate insect numbers to yield. In all years and crops, 83–92% of the plant bugs were tarnished plant bugs, 3–4 % were alfalfa plant bugs, and several other species made up the remainder. Plant bug numbers were highest in 2010. Seasonal patterns of tarnished plant bugs were similar in all years: adults enter bean crops in late July (R1-2 stage in dry edible beans), and females lay eggs in the stems of the plants. From these hatch nymphs, which are most numerous at the R4-5 stage but persist into the R6-7 stage. The nymphs moult to adults, but adult numbers are greatly augmented late in the season by immigration from early-maturing crops. In none of the three seasons were we able to detect any negative effects on yield quality or quantity that could be linked to the plant bugs in the fields.

In the laboratory, we have studied the effect of feeding by tarnished plant bug nymphs and adults on navy beans at growth stages R1-2, R4-5 and R6-7. For each stage, we caged insects on individual inflorescences and recorded the type of injury and the effect on seed weight. At R1-2, one insect per inflorescence significantly reduced total seed weight from the inflorescence. The major effect of feeding was the abortion of pods, and nymphs were more harmful than adults. At R4-5, three insects per inflorescence were sufficient to cause seed weight loss, and many harvested seeds were shrivelled; again, nymphs were more damaging than adults. At R4-5, most feeding occurs on the placental and funiculus regions of pods and injures the vessels conducting photosynthates to the filling seeds, resulting in them being shrivelled at harvest. At R6-7, even five insects per inflorescence did not significantly reduce total seed weight. However, direct feeding on the seed reduced seed quality through surface pitting. We also caged tarnished plant bugs on whole plants in the laboratory so that insects had more choice of their site of attack. Exposure of whole plants at the R6-7 stage for five days to 15 or 30 nymphs or adults did not reduce the weight of seed yield but seed coat pitting reduced seed quality. We have just finished a similar experiment at the R4-5 stage, but the results have not yet been analysed.

Lygus bug feeding on the R4-5 stage causes injury to the placenta and funiculus.

From 2009 to 2011, we conducted field plot studies of yield loss of navy beans caused by plant bugs. The numbers of bugs were too low to allow manipulation of populations using insecticides, so we placed one square metre (m^2) cages over growing crops, introduced bugs at a specific time, and left the insects in the cages until the time of harvest. In 2009, in a trial where 30 or 60 adult tarnished plant bugs were introduced at the R2-3 stage, the loss in seed yield was about 0.30 g/m^2 per bug, and this weight loss was mostly responsible for significant reductions in the value of the yield/m^2. In 2010, our plots were attacked by deer, and only one complete trial was possible. In this trial, up to 120 tarnished plant bug or alfalfa plant adults or 60 tarnished plant bug nymphs were introduced into each cage at the R6-7 stage. Value of the yield was reduced with 60 or 120 alfalfa plant bugs adults or 60 tarnished plant bug nymphs: lower seed quality and lower weight of marketable seed were responsible for the decline in value. In 2011, four field cage experiments have been carried out, with up to 180 insects per cage: one experiment at the R2-3 stage, two experiments at the R4-5 stage, and one experiment at the R6-7 stage. Harvesting has recently been completed, and seed weighing and grading are in progress.

Because our cage results measure insects in numbers /m^2 and producers normally sample for plant bugs by sweep netting, we have began work to link the two measures of insect abundance. In 2011, at 10 locations in each of three commercial fields, 20 sweep samples were taken, and then, adjacent to the sweep net location, a 1 m length of two rows was enclosed and all the plant bugs removed with a vacuum sampler. Data from the 30 locations will be analysed to develop a relationship between the two measures. This study will be repeated in 2012 so that we are able to express thresholds developed from our cage studies in terms of insects per sweep.

Seed pitting caused by Lygus bug feeding at the R6-7 stage of navy beans..

Photos by T. Nagalingam

IMPACT OF INGREDIENTS (INCLUDING ZERO-TANNIN FABA BEAN) IN SWINE DIETS ON DIGESTIBILITY, PERFORMANCE, WATER INTAKE AND MANURE OUTPUT

Carole Furedi
The Puratone Corporation

Swine producers are always looking to improve the diets fed to their pigs as feed accounts for 70% of the cost of growing a pig. Diets deliver energy, protein and minerals (eg. phosphorus, calcium, potassium, etc.) to growing animals and swine nutritionists are always on the lookout for ingredients that provide high levels of these components. The gold standard of ingredients is corn and soybean meal (SBM) because of their nutrient profiles and availability, however the bulk of these two ingredients are imported into Manitoba. Lately, dried distiller's grain with soluble (DDGS), a by-product of ethanol production, has been replacing corn and SBM in swine diets because of its lower cost and high energy and protein levels. Again corn is the gold standard with DDGS derived from corn prized over DDGS derived from other parent grains. Most corn-DDGS is produced in the U.S. and so the bulk of this ingredient is imported as well. By importing ingredients into this province foreign nutrients are being added to the nutrient load of the soil. Ideally nutrients should cycle through the environment with limited importation. The use of locally grown ingredients would minimize the importation of nutrients into the province.

Zero-Tannin Faba Beans (ZTFB) (variety: Snowbird) were reported to be a viable substitute for SBM by the Prairie Swine Centre (PSC). They found that ZTFB has a high protein (28%) and available energy (44% starch) content rivaling that of corn-DDGS (26% crude protein) and corn (65% starch). Although there were no differences in pig growth in the studies published by PSC they admitted there was a need to run a commercial scale trial. With funding from Manitoba Pulse Growers Association, Manitoba Rural Adaptation Council, Manitoba Livestock Manure Management Initiative and the National Research Council's IRAP, Puratone began a study to investigate the feasibility of substituting ZTFB in place of some SBM in our finishing pig rations. We also wanted to compare imported corn-DDGS with local corn-wheat DDGS from the Husky Oil plant in Minnedosa, Manitoba.

An initial digestibility and metabolism study at the University of Manitoba's Animal Science Department (Faculty of Agricultural and Food Sciences) confirmed the values suggested by the other studies. The Snowbird ZTFB used in our study had a high crude protein and metabolizable energy (the energy that can actually be used by the animal) and placed it as a desirable ingredient for swine diet formulation (Table 1). Armed with this information we began a commercial scale research trial in our 2,500-head research finishing barn with diets containing either 15% or 0% ZTFB and one of the two DDGS sources (corn or corn-wheat) at 10% or 30% inclusion in the diet. We also added a fourth factor that would see whether the inclusion of a yucca plant extract (in our case we used Micro-Aid by DPI) would increase the digestibility of any of these ingredients and thus improve pig performance.

We found no difference in pig growth, feed efficiency, carcass characteristics or carcass value between the two sources of DDGS. Pigs fed diets containing 30% DDGS grew more slowly, were less efficient and spent more time in the barn than pigs fed diets containing 10%; however, the standardized feed cost per kilogram of body weight gain ($/kg gain) was $0.024 lower ($2.16/pig) with the higher DDGS inclusion. Pigs fed diets containing 15% ZTFB had similar growth to pigs fed diets with 0% ZTFB but the $/kg gain was $0.022 higher when ZTFB was in the diet. This equates to an added cost of $2 per pig (average gain 90kg/pig) and there were no improvements in carcass value to balance this extra cost. However, when Micro-Aid was added to the diets containing ZTFB, the $/kg gain dropped to the same as diets without ZTFB (Figure 1).

This interaction between Micro-Aid and ZTFB has not been documented before; however, yucca extract (like Micro-Aid) has been previously shown to promote gut health and the growth of beneficial bacteria while inhibiting the growth of harmful bacteria in the gut. The beneficial bacteria serve to break down fibre in the intestine and diets containing 15% ZTFB had higher crude fibre than diets without ZTFB. Pigs eat to meet their caloric needs and a diet that is high in fibre will be bulkier and gut fill might limit intake before the caloric requirements needed to sustain fast growth are met. Therefore, beneficial bacteria help by producing energy and amino acids, while breaking down the fibre, which can be used by the pig for growth. Another added effect of adding yucca extract to diets is increasing absorption of nutrients by the intestine. All this helps to explain why adding Micro-Aid to diets containing ZTFB improved the performance and feed $/kg gain of finishing pigs. Therefore, ZTFB is a viable substitution for SBM in swine diets as long as a yucca extract such as Micro-Aid is also added.

Table 1. Nutrient profiles of corn and ZTFB.

Item	Corn	ZTFB
Gross energy, kcal/kg	3974	3711
Digestible energy, kcal/kg	3961	3276
Metabolizable energy, kcal/kg	3877	3514
Crude protein, %	8.8	24.2
Crude fat, %	1.92	1.53
Total dietary fibre, %	9.0	10.1
Calcium, %	0.01	0.41
Phosphorus, %	0.26	0.62
Amino acids, %		
Cysteine	0.16	0.30
Isoleucine	0.26	0.94
Lysine	0.25	1.39
Methionine	0.16	0.16
Threonine	0.26	0.75
Valine	0.36	1.04

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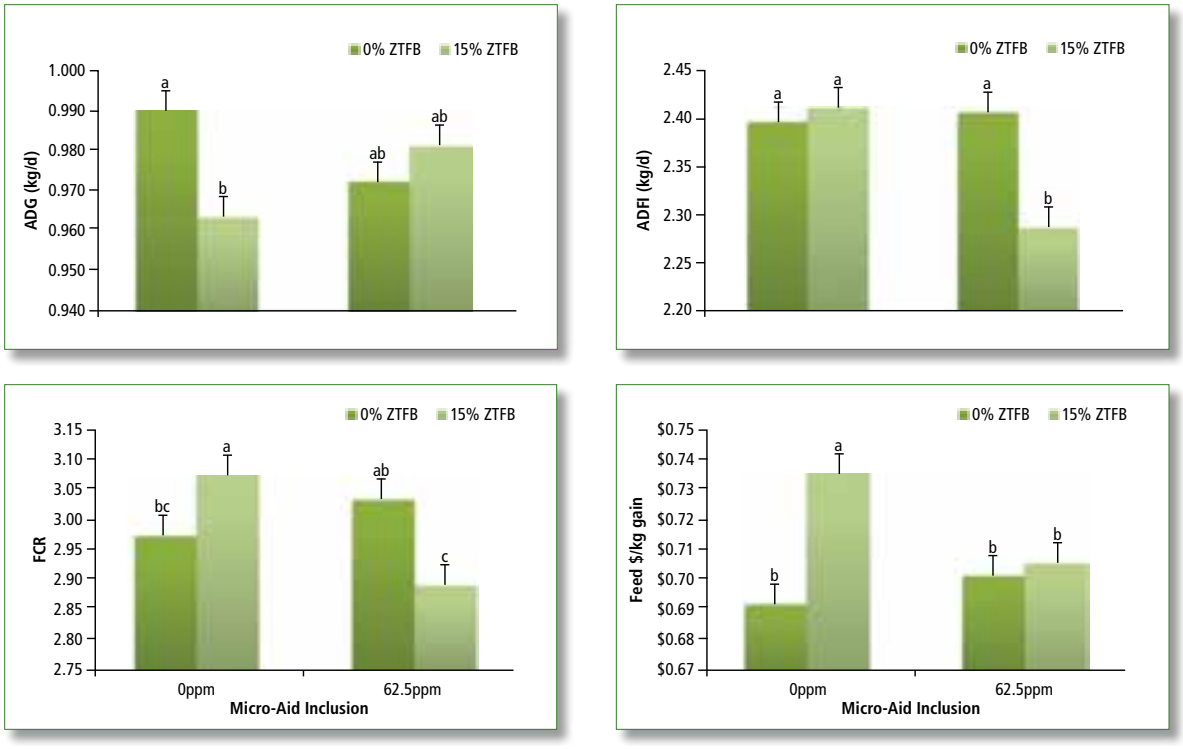
Figure 1. Average Daily Gain (ADG), Apparent Daily Feed Intake (ADFI), Feed Conversion Ratio (FCR) and feed cost per kg gain of pigs receiving diets containing 0% or 15% ZTFB and 0ppm or 62.5ppm Micro-Aid.



Row Spacing, Seeding Rates and Upright vs. Bushy Plant Architecture

Brent VanKoughnet M.Sc. P.Ag.
Agri Skills Inc.

Brent VanKoughnet of Agri Skills Inc. was contracted for a second year to continue to explore the effects of multiple seeding rates of soybeans with three different seeding implements (row spacings) in a full field scale environment. The 2011 project further explored the impact of plant architecture (upright versus bushy) on determining ideal spacing and seeding rates.

The field scale trial was located just south and east of Carman, Manitoba. Certified ISIS soybeans were planted on May 26th and Certified DEKALB 25-10 soybeans were planted on May 29th. Both varieties were treated with a 2x rate of liquid inoculant. In each case soil conditions were wet but not quite excessive. The following seeding implements were used:

- A Bourgault single manifold air drill on 8-inch spacing with narrow openers and a coil packer (expertly operated by Edwin Pritchard)
- A John Deere max-emerge vacuum planter on 15-inch spacing
- The same John Deere max-emerge vacuum planter on 30-inch spacing

Each seeding implement sowed 30–32 ft strips at a high, medium and low seeding rate in strips that were approximately 1,500 ft long, or one acre. Each treatment was replicated four times for each variety. A 22½ foot strip was harvested out of the centre of each of the treatments (see Table 1).

Table 1. Summarizes the initial target seeding rate, the target plant stand, the actual plant stand and the average yield of the four replicates for each treatment and each variety.

Treatment (avg)	Seeds Planted	Target Stand	ISIS Actual	ISIS Yield (bu/ac)	DK 2510 Actual	2510 Yield (bu/ac)
8-inch high	224,719	200,000	197,807	42.39	204,871	43.20
8-inch med	201,124	179,000	169,549	41.97	183,678	42.53
8-inch low	165,169	147,000	141,290	41.68	148,355	41.72
15-inch high	191,011	170,000	164,035	42.59	169,692	45.15
15-inch med	174,157	155,000	147,066	42.03	152,723	44.35
15-inch low	138,202	123,000	118,784	42.04	118,784	44.50
30-inch high	191,011	170,000	164,035	42.45	169,692	43.71
30-inch med	174,157	155,000	147,066	42.90	147,066	44.22
30-inch low	140,449	125,000	118,784	40.99	118,784	43.74

KEY OBSERVATIONS

Although moisture conditions bordered on excessive throughout the spring, plant survival was excellent with all methods of planting. It was observed that plant emergence with the air drill was delayed by 2–5 days and was patchier, particularly in the wettest areas of the field. The DK 25-10 was planted with slightly less ideal field conditions than the ISIS and it is believed that this is ultimately reflected in the yield differences between the planter (15" or 30") and the air drill. The air drill had more variability. There was no noticeable difference in emergence between the 15" and 30" row spacings. We can say this with confidence given that it was the same planter with the same depth and pressure settings.

The photos below visually demonstrate the plant stand for each seeding implement at a medium seeding rate on each variety.

At various stages throughout the growing season the 30" row spacing was marginally taller than the 15" row spacing and measurably taller than the 8" row spacing.

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ISIS 8" medium rate

ISIS 15" medium rate

ISIS 30" medium rate

DK 25-10 8" medium rate

DK 25-10 15" medium rate

DK 25-10 30" medium rate

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At the time of harvest however, height differences were only marginal with the exception of the parts of the field where field conditions were more stressful to the plant. In those areas the advantage of the planter was evident.

In addition to plant height, an evaluation of pod height at harvest was completed, with the results as shown in Table 2.

Observations were also made regarding the interaction between plant architecture and row spacing. Table 3 provides approximate dates of canopy closure.

CONCLUSIONS

There was surprisingly little difference in yield between any of the row spacing and seeding rate options. The exception may be with the air drill where field conditions were more stressful. Fortunately that was not a high percentage of the field. As a result, there was little appreciable advantage of one seeding implement over another with the exception of the additional seed cost for the generally higher seeding rate required for the air drill. Although we expected to see some potential yield penalty for 30" rows (particularly with ISIS, the upright variety) the yields were insignificantly different.

Regarding seeding rates, the most consistent response to higher seeding rates was for the 8" air drill, particularly under the poorest seeding conditions. There was some yield benefit to the medium seeding rate over the low seeding rate on ISIS in 30" rows. There were no other noticeable differences in yield due to seeding rates. It is important to note that plant survival rates were unusually high this year (10 to 20% higher than in last year's project).

Although early field concerns were about excessive moisture, it is expected that yield potential was ultimately limited by inadequate moisture through July and August. It is possible that yield differences would have been greater if the crop had finished maturing with adequate moisture.

In addition to yield differences, the field trial was also monitored for crop management and harvestability considerations. The 30" row spacing with the ISIS upright variety did have slightly more late season weed pressure. The last glyphosate application was made on July 8th with the crop stage at the first sign of flowering. In a year with higher weed pressure or any difficulty timing the last application, the influence of row spacing on weed pressure could be an important factor.

Although plant height and pod height differences were observed between different row spacings and even between different seeding rates, all pods were comfortably above the ground and relatively easy to harvest by flex header without any significant loss.

It is difficult to determine if the relatively minor yield disadvantage of the air drill under some conditions may be related to the challenges of depth control, packing and/or seed distribution or clumping of seeds within the row. Although the plant survival rates were very high there were more distressed or less vigorous plants and more variability with the air drill.

Based on feedback from producers at the MPGA summer tour, consideration should be given to including treatments planted with air delivered double disk drills and individual run depth control as one of the comparisons in future seeding rate projects.

Table 2. Evaluation of pod height at harvest.

Row Spacing	Seeding Rate	ISIS Minimum Pod Height (inches)	DK 25-10 Minimum Pod Height (inches)
8-inch	High	3.25	4.5
	Medium	3	4.5
	Low	3	4
15-inch	High	3.5+	4.25
	Medium	3.5	4.25
	Low	3.5	4.5
30-inch	High	4.25	5.25+
	Medium	4	5.25
	Low	4	5

Table 3. Interaction between plant architecture and row spacing. Approximate dates of canopy closure.

Row Spacing	ISIS (upright variety)	DK 25-10 (bushy variety)
8-inch	July 5	July 5
15-inch	July 18	July 15
30-inch	Aug 8	July 27

Anfu Hou, Robert Conner and Parthiba Balasubramanian
Agriculture and Agri-Food Canada
Morden Research Station

With funding from the Manitoba Pulse Growers Association (MPGA), the Agri-Food Research and Development Initiative (ARDI) and the Pulse Science Cluster, the dry bean breeding program at the AAFC-Morden Research Station was able to conduct research activities that included the MPGA Variety Trials, the Manitoba Cooperative Registration Trials, yield trials of yellow bean and slow-darkening pinto bean selections, disease resistance screening, and development of advanced bean breeding lines in various market classes. Data from the trials is being analyzed and the final reports will be published in journals and on websites that include *Seed Manitoba* and *Pulse Beat*.

CULTIVAR DEVELOPMENT

A new navy bean line, NA06-002, was supported for registration in Canada. NA06-002 is a high-yielding line with upright growth. It has resistance to anthracnose races 73 and 105, which are common races in Manitoba. The tolerance of NA06-002 to white mould disease is also improved compared to the check cultivars.

The common bacterial blight (CBB) resistant navy bean cultivar 'Portage' was registered in 2010. Working with Canterra Seeds, pedigree seed was produced in 2011 in the Portage la Prairie area. Despite the late-seeding conditions in 2011, Portage matured early and the field plots showed high yield potential and good seed quality.

MPGA DRY BEAN VARIETY TRIALS

The 2011 variety trials included entries in the navy, black, pinto, kidney, small red, cranberry, pink and yellow bean market classes. A total of fifty entries were tested under long season growing conditions at four locations (Morden, Carman, Winkler and Portage la Prairie). The entries included fourteen navy, fourteen pinto, nine black, five kidney, three cranberry, two small red, two yellow, and one pink bean cultivar. These cultivars were evaluated for their adaptation, agronomic performance and disease resistance in Manitoba. With the favourable summer growing conditions, all test sites performed very well. Data from these trials will be published in *Seed Manitoba* and *Pulse Beat*, which can be accessed on the MPGA website.

MANITOBA COOPERATIVE REGISTRATION TRIALS

Forty entries were tested in the Long Season Wide Row (LSWR) Dry Bean Cooperative Registration Trials at four locations in Manitoba (Morden, Carman, Winkler and Portage la Prairie). The entries were provided by private and public breeders/companies/institutions in Canada and the U.S. The breeding lines and check cultivars were evaluated for seedling resistance to anthracnose races 73 and 105 in growth chambers. These lines were also screened for resistance to white mould in an irrigated disease nursery at Winkler. The comprehensive evaluation of all these entries will be reported to support cultivar registration in Canada at the annual meeting of the Prairie Recommending Committee for Pulse and Special Crops (PRCPSC) of the Prairie Grain Development Committee (PGDC) in February 2012.

COMMON BACTERIAL BLIGHT (CBB) RESISTANCE BREEDING

Breeding for improved resistance to CBB remains one of our top priorities. In 2011, two CBB disease nurseries were conducted at Morden with artificial inoculation to screen bean lines and cultivars for responses to CBB infection. Field resistance to CBB in breeding lines and cultivars was also evaluated in various yield trials at four locations. Breeding populations developed from crosses involving CBB-resistant lines as parents were also evaluated in CBB nurseries at both Morden and Harrow. This in combination with molecular markers identified individual lines of navy, pinto and black beans that possessed both the resistance genes and improved resistance to CBB which will be used in crossing for future cultivar development. Superior selections were also tested in preliminary yield trials at multiple locations. Continued efforts will be made to develop bean cultivars with multiple disease resistance.

YELLOW BEAN AND SLOW-DARKENING PINTO BEAN YIELD TRIALS

Yellow bean and slow-darkening pinto breeding lines were tested in the preliminary yield trials at two locations (Morden and Carman). In previous studies funded by MPGA, advanced populations of twenty-six yellow beans and thirty-six slow-darkening pinto beans were selected. The lines were evaluated in 2011 for maturity, growth habits, field disease resistance, yield potential and seed quality. At both locations, significant variation was observed in the breeding lines for resistance to CBB, maturity, lodging resistance and yield potential. The elite selections will be entered into the pre-cooperative yield trials in 2012 for further evaluation at two locations (Morden and Winkler). In addition, large numbers of selections were made in the early generation nurseries of both bean types. Crosses were also made to combine desirable agronomic traits with disease resistance to anthracnose and CBB in these two market classes.

EVALUATION OF DRY BEAN BREEDING MATERIALS FOR ADAPTATION TO MANITOBA

To broaden the dry bean breeding genetic materials in Manitoba, one hundred and fifty black bean entries were introduced in 2008 from the USDA and evaluated at Morden in 2009, 2010 and 2011. While a number of the collections were not adapted to the Manitoba growing conditions, many lines would be useful in our breeding programs. Desirable traits were observed and they included disease resistance to anthracnose races 73 and 105, good seed quality and characteristics, and good germination under low temperature conditions. These lines will be subjected to more tests for various diseases and protein content. Performance of the collections over the three years will be compared and analyzed, and selections will be made and used in crosses.

Acknowledgement – *The technical assistance for this research was provided by G. Dyck, L. Dyck, D. Young, W.C. Penner, and D.B. Stoesz. We greatly appreciate the financial support provided by MPGA, ARDI and the AAFC Pulse Science Cluster.*

Elroy R. Cober
Agriculture and Agri-Food Canada
Eastern Cereal and Oilseed
Research Centre, Ottawa

The Agriculture and Agri-Food Canada (AAFC) soybean breeding program at Ottawa develops early maturing soybean varieties for short-season areas of Canada. We focus on specialty soybeans and on moving resistance to stresses into early maturing germplasm. Funding provided by MPGA through the Canadian Field Crop Research Alliance DIAP allows enhanced testing of germplasm and experimental lines in Manitoba.

In 2011 we grew trials at Morden and Portage. The early maturing material in the Ottawa AAFC program is well adapted to Manitoba and so our research focuses on early maturity in conventional material and on specialty soybean cultivar development. We also work to move genetic resistance to soybean aphid and diseases into our short-season material. This material provides potential cultivars for Manitoba growers and parents for other breeders developing soybeans for Manitoba.

In the screening trials this year, there was a concentration on early high-yielding conventional lines. These lines are generally yellow hilum to allow growers to participate in conventional oilseed markets or in the generic tofu market, so called dual purpose types. The specialty types being tested this year in these trials include high protein, tofu and high sucrose lines. High sucrose is useful for the soymilk market where the extra sucrose produces a slightly sweeter soymilk. High sucrose lines can also be used for the production of kinako in Japan. Kinako is roasted whole soybean flour, which is used primarily for making desserts. The extra sucrose helps to caramelize the flour and provide a nutty sweet flavour. The market and characteristics required for kinako was shared by Japanese buyers during a recent Japan-Canada industry meeting hosted by the Canadian Soybean Council and the Canadian International Grains Institute.

In the most advanced trials, grown at both Morden and Portage, we have promising yellow hilum lines targeted to the non-GMO market similar to OAC Prudence. Many of the lines in these trials were developed from crosses for cold tolerance. In a summary of cold tolerant vs. cold sensitive lines, we found that cold tolerant lines yielded about 8% more than cold sensitive lines even though we did not observe the small male-sterile pods typical of severe cold damage on the cold sensitive lines. Under severe cold stress, we would expect to see an even larger yield advantage. One line developed from crosses with parents with tolerance to iron deficiency chlorosis is in the second year of advanced testing.

Early maturing natto lines are also being tested in separate trials at Morden and Portage. Since these are small seeded lines, it is easier to manage the trial especially for harvesting if they are in separate trials. The natto lines are at both the screening and advanced levels. One natto line adapted to Manitoba was pre-released this year to allow for industry testing of the line before an AAFC call for marketing proposals goes out, which is the procedure used by AAFC to release new varieties.

I want to recognize the many years that Al Sloan managed the soybean trials at Morden, thank him for his excellent work, and wish him well in retirement.

PLEASE NOTE
***More research reports will be published in the next issue of* Pulse Beat.**

DATES TO REMEMBER

MB Special Crops Symposium
February 8–9, 2012
See page 6 for details

MB Special Crops Production Day
March 1, 2012
See page 27 for details

Brent VanKoughnet M.Sc. P.Ag.
Agri Skills Inc.

Brent VanKoughnet of Agri Skills Inc. was contracted to explore the effect of row spacing and harvest methods on navy bean production in a full field scale environment. Combinations included: 30-inch rows harvested by flex header; 30-inch rows harvested by undercutting and windrowing; 15-inch rows harvested by flex header; 15-inch rows harvested by swathing

The field scale trial was located just south and east of Carman, Manitoba. Certified Envoy navy beans were planted on June 5th with a John Deere max-emerge vacuum planter into good soil conditions at 120,000 seeds per acre.

Each harvested treatment was either 40 ft (flex and undercut) or 48 ft (swather) wide by 700 to 2,000 ft long and replicated six times.

Refer to Table 1 for summary of average yields for each treatment in lbs per acre.

The flex header was a Case IH 1020, the swather was a MacDon with a 972 header, and undercutting was windrowed with a Pickett windrower. The combine was a Case IH 1660 with an AFX rotor. Thanks to Edwin Pritchard and Tim Koster for their skill and professionalism in custom swathing and undercutting/windrowing respectively.

KEY GROWING SEASON OBSERVATIONS

In spite of very moist early spring conditions, crop emergence and crop health was considered good. Weed control measures of Edge, Basagran/Reflex and Centurion were adequate and did not significantly influence final yields. Allegro fungicide was applied on June 22nd in anticipation of a rain that did not come. At the time of application the 15" rows had completely filled in about a week earlier and the 30" rows filled in over the next few days (about 8–10 days apart). The unusually dry conditions led to a virtually disease-free crop at harvest. Post-harvest stubble photos appear below.

Table 2 provides estimates of the number of beans found on the ground (individually and/or within pods) in a representative area of the field.

Table 1. Summary of average yields for harvested treatments in lbs per acre.

Replicate	15" flex	30" flex	15" swath	30" under-cut
1	2,041	1,983	2,333	2,139
2	2,102	1,944	2,439	2,097
3	2,183	2,204	2,333	2,367
4	2,123	2,122	2,216	2,343
5	2,254	2,138	2,450	2,320
6	2,645	2,370	2,774	2,546
Average	**2,225**	**2,127**	**2,424**	**2,302**

Table 2. Estimate of number of beans found on ground (individual/and or within pods) in a representative area of the field.

Harvest Method	Seeds per square metre	Estimated lbs per acre
30" undercut	30	50
30" flex header	120	190
15" flex header	120	190
15" swathed	70	110

CONCLUSIONS

There seemed to be a modest but relatively consistent (100 lbs/acre) advantage to the 15" row spacing over the 30" row spacing in the direct comparison of the flex header harvesting of each. Given that plant height and seed counts on the ground were virtually identical between the 15" and 30" flex header treatments, it is assumed that the difference in yield is primarily due to the effect of row spacing. It should be noted that this was an unusually dry summer and fall with unusually low levels of disease pressure. The potential for disease pressure in 15" rows may have a more significant effect in a more normal growing season. Row closure was 8–10 days earlier for the 15" row spacing.

Using the flex header results as a baseline, it was clear that both swathing on the 15" row spacing and undercutting on the 30" row spacing provided a significant yield advantage over the flex header of roughly 200 lbs per acre and 170 lbs per acre respectively. It is fair

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POST-HARVEST STUBBLE

Dennis Lange
Business Development Specialist – Pulses, Manitoba Agriculture, Food and Rural Initiatives, Crops Knowledge Centre

Soybeans, soybeans, soybeans – that was the subject of conversation in coffee shops last winter. The benefits being discussed at that time were things such as the plants ability to go through wet periods, the lower input costs, the reduced workload, especially when compared to edible beans and the strong market prices at the time. The acre projections last winter for soybeans were upwards of 700,000 acres, but the spring conditions would tell the final tale on how many acres would get planted. Let's have a look at the soybean growing season and what we learned.

In spring 2011, farmers were itching to get planting. Mother Nature, however, had other ideas about how the spring would proceed. Wet and flooded conditions around the province had farmers rethinking their cropping plans and when it was all said and done Manitoba producers planted 587,000 acres of soybeans, which was up from the previous year's total of 528,000.

One of the first issues that arose this spring was related to timing of rolling soybeans. Traditionally, rolling soybeans takes place right after seeding. This ensures there will be no damage to the beans. Growers should still be aware that if soil conditions are too wet, they may need to wait a day or two to avoid compaction. What happens if it rains and one or two days turn into one or two weeks before you can roll? Can you or should you still roll? The answer is yes, but then staging is important. If you can't get your beans rolled after seeding then the best time to roll them is between the first and second trifoliate. This avoids any beans that might be in the hook stage when the beans are the most sensitive to damage. It should also be noted, that if you choose to roll after emergence, you should roll during the warmer part of the day when the beans are more pliable. Growers should also inspect the rolled beans upon completion of one complete pass down the field to look for possible stem breakage. It is not recommended to roll once the beans are past the third trifoliate stage due to increased damage to the plant.

In years with cool wet springs, soybean producers in Manitoba have noticed their soybeans turning yellow for periods of time during the growing season. Typical symptoms range from leaves turning yellow to interveinal chlorosis and in severe cases yellow, short, stunted plants with dead necrotic tissue. This condition is known as iron deficiency chlorosis (IDC) and is the plants inability to uptake iron due to high soil pH, high carbonate levels and high salt levels.

What can one do about iron chlorosis if you find you have it? The best thing you can do for the field is to stay away from it and let the plants grow out of it. Typically symptoms show up when the plants have gone through a

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period of cool wet weather early in the season. Once the warm weather hits, most soybean varieties tend to grow out of this condition. When you are making variety selections for next spring you should refer to the MPGA trial results for iron chlorosis ratings. This will help you make a decision on which varieties to plant on fields that have problems with iron chlorosis.

Phytophthora root rot was more predominate this year than what we have seen in previous years. It was seen in fields that had soybeans many times in the last few years. Seed treatments will help with reducing severity of this disease however rotation with non-host crops will play a bigger role in the prevention of this disease. A three- to four-year rotation is preferred. The disease may cause plant stand losses throughout the growing season. The severity of losses depend on cultivar susceptibility, rainfall, soil type, tillage, and compaction. Phytophthora is most severe in poorly drained clay soils that are readily flooded. If the plant is infected at the seedling stage it will cause seed rot and damping off. In older plants, the infection causes interveinal yellowing of leaves, eventual wilting and death.

Soybean aphids were a concern for some producers this year. The biggest concern came from seeing your neighbours spraying and wondering if you should be. You should always scout your fields before spraying in order to determine if the population of aphids are high enough to cause economic injury. The population should be at 250 aphids per plant and increasing. The actual economic loss is closer to 670 aphids per plant. Here is an example: if on your visits to the field you come up with 150, 200, 250, and 300 aphids, then spraying for aphids with a registered product would be warranted. If, however, you find 100, 150, 150, 150 aphids per plant you may want to wait since the beneficial insects are probably doing their job and keeping the aphid population down. Once the beans are in the R5-R6 stage then they are out of the woods from aphid pressure. So don't spray too early since not only can the population of aphids rebound, but you will also eliminate beneficial insects.

Yields in areas that did not receive much rain in late July and early August were in the 15–25 bushels range. Areas that received those timely rains saw the yields improve to 25–40 bushels. The moral of the story is no rain no gain, in yield that is. The fall harvest also saw a frost on September 14–15. This caused some grief for some producers who planted late. Green seed issues did show up in some samples of some long long-season varieties and late late-planted varieties. Beans that were slightly green should change in the bin over time.

In conclusion, soybeans in Manitoba are here to stay. 2012 could see acres increase again with a potential of 700,000 acres. Seed supplies, contract prices and spring conditions will all play a role in the final acres for next year. Only time will tell were the acres will end up in 2012.

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to say that harvest conditions for all methods were almost ideal. The ground was dry and firm and the plants were healthy, relatively tall and upright. Given different spring conditions the field could have been rolled and that may have further reduced some of the harvest losses (particularly with the flex header).

There were no significant differences in moisture, splits, cracks or dockage between any of the treatments.

Some immature un-threshed pods were noticed with all harvest methods. To minimize the potential of this effect biasing yield results, the delay between undercutting and harvesting was limited to less than three hours and the delay between swathing and harvesting was less than 1.5 hours as compared to using a flex header, a direct harvest method. It is possible that a longer delay might have further reduced harvest losses. However, with 45-cent beans and over 2,000 lbs/acre who in their right mind is going to wait.

Linda Malcolmson, Peter Frohlich, and Gina Boux
Canadian International Grains Institute

The Canadian International Grains Institute (Cigi) is undertaking a five-year project to enhance world markets for Canadian pulses. This project is a continuation of a four-year project funded by MPGA and Saskatchewan Pulse Growers (SPG) that ended in 2010. The current project builds on the knowledge gained in the previous project with a focus on furthering Canada's knowledge about the quality characteristics and processing properties of our pulses as well as supporting the breeding efforts and value-added initiatives of the domestic pulse industry. The five-year project ends in 2015 and is co-funded by MPGA and SPG.

EXPECTED BENEFIT OF THE PROJECT

Results of this project provide technical information that can be used to support not only value-added initiatives and breeding efforts but also the promotion of Canadian pulses in domestic and international markets. By undertaking market responsive applied research, it is possible to diversify markets and promote Canadian pulses on the basis of their intrinsic quality characteristics.

A gluten-free extruded snack produced by Cigi using 100% yellow pea flour.

SUMMARY OF PROJECTS UNDERTAKEN IN YEAR ONE

- Milling of pulse flours for use in selected food applications including meat, bakery products and salad dressings.
- Determining the relationship between water hydration capacity, hydration rate and cooking time of split yellow and green peas. This study was initiated at the request of a breeder.
- Examination of the effect of pea hull fibre addition on the extrusion properties of split yellow pea flour.
- Technical support for a study to determine the protein quality of cooked Canadian pulses.
- Participation in an international study to establish an instrumental method for measuring the texture of cooked pulses.
- Initiation of studies on the dehulling and splitting properties of degraded red lentils, investigation of the role of minor components on the sensory characteristics of cooked pulses, and the fractionation of pulse flours.

CIGI PROMOTIONAL AND COMMUNICATION ACTIVITIES

- Cigi gave a poster presentation on "Cooking and Canning Quality of Select Dry Bean Genotypes Grown in Manitoba" at the Canadian Pulse

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Dr. Sue Arntfield

Doctor Sue Arntfield was born in Truro, Nova Scotia. While still in elementary school, she and her family moved to Quebec where she finished out her primary education. She attended the McGill University to first receive her Bachelor of Science in Food Sciences, and then proceeded to complete her Masters in Food Sciences in 1977. Upon moving to Winnipeg with her husband in 1978, Dr. Arntfield began working at the University of Manitoba as a research assistant in the Food Science Department. She obtained her doctorate in Food Science with a project focused on the mechanism of gelation in faba bean protein. Dr. Arntfield became a faculty member in 1990 and has been teaching and doing research with the university ever since.

Dr. Arntfield was a member of the MPGA board for 15 years, serving as an appointed director from the University of Manitoba. "It was great to be part of the board," says Arntfield. "Producers have a wealth of knowledge of the industry and I wanted to learn from them. As producers tend to focus more on the agronomics and disease aspect of their crops, it is always great for me to hear a different perspective. Some of my ideas or thoughts may have seemed farfetched to the producer directors, but they always treated me with respect and listened to what I had to say." Arntfield also added that she was able to contribute to the board on what was happening in the food processing and production development side of the pulse industry

One of the benefits Dr. Arntfield received from being on the MPGA board, was being able to hear first-hand what producers where looking for from researchers. "In more recent years, MPGA has done a good job at creating their Call for Research Proposals, which clearly outlines what research they are looking for," states Arntfield. "It makes the application process easier for all researchers as we always want to do our applied research for a specific reason."

Although Arntfield has been published in many scientific articles over the years, she is most proud of the fact that since the early '90s she has been able to maintain a research program with aspects of both fundamental and applied research. "Both fundamental and applied research is needed," notes Arntfield. "While my fundamental research is focused on the process of gel formation with plant proteins, applied research areas include processing, such as the use of infrared heat to make pulses more accessible and easier to cook, as well as the incorporation of pulses into traditional and novel food products."

Focusing on research and more specifically pulse food product research is a great opportunity and MPGA's levy dollars used for this purpose will benefit producers. "The trend in North America is not to eat pulses, at least not at the level seen elsewhere in the world, but with high instances of diabetes and obesity added to the trend of healthier eating, pulses are a great fit," says Arntfield. "With MPGA funding applied research projects on how to incorporate pulses into products (i.e. flat breads) or adding pre-cooked pulses into packaged meals, we can increase the consumption of pulses." Arntfield adds that with the ethnic population growing in Canada, alternative uses of pulses are becoming more common.

Arntfield believes there is value in the processing side of pulse research and final end-product marketing and would like to see funding in that area continue. However, there also needs to be a balance between primary production research and secondary processing research. "I have noticed in the past few years, dollars have been diverted from primary production funding," indicates Arntfield. "Helping producers grow a good, healthy crop is still important."

In closing Arntfield notes that pulses have been around for many years and will continue to be around for many more. "With the continued emphasis and increased dollars going into pulse research, we will continue to see success in these crops," adds Arntfield. "With more people doing research, more gets accomplished." Dr. Arntfield has seen more commitment in dollars from Agriculture and Agri-food Canada with the assistance of Pulse Canada in larger projects looking at health benefits. She also believes that with the world population constantly increasing, pulses fit well into the scenario of ensuring there is enough high protein food available to eat. Dr. Arntfield believes that research provided on how to grow high quality pulses and then processed into food products will increase the appeal of pulses worldwide.

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Research Workshop in Calgary, November 2010.

- Cigi gave a poster presentation on "Enhancing World Markets for Canadian Pulses through Secondary Processing and Value-Added Research" at the Pulse Research and Development in Manitoba Workshop held in Winnipeg, November 2010.
- Cigi gave a poster presentation on "Value-Added Pulse Research at the Canadian International Grains Institute" at Pulse Days in Saskatoon, January 2011.
- Cigi gave a presentation on "Pulse Flour Milling and Baked Goods" at the Pulse Ingredient Expo in Toronto, February 2011. Cigi also had a tabletop display at the Expo to promote the use of pulse ingredients in foods.
- Cigi participated in the Pulse Canada/SPG exhibit at the Institute of Food Technologist Food Expo in New Orleans, June 2011.

If you would like to learn more about the work Cigi is doing on pulses contact Dr. Linda Malcolmson at 204-983-8584 or *lmalcolmson@cigi.ca*.

LEGUME ipmPIPE – AND HOW YOU BENEFIT FROM IT!

WHAT IS IT?

The Legume Integrated Pest Management Pest Information Platform for Extension and Education (ipmPIPE) provides near real-time access to field scouting observations, disease model output, pest management information, and diagnostic images. **In the near future** it will also provide growing degree day (GDD) modeling, pest management decision support, an interactive price discovery tool, as well as new smartphone applications that allow farmers to assist in the collection of real time field conditions!

LEGUME ipmPIPE TODAY

The Legume ipmPIPE consists of a network of more than 80 sentinel plots monitored throughout the legume growing season(s) in more than 20 states, provinces, and districts of Canada, the US, and Mexico. Funding was provided by the USDA Risk Management Agency and state legume check-off programs, agricultural experiment stations, and extension projects. The Legume ipmPIPE provides a dynamic system that combines pathogen and insect pest information into an (IT) platform to promote efficient and coordinated delivery of IPM resources and products to extension educators and stakeholders.

ENHANCED DECISION SUPPORT *www.legume.coop*

Ultimately, the legume ipmPIPE must produce demonstrable financial benefit to its users. This will be done through online Price, Pest, and Disease decision support that can result in increased crop and economic security. To this end *www.legume.coop* will emphasize price discovery and marketing in addition to pest and disease management.

Additional (smartphone) technology will allow stakeholders to collect in-field data on the emergence, instance and severity of diseases and pests. This information, to be collected by participants throughout Canada, the US, and Mexico can be instantly uploaded to an online map resulting in increased relevant data while significantly reducing the cost of maintaining the ipmPIPE.

HOW YOU WILL BENEFIT

The ipmPIPE project is creating an innovative "Information Cooperative." What this means is simply that you benefit the most if you contribute! Participation in any way will give you free access to a variety of tools supported by the USDA, and developed in a collaborative effort with various universities and IT specialists. Here you will be able to contribute to and benefit from all that the ipmPIPE will offer.

i. Pest and disease management mapping, and early warning systems
ii. Growing Degree Day yield models
iii. Price discovery
iv. Direct access to international markets

CONTACT

To benefit from the ipmPIPE, fill in your contact details at:
www.legume.coop/contact
or email: *ipmPIPE@legume.coop*

Brian Clancey
Senior Market Analyst and Publisher

Once again, governments have become one of the biggest factors in pulse and specialty crop markets. In Canada, legislation was tabled to give western Canadian farmers the ability to opt out of selling wheat, durum and malting barley through the Canadian Wheat Board.

By giving farmers more control over the timing and price at which they sell those commodities, Canada's federal government has irrevocably changed the competitive landscape with respect to what crops farmers will plant in 2012 and beyond. There is a sense the downtrend in wheat and barley acreage will reverse itself as farmers gain control over marketing those crops.

Meanwhile, The European Commission is looking at the idea of banning rating agencies from publishing their assessments of EU countries facing financial difficulty. By doing so, objective analysis would give way to rumours and pure speculation about the true state of the economies in Greece and other financially troubled European nations. Worse, such a suggestion implies the financial troubles are deeper than anyone realizes.

One of the more obvious signs of the ongoing financial crisis in the Euro-zone and continued weakness in the global economy has been significant depreciation of several currencies relative to the U.S. dollar.

Turkey's currency fell 8.6% between June and October, contributing, some believe, to the recent bankruptcy of one of the country's pulse trading companies. There are reports the company owed its bankers U.S. $5 million and its suppliers $4.1 million.

Devaluation is thought to have become a negative factor in other countries, with some of recent defaults tied to the notion business that was profitable three months ago has become unprofitable because the currency of the importing country has wiped out prospective profits.

Another outcome is that several buyers around the world have been sitting on their hands, waiting for currency markets to stabilize. But, for that, governments would need to bring their spending under control and markets need to work from an objective analysis of the financial health of countries.

This created underlying bearish tension in many pulse and specialty crop markets in October. However, the fact that farmers in many exporting countries have received good returns from the sale of other field crops is lessening grower selling pressure. This is evident in the fact that even as exporters report rising competition from other origins and easing price expectations among buyers, grower bids in some of the major export origins are having trouble backing off.

Part of the problem is cross commodity competition. As much as agricultural commodities may compete with one another for demand, they always compete with one another for production resources. This makes the coming changes to the way Canadian farmers will market their wheat, durum and barley important to the pulse and other specialty crop sectors.

Until now, Canada's specialty crop markets have tended to view cereal grains more as part of crop rotations on farmers than as a direct competitor for land use. This reflects the simple fact that cereal grain acreage has been trending lower in western Canada for the past quarter-century.

Twenty-five years ago, land in wheat and durum averaged 34 million acres, compared to an average 7.3 million acres of canola and just 974,000 acres of pulses. Land in wheat now averages 23.3 million acres per year, compared to an average of 15.7 million acres of canola and 6.3 million acres of pulses. At the same time, the amount of land being cropped has risen by an average of 5.0 million acres per year, largely because of the move to zero tillage and continuous cropping.

There are not many examples of what happens when the monopoly powers of a marketing board are removed. Judging from Australia's experience, it appears that giving farmers a choice in how they market wheat could result in an increase in production.

Wheat area in Australia averaged 26.1 million acres between 1995 and 1999. That rose to 30.3 million acres between 2000 and 2004 and to 32.3 million acres between 2005 and 2009, for a 24% increase over a decade in which farmers obtained more marketing freedom.

Over the same period of time, land in pulses in Australia dropped from an average 5.0 million acres per year the last half of the 1990s to 4.19 million acres between 2005 and 2009. Most of the decline was in lupins and field peas, while land in chickpeas, lentil and faba beans increased.

This reflects the relative value of two groups of pulses, with lupins and peas occupying the economy section of the market, both in terms of income potential to growers and cost to consumers. Average area in lupins dropped by half from 3.09 million to 1.52 million acres; while average annual pea area was down almost 10% over the decade at roughly 750,000 acres.

If giving western Canadian farmers a choice in how they market wheat, durum and export barley has the identical impact in Canada; land in wheat could rise from an average 23.37 million acres today to 28.98 million acres within the decade; while land in peas could drop from an average 3.52 million acres today to 3.16 million in a decade.

Judging from the Australian experience with higher valued pulses, land in lentils would be expected to rise, perhaps from the current average of 2.33 million acres annually to between 2.57 and 3.38 million in a decade.

Clearly, while total land in pulses in Canada still has the potential to increase, more farmers would be expected to make their choices based on income potential, with cereal grains becoming a more viable competitor for land use than is now the case.

MANITOBA PULSE BUYER LIST – NOVEMBER 2011

B–Beans, F–Faba Beans, L–Lentils, P–Peas, S–Soybeans

Company	Commodity	Phone	City/Town	CGC Registered
Agassiz Feeds	P	204-638-5840	Dauphin, MB	N
Agassiz Global Trading	B, S	204-745-6655	Homewood, MB	N
AgriTel Grain Ltd.	P, S	204-268-1415	Beausejour, MB	N
Alliance Pulse Processors Inc.	B, P, L, S	306-525-4490	Regina, SK	Y
• SaskCan Pulse Trading – Parent Division	B, P, L, S	204-737-2625	St. Joseph, MB	Y
All Commodities	P, L	204-339-8001	Winnipeg, MB	Y
B.B.F. Enterprises Ltd.	S	204-737-2245	Lettellier, MB	N
B.P. & Sons Grain and Storage Inc.	S	204-822-4815	Morden, MB	N
Belle Pulses Ltd.	P	306-423-5202	Bellevue, SK	Y
Best Cooking Pulses Inc.	P, L	204-857-4451	Portage la Prairie, MB	Y
Brett-Young Seeds	P, S	204-261-7932	Winnipeg, MB	N
CB Constantini	P	604-669-1212	Vancouver, BC	Y
Cargill Ltd.	P	204-947-6219	Winnipeg, MB	Y
Delmar Commodities	S, P	204-331-3696	Winkler, MB	Y
• Jordan Mills	S	204-331-3696	Winkler, MB	Y
Global Grain Canada	B	204-829-3641	Plum Coulee, MB	Y
Hensall District Co-op	B	204-295-3938	Winnipeg, MB	Y
Horizon Agro	S	204-746-2026	Morris, MB	Y
Hytek Ltd.	P	204-424-2300	La Broquerie, MB	N
JK Milling Canada Ltd.	P	306-586-6111	Regina, SK	Y
Kalshea Commodities Inc.	P	204-737-2400	Altona, MB	Y
Kelley Bean Co. Inc.	B	308-635-6438	Scottsbluff, NE	N
Linear Grain	B, S, P	204-745-6747	Carman, MB	Y
Natural Proteins	S	204-355-5040	Blumenort, MB	N
Nutri-Pea Ltd.	P	204-239-5995	Portage la Prairie, MB	N
Nu-Vision Commodities	B	204-758-3401	St. Jean Baptiste, MB	N
Parrish & Heimbecker Ltd.	P	204-987-4320	Winnipeg, MB	Y
Paterson Grain	P, S	204-956-2090	Winnipeg, MB	Y
Quarry Grain Commodities	S	204-467-8877	Stonewall, MB	N
R-Way Ag Ltd.	P, S	204-379-2582	St. Claude, MB	N
Richardson International	P	204-934-5627	Winnipeg, MB	Y
• Richardson Pioneer Ltd.	P, S	204-934-5627	Winnipeg, MB	Y
• Tri Lake Agri	P	204-523-5380	Killarney, MB	Y
Roy Legumex	B, F, L, P, S	204-758-3597	St. Jean Baptiste, MB	Y
• Fisher Seeds Ltd.	F	204-622-8800	Dauphin, MB	Y
• Duncan Seeds	B	204-822-6629	Morden, MB	Y
S.S. Johnson Seeds	P, B	204-376-5228	Arborg, MB	Y
Seed-Ex Inc.	S	204-737-2000	Letellier, MB	Y
Southland Pulse	P	306-634-8008	Estevan, SK	Y
Sunrich LLC	S	507-446-5642	Hope, MN	N
Thompsons Limited	B, P, L	519-676-5411	Blenheim, ON	Y
• Keystone Grain	S	204-325-9555	Winkler, MB	Y
• Circle T Agri Services	B	204-723-2164	Treherne, MB	Y
• Y2K Farms	B	204-252-2132	Edwin, MB	Y
Vanderveen Commodity Services	S	204-745-6444	Carman, MB	Y
Viterra	P, S	204-954-1528	Winnipeg, MB	Y
Viterra Special Crops	B, F, L, P	204-745-6711	Carman, MB	Y
• Receiving Station	B	204-856-6373	Portage la Prairie, MB	Y
• Plum Coulee	B	204-829-2364	Plum Coulee, MB	Y
• Prairie Mountain Agri Ltd.	P	204-937-6370	Roblin, MB	Y
Walhalla Bean Co. (Canada Ltd.)	B	701-549-3721	Walhalla, ND	Y
• Winkler Receiving	B	204-325-0767	Winkler, MB	Y
Walker Seeds Ltd.	P	306-873-3777	Tisdale, SK	Y

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

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

RECIPE CORNER

Lentil and Soybean Salad

with Lemon Parsley Vinaigrette

Salad ingredients and preparation *Serves 10*

1½ cups lentils, cooked
¾ cup soybeans, cooked
2 each – lemon, zest
½ cup red onions, minced
½ tbsp garlic, minced
1 cup red pepper, small dice
1 cup green peppers, small dice
1 cup celery, small dice
¼ cup chives, finely chopped
Lemon parsley vinaigrette

Cook lentils and soybeans according to package.

In a stainless steel bowl, mix all ingredients together and allow marinating for 4 hours. Season to taste.

Dressing ingredients and preparation

2 tbsp lemon juice
1 tbsp rice wine vinegar
1 tsp Dijon mustard, grainy
1 tsp garlic, minced
1½ tsp shallots, minced
Salt, to taste
Black pepper, to taste
¼ tsp fennel seed, crushed
¼ tsp red pepper flakes
⅓ cup canola oil
2 tbsp Italian parsley, chopped
1 tbsp soy sauce
1 tbsp oregano, chopped

In a stainless steel bowl, mix all ingredients except the canola oil together with a whisk. Slowly add the oil into the mixture to form an emulsification. Reserve in the fridge until needed.

Recipe courtesy of Culinary Team Manitoba

- Cooked lentils should have a creamy centre when cooked properly. When you add an acid to the lentils (such as a vinegar or lemon juice), it will toughen them.
- The ratio for cooking lentils is 1½ cups liquid per 1 cup lentils. Adding too much liquid will result in a soggy dish.
- You may use any kind of broth/stock you want – vegetable, chicken, or beef stock.
- Instead of using San Pellegrino, you can substitute it for 1 litre of water + 5 ml of kosher salt.
- Although it is not necessary to soak lentils overnight, it reduces cooking time by 25%.
- When cooking lentils do not allow the water to boil as it will split the lentils and create an unappealing salad.

Gluten-Free Chocolate Cake

1 cup brown rice flour blend*
¾ cup sugar
⅓ cup cocoa
½ tsp EACH baking soda, xanthan gum
¼ tsp table salt
½ cup black bean purée, at room temperature
1 large egg, room temperature
½ cup hot water (120°F/50°C)
¼ cup canola oil
1½ tsp EACH apple cider vinegar, vanilla extract
Powdered sugar for dusting

1. Place rack in the middle of the oven. Preheat the oven to 350°F (180°C). Generously grease an 8-inch round nonstick metal pan. Line with parchment paper.
2. In a medium mixing bowl, whisk together the flour blend, sugar, cocoa, baking soda, xanthan gum and salt. Add the black bean purée and egg and beat with an electric mixer on low speed until blended. Add the hot water, oil, vinegar and vanilla and beat until thoroughly blended. Spread the batter evenly in the pan.
3. Bake 25–30 minutes or until a toothpick inserted into the centre of the cake comes out clean. Cool in the pan for 10 minutes on a wire rack. Remove cake from pan with a thin metal spatula, discard parchment paper and cool completely on the wire rack. Dust the top with powdered sugar, prior to serving.

*Brown Rice Flour Blend

1½ cups (375 ml) brown rice flour
1½ cups (375 ml) potato starch
1 cup (250 ml) tapioca flour – *also called tapioca starch*

Blend thoroughly. Store, tightly closed, in dark, dry place.

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