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Winter • No. 59, 2009/10

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Manitoba Pulse Growers Association

Winter • No. 59, 2009/10

Many thanks are given to all the authors who took time to contribute to this issue. The **Manitoba Pulse Growers Association Inc.** appreciates the time and effort that is expended to help with this publication.

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**Business Manager** – Sandy Robinson Email – *bmmpga@manitobapulse.ca* 

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**Todd Stewart** *President* 

A sagriculture in Canada changes, so must the policies and activities of our grower organizations. Every day, issues that affect Manitoba's farm businesses are examined by these groups, and new plans are developed to help growers adapt to their circumstances. Twenty-five years ago, pulse producers in this province decided to initiate the process of incorporation, in order to face the challenges of their expanding industry. In this issue of the *Pulse Beat*, we'll look back at the builders of this Association. We will also see how their

### **PRESIDENT'S REPORT**

foresight led to the research currently underway; from agronomic advancement to demand-driven ingredient processing. Going forward, I think pulse producers will continue to reap the rewards of their investments.

When I got involved with the MPGA as an elected director in 2004, I was only somewhat familiar with the types of activities that the board of directors was engaged in. I quickly learned that the executive director's responsibilities were far-reaching, and that the board represented the growers' perspectives on dozens of issues. I was impressed with the abilities of those seasoned bean and pea growers to assess situations and make smart decisions. I was also excited to be among a group of energetic farmers who wanted to take on the risk inherent in expanding the Manitoba soybean industry. As the seasons went by, our determination was tested by a wide array of obstacles, including early frost, excess moisture, disease pressures, market upheavals, government funding cuts, CAIS implications, the

loss of pest-management tools, and export interference. Amendments to our methods had to be made to accommodate these challenges, but our goal of improving the pulse business for the future of this province never changed. I'd like to think I learned a lot from these experiences. As I reach the end of my term as president of the association, I'd like to thank the directors I've had the opportunity to serve with, and to learn from. I encourage any member of the association who would like to learn about the organization to speak to any current or past director about their time on the board.

This organization, like any other, will always encounter impediments to success. Navigating the road ahead will be challenging for new and experienced pulse growers alike. Twenty-five years ago, our first board worked hard to establish a foundation for this industry and the families it feeds. We'd like to take the time to acknowledge their efforts.

Good luck this season. 🂐

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**Roxanne Roels** *Executive Director* 

inter in the agriculture industry has become a very busy season. November through to March is quickly filled up with meetings, conferences, and tradeshows. Winter months provide an excellent opportunity for growers to meet with accountants, financial advisors, chemical company reps, local ag retailers, and marketing experts. Based on successes and failures of the previous year and "coffee shop talk" with neighbours, farmers are determining their crop rotations, chemical rotations and marketing strategies.

MPGA's office is no exception. Most of November and December was spent working with our sister provincial organizations, Pulse Canada and the Grain Farmers of Ontario finalizing the Science Clusters, and determining our funding commitments to the projects within the clusters. MPGA was involved in two separate clusters: the Pulse cluster, which included research projects on edible beans, peas, fababeans, chickpeas and lentils, and the Eastern Field Crops cluster, which included research on soybeans. This was an exhausting process, but it will reap rewards for our association and our members as it enables us to obtain matching funding from the government. In fact, the government could be matching up to \$3 to every \$1 of ours. We will find out if the clusters have been approved shortly. In addition to funding some projects in the science clusters, a call for research proposals went out. Submitted projects are being reviewed and will be featured in the next issue of the Pulse Beat.

### **MPGA OFFICE UPDATE**

The month of January was incredibly busy with tradeshows. MPGA shared a booth with MCGA and NSAC at Ag Days in Brandon, and we were a stop in the Ag in the Classroom's Amazing Race. The new pulse recipe book was a major attraction. Several people shared with me how their doctor has told them to incorporate more pulses into their diets. MPGA also had representation at Sask Pulse Days in Saskatoon, which is held in conjunction with their Crop Production Show, and FarmTech in Edmonton. These tradeshows provide staff and directors an excellent opportunity to network within the pulse industry and with other industries as well. Networking is extremely important and valuable in the ag industry, as it's an industry where business relies heavily on relationships. According to the Strategic Business Network, networking is the single most powerful marketing tactic to accelerate and sustain success for any individual or organization. Several connections were made amongst MPGA staff and directors with staff and directors from other provincial pulse groups, researchers, producers, government, industry and more. These connections will ultimately prove to be very valuable to us and our membership. Many farmers find lots of value in learning from other growers and their experiences, and at MPGA, we feel the same.

January and February found us consumed with setting our 2010 budget and determining research funding commitments for the coming season. New research proposals are submitted to us every year, and we carefully review each of them before making our decision. We often discuss projects with other provincial groups and various other contacts to evaluate their credibility and the value they will bring to Manitoba pulse producers.

The 4th annual Manitoba Special Crops Symposium took place on February 10th and 11th at the Convention Centre in Winnipeg. MPGA, MCGA, NSAC and MAFRI put together a great agenda and we hope growers found it educational and valuable. With the help of our sponsors and exhibitors, special crop producers are offered another forum to network, and gain knowledge and advice to apply to their farming operation.

MPGA will be meeting with Manitoba Agricultural Services Corporation (i.e. crop insurance) in February, as well as with the new Ag Minister Stan Struthers in March. I will be sure to report on these meetings in the next issue of the *Pulse Beat*.

I hope you enjoy the insert found in this issue commemorating 25 years as an association. I've only been here for six months, so this was a difficult and challenging task. With lots of help, I was able to capture most of the important, exciting and monumental accomplishments MPGA has seen over the years. A big "thank you" to Dennis Lange, Frank Labelle, Jack Froese, Linda MacNair, Bob McCallister, Don Sissons, Eva Sissons, and Shannon Beddome-Lorenz for all of their assistance in this endeavour. Together, we were able to put together photos, tidbits and history of a fascinating journey. Here's to hoping we see continued strides and successes in the next 25 years! Cheers! 🍣



### **BEAN COMMITTEE REPORT**

### Nathan Friesen Chairperson

www.ith another winter racing by and spring rapidly approaching we anticipate the growing season ahead. Harvesting into November, planning for the upcoming crop year, marketing our previous crop, attending various meetings and tradeshows, and possibly taking some holiday time, makes winter seem very short.

For MPGA the winter has been busy as well. It seems we are always preparing for the coming year. December was busy with discussing and deciding how many research dollars we would be putting toward the government's Growing Forward Science Cluster program. The Science Cluster is a means for us to obtain additional funding from the government – up to three times the amount we put forth! One time consuming aspect of the cluster is that the program requires all organizations involved with similar crops to have a united front on the priority areas of research for those crops. In other words, the science cluster has required intense collaboration between MPGA, Alberta Pulse Growers, Saskatchewan Pulse Growers, Ontario Bean Growers and Pulse Canada. The edible bean committee prioritized research objectives to include agronomic issues such as control and resistance of white mould, root rot, and anthracnose, as well as variety development. Most of the projects were submitted by AAFC researchers. This is important because

we want to maintain and support our local researchers. It is also our priority to make sure the research being conducted is being done in local areas where the crops are produced. We will not receive confirmation from the government on the science cluster funding until early spring, but we are very optimistic. This type of project takes a lot of time and effort, but is extremely important as it ensures that research is not being duplicated in different areas. It also allows our researchers to collaborate at a national level, which results in better, more timely research results that we can share with our membership. Another area MPGA supports is value-added. Valueadded research includes projects like how to increase pulse consumption in Canada and how to integrate pulses into daily food ingredients and uses.

As many of you know, pulses are an extremely healthy choice for any diet. The Heart and Stroke Foundation gave pulses the health check symbol a couple of years ago. This is a huge promotion for pulses, especially beans. The goal is to get every person to eat one cup of beans per week. Pulse Canada has been vital in getting literature and research out to the public to help promote the many health benefits of pulses. MPGA is funding some smaller projects to help find ways to integrate beans and bean flours into everyday foods.

Coming off of a fall that resembled a roller-coaster ride, we now have a chance to sit back and evaluate what the result of that difficult harvest was. With many beans coming off in early November there were a few quality issues. Moisture, frost, splits, and dirt were among the worst of them. Many beans hit the market off the combine or shortly after once they were dry. The market and buyers really backed off and slowed down going into December because of strong selling earlier on. The markets stayed very quiet throughout December and January with some buyers not even posting a price. When writing this article (early February), it seems the market is slowly coming out of hibernation. With the recent downturn in all commodity sectors, beans have not gained much momentum. I am still optimistic for bean prices, but time will tell.

New crop prices were available around Ag Days with contract prices slightly lower than we had seen at harvest. I think bean acres will be maintained because they still pencil out very competitively against the other crops. When you consider growing beans in 2010 be sure to think about the agronomics of having beans in your rotation to ensure you achieve optimum production. Using certified seed is a great way to ensure you are doing the best you can to help defend against disease pressures.

With another year behind us and the beginning of a new one, I wish all of you the best for a safe and bountiful production year.

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### SOYBEAN COMMITTEE REPORT

### Andrew Saramaga Chairperson

hanges. Changes are a part of life. Some changes evolve slowly, and some take no time at all, which leads me into my committee report.

If you have read my winter reports in the past, you would've seen a report on the OOPSCC (Ontario Oil and Protein Seed Crop Committee) meetings that occur in January every year. This committee meets to discuss and vote on submissions of new oilseed soybean varieties that are requesting registration after completing the registration trials. These trials grow the newly submitted varieties against current registered varieties to compare agronomic data. If a new variety exceeds current checks in these merit tests, it is given support for registration by OOPSCC to CFIA (Canadian Food Inspection Agency), whom is in charge of the registration of new soybean varieties in Canada. This process (Schedule III, Part 1) has been

in place for crush soybeans for many years.

Food grade soybeans on the other hand are not subject to Part I; they are placed in Part III of Schedule III, which simply places them on a fact sheet that lists their varietal attributes. This fact sheet is submitted to CFIA for approval. This process has been in place for varietal registration in the corn industry for many years and has worked well for them. This process is preferred by many food-grade seed suppliers because they already have end uses developed for these new varieties, and by not requiring merit testing for registration, it allows for faster introduction of human consumption soybeans into the marketplace.

When I joined the Pulse Growers Association four years ago, one of the first meetings I attended was with CFIA and other ag industry partners. The meeting was held to discuss changing the seed registration system. While many crop types did not want to



make any changes to their registration system, the soybean industry had been having discussions for a little while about moving oilseed soybeans into the same system as food grade soybeans. Consensus from the soybean industry was that a move to Part III for oilseed sovbeans would reduce the cost involved in registering new varieties, and significantly reduce the time required to get new varieties registered. More rapid varietal development in new shorterseason soybean growing regions, such as Manitoba and Quebec, and promoting the growth of US varieties in Canada, positively impacts our soybean industry.

That meeting and discussion took place four years ago, and at this past OOPSCC meeting in January, discussions indicate that the oilseed soybean variety registration system change may be implemented for the 2011 growing season. Agreements were developed by the provincial grower groups, universities, CFIA and other industry partners that are involved in getting this change in place. Hopefully, with a couple of strokes of a pen, the wishes of the soybean industry in Canada will come true.

Change is also coming to the MPGA. On February 10th, at our Annual General Meeting, we have a few directors stepping off the board. Dr. Sue Arntfield, Lincoln Wolfe and Nathan Friesen are hanging up their MPGA hats. I would like to thank them for their many years of contribution to the board. It has been great working with all of them. I have no doubt that we will be getting some terrific new people with fresh perspectives and focus joining this organization. It certainly is a great organization to be a part of.

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### Fred Greig Chairperson

his report will reach you after the Special Crops Symposium and before spring planting. The markets have gone stale and producers are waiting for some market signals to finalize cropping plans. If the market prices hold at present levels it appears there could be an increase in pea acres for 2010. The premium for greens over yellows should attract a few more acres in Manitoba, and depending on new contract levels, possibly more in Saskatchewan and Alberta as well.

The pea committee and the entire MPGA board spent a lot of time on the new approach to government research funding under the Science Cluster program. The pea committee still has research funds available, so a call for proposals has gone out. We'll be reviewing submitted projects and determining funding commitments shortly. Resistance to Mycosphaerella blight complex remains a priority for our research dollars. We are still funding fababean projects, but are cautious with selection as this market is slow to grow. There are lots of producers interested in planting fababeans, but the end-use demand is growing at a slower rate. We are hoping to establish sound agronomic practices and advice for producers, and we hope the market demands more acres for production.

MPGA also continues to work towards a Canada #2 grade guarantee and price for yellow peas under

MPGA

## Mission Statement

To provide its members with production and marketing support, through focused research, advocacy and linkages with industry partners. crop insurance. In addition, the full registration of Authority on peas also remains on our priority list.

Pulse Canada leads the work in areas of market access and increasing domestic consumption. This is a continual, on-going effort on their part.

Our board often discusses ways to increase attendance at our summer tours and annual meetings. A more westerly location has been considered, but we are always mindful of potential increased cost issues. MPGA is also dealing with requests for levy refunds from producers. It is not a large number of producers and it tends to be the same producers from year to year. Any advice you have in any of these areas is always appreciated.



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### Board Meeting - November 19, 2009

Science Cluster – R. Roels and M. Goodwin discussed what has been done so far with the science cluster and what still needs to be done. MPGA is involved in two clusters. Soybeans are included in the Eastern Field Crops cluster, and dry beans, peas, fababeans, lentils and chickpeas are part of the Pulse cluster. The science cluster is part of the Growing Forward program, which gives grower groups the opportunity to obtain matching federal funding on our research dollars. The government is contributing up to 75% (i.e. for every \$1 we spend, they put in \$3). Cropportunity teams had been formed to determine research priorities from each provincial organization. The soybean cluster is focused on breeding only. The dry bean, pea, fababean, lentil and chickpea cluster has three areas of research priorities: genetic improvement, agronomy and sustainable production, and processing and utilization. A call for proposals went out to researchers in October, and all projects received have been submitted for peer reviews. A bulk of the projects submitted correspond to projects that MPGA is currently funding. By December 18th, we have to finalize our funding contributions to projects in the cluster. Contributions to the Science Cluster are a 3-year commitment.

**Generics Legislation – Mark Goodwin, Pulse Canada** – The process for registering generic products has been updated. Under the new legislation, it will only take a couple months to

get generic products registered, once data protection is lifted, making them readily available to farmers at a much quicker pace than in the past. 60 products are currently in the queue.

**2010 Minor Use Priorities – Jeanette Gaultier, MAFRI** – PMRA is now allowing producers to use unlabelled tank mixes providing they observe the most restrictive label. Liability is on the producer and/or on the agronomist who recommends an unlabelled tank mix. The 2010 Canadian Minor Use Pesticide Priority Setting Workshop is on March 23–25, 2010 in Ottawa. MPGA needs to develop their wish list.

**Comprehensive Shrinkage** – R. Roels outlined the licensing and regulatory issues that CGC is looking to address. The CGC wants to ensure that all elevators and grain dealers are issued the proper class of license. Currently, licensed primary and terminal elevators have a maximum shrinkage level of zero, and there are no regulations pertaining to licensed transfer or process elevators. The CGC proposes to extend the shrinkage allowance of zero to licensed transfer and processed elevators. Stakeholders were invited to communicate their positions to the CGC. Upon discussion, the board decided that zero shrinkage is good for the farmer.

### Board Meeting – December 4, 2009

Agri-Marketing Programs for 2010 – Carl Potts and Tracy Thompson, Pulse Canada – 2010 plans for market development and market access cover two main areas of

continued on page 10



BLACK ARGENTINE ALUBIA BEANS LAIRD ESTON BLACK ARGENTINE ALUBIA BEANS LAIRD ESTON LENTILS LARGE YELLOW PEAS SMALL YELLOW PE GREEN PEAS AUSTRALIAN MEXICAN TURKISH IURKISH WHOLE AND SPLIT GREAN AND CRANBERRY BLACKEYE LIGHT AND OARK REI SMALL RED MUNG ADZUKI FABABEGAN CANAF POPCORN LUPINS FEED BEANS SEED PEA FU FLAXSEED OILSEED GRAIN LANSTOCK CASH WARKETS CURRENCY FUTURS HERBS SPIC CROPS PINTO PEA NAVY GRAI NORTHERN LAF LIMA BLACK ARGENTINE ALUBIA BEANS LAIF REGULAR LENTILS LARGE ELLOW PEAS SMALL FEED PEAS GREEN PEAS AUSTRALIAN MEXICO T PEAS TURKISH WHOLF AND SPLIT GREEN AND CRANBERRY BLACKETE LIGHT AND DARK REI SMALL RED MUNN ADZUKI FABABEAN CANAF POPCORN LUPING FEED BEANS FEED PEA FU FLAXSEED ON SEED GRAIN LIVESTOCK CASH WARKETS CURRENCY FUTURES HERBS SPIC CROPS PINTO PEA NAVY GREAT NORTHERN LAF POPCORN LUPING FEED BEANS FEED PEA FU FLAXSEED ON SEED GRAIN LIVESTOCK CASH WARKETS CURRENCY FUTURES HERBS SPIC CROPS PINTO PEA NAVY GREAT NORTHERN LAF POPCORN LUPING FEED BEANS FEED PEA FU FLAXSEED ON SEED GRAIN LIVESTOCK CASH WARKETS CURRENCY FUTURES HERBS SPIC CROPS PINTO PEA NAVY GREAT NORTHERN LAF PAS ARGENTINE ALUBIA BEANS LAIF REGULAR LENTILS LARGE YELLOW PEAS SMALL FEED PEAS GREEN PEAS AUSTRALIAN MEXICO T PEAS TURKISH WHOLE AND SPLIT GREEN AND CRANBERRY BLACKEYE LIGHT AND DARK REI PEAS TURKISH WHOLE AND SPLIT GREEN AND CRANBERRY BLACKEYE LIGHT AND DARK REI PEAS TURKISH WHOLE AND SPLIT GREEN AND CRANBERRY BLACKEYE LIGHT AND DARK REI PEAS TURKISH WHOLE AND SPLIT GREEN AND CRANBERRY BLACKEYE LIGHT AND DARK REI PEAS TURKISH WHOLE AND SPLIT GREEN AND CRANBERRY BLACKEYE LIGHT AND DARK REI PEAS TURKISH WHOLE AND SPLIT GREEN AND CRANBERRY BLACKEYE LIGHT AND DARK REI PEAS TURKISH WHOLE AND SPLIT GREEN AND CRANBERRY BLACKEYE LIGHT AND DARK REI PAN HING ADTIKK EAD AD AND CANAD

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### Grain Commission Sub-committee – K. Rothenburger

- CGC was disappointed by lack of grain samples in on October 14 for their harvest survey. This was, of course, due to a late harvest. The wrinkling factor of lentils was discussed, but this is not a concern in Manitoba. There was never a tolerance set on deer excrement before, but a tolerance is set now, same as other crops. Ex. Peas are 0.01%.

Western Grains Research Foundation (WGRF) - APG, SPG and MPGA take turns naming a rep to sit on this committee. It is MPGA's turn to select someone to represent pulse growers in Western Canada. This person would also sit on the endowment fund, which reviews research proposals. It is



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### Board Meeting – January 14, 2010

Call for Research Proposals – Submission deadline for soybean research proposals is Feb./Mar. (in conjunction with Ontario). A. Hou informed the board that the next ARDI intake deadline is Feb. 5. To accommodate this, submission deadline for edible beans, peas and other research proposals is Jan. 29. R. Roels reviewed the research priorities set in 2009 by crop, and the research priorities will remain the same for 2010.

Special Crops Symposium – The agenda has been set. Emcees are needed for each speaker. Canadian Soybean Council would like the opportunity to meet with the board to discuss priorities and future direction for the coming years. Annual General Meeting is taking place on the first day of the symposium. T. Stewart reviewed the process for new staff members. As well, terms are up for T. Stewart, L. Wolfe, N. Friesen and S. McCutcheon. T. Stewart will be staying on as past president. S. McCutcheon will let his name stand for one more term. The board would like to ensure that growers from all regions are well represented and discussed possible growers to elect.

Creating MPGA Policy Manual – Discussed the need to create a policy manual for MPGA. New staff requested a list of guidelines (best practices) to follow for the day-to-day operation of the organization.



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## **MPGA 2009 FINANCIAL STATEMENTS**

### Statement Of Operations – Administration Fund For the Year Ended December 31, 2009

		Budget 2009		2009		2008
REVENUE:						
Administration fee (note 3)	\$	-	\$	953	\$	15,088
Check-off		807,000		893,787		883,880
Can. Pulse Researchers Workshop		-		-		59,546
Interest		25,000		2,154		19,322
Miscellaneous	_			1,080	_	32
	_	832,000		897,974	_	977,868
EXPENSES:						
Administration		100,386		90,551		70,102
Travel		69,500		55,469		74,139
Employees		100,150		83,944		83,458
Research		337,800		340,000		257,000
Market development		77,000		14,288		12,224
Member relations		31,500		19,058		29,562
Memberships		91,800		94,186		77,260
Can. Pulse Researchers Workshop		15,914	_	15,915		43,631
		<u>824,050</u>		713,411	_	647,376
EXCESS (DEFICIENCY) OF						
REVENUES OVER EXPENSES	\$	7,950	\$	184,563	\$	330,492

### Statement Of Changes In Fund Balances For the Year Ended December 31, 2009

	Administ	ration Fund	<b>Research Fund</b>		
	2009	2008	2009	2008	
Fund Balances					
beginning of year	\$ 1,034,571	\$ 704,079	\$ 432,784	\$ 511,498	
Excess (deficiency) of					
revenues over expenses	184,563	330,492	48,692	(78,714)	
Fund Balances					
end of year	<u>\$ 1,219,134</u>	<u>\$1,034,571</u>	<u>\$ 481,476</u>	<u>\$ 432,784</u>	

### Statement Of Financial Position As at December 31, 2009

Administration Research Total	Total
Auministration Research Total	
Fund Fund 2009	2008
CURRENT ASSETS	
Bank – unrestricted \$ 1,224,878 \$ 496,073 \$ 1,720,951 \$	5 1,468,850
Accounts receivable <u>18,340</u> <u>3,200</u> <u>21,540</u>	15,888
<u>\$ 1,243,218</u>	5 1,484,7 <u>38</u>

### LIABILITIES AND FUND BALANCES

**CURRENT LIABILITIES** 

Accounts payable	\$	24,084	\$_	17,797	\$_	41,881	\$_	17,383
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#### **Statement Of Operations – Research Fund** For the Year Ended December 31, 2009 2009 2008 **REVENUE:** 953 \$ 15,088 Interest \$ Research support 340,000 257,000 **Registrations and recoveries** 106,061 125,442 Seed trials 40,200 48,147 Donations and grants 29,166 40,000 516,380 485,677 EXPENSES: Administration fee (note 5) 953 15,088 Equipment rental and purchase 3,592 21,440 GST expense 5,455 3,653 Meetings 5,320 7,862 Office and supplies 14,333 11,529 Research 408,693 475,367 Travel and accommodations 3,649 2,127 Wages and benefits 25,693 27,325 467,688 564,391 EXCESS (DEFICIENCY) OF **REVENUES OVER EXPENSES** <u>\$ 48,692</u> <u>\$ (78,714)</u>

### FUND BALANCES

Unrestricted	\$	1,219,134	\$	-	\$ 1,219,134	\$ 1,034,571
Restricted for resea	rch_		_	481,476	481,476	432,784
	_	1,219,134		481,476	1,700,610	<u>1,467,355</u>
	\$	1,243,218	<u>\$</u>	499,273	<u>\$1,742,491</u>	<u>\$ 1,484,738</u>



12 Pulse Beat | Winter 2009/10

## Give Peas a Chance – The case for more pulses in the field and on the plate

f you're looking for an ingredient that is not only healthy and nutritious, but good for the environment, too, think pulses.

That's the message Pulse Canada is promoting through a new white paper, *Give Peas a Chance – The case for more pulses in the field and on the plate.* The paper highlights the benefits of using pulses – beans, peas, lentils and chickpeas – as a food ingredient that provides nutritional and health benefits and contributes to environmental sustainability.

Consumer demand for healthy and environmentally-sustainable products is growing and the global food industry is looking for solutions. Pulses can be part of that solution with their combined health and environmental benefits.

Targeted at food retailers and manufacturers, Give Peas a Chance -The case for more pulses in the field and on the plate offers pulse-based solutions for manufacturers looking for ways to incorporate more nutritious ingredients in their products and explore the possibility of helping to combat chronic health concerns such as diabetes, heart disease and obesity. Combined with pulses' health and nutritional benefits, the paper also highlights the environmental advantages of pulses in the marketplace as the global food industry is looking for sustainable solutions.

"Food manufacturers and retailers are not only looking for healthy and nutritious products, they also wants to know the environmental story of the food they are producing and marketing," says Gordon Bacon, CEO of Pulse Canada. "Pulses have a great story to tell as they offer both sustainability in the field and positive nutritional results on the plate."

The health benefits of pulses are plentiful. Higher in protein than most other crops, pulses are low in fat and they have a low glycemic index, which means their carbohydrates are mostly fibre and starch that prevent blood



sugars from rising quickly after eating. Clinical trials have shown that pulses are not only nutritionally beneficial, they provide excellent health benefits and can even help combat chronic health concerns such as diabetes, heart disease and obesity.

### **HEALTHY PEOPLE, HEALTHY PLANET**

Pulses are also an environmentallyfriendly crop. As a member of the legume family, they have a symbiotic relationship with soil organisms, which allows them to make their own nitrogen fertilizer from the atmosphere. By producing their own fertilizer, this reduces the need for manufactured nitrogen made from fossil fuels.

Give Peas a Chance – The case for more pulses in the field and on the plate highlights the benefits of using pulses as healthy, nutritious ingredients. It shows how using pulses can improve the nutritional profile of food products and reduce the carbon footprint of the food produced.

The paper also outlines the opportunities for using pulses in a variety of food applications. *Give Peas a Chance – The case for more pulses in the field and on the plate* was written by Chris Anstey, a global food supply chain consultant based in the UK. Anstey has years of experience working for multinational companies, including Tesco, one of the leading food retailers. The goal of the white paper is to promote the use of pulses as an ingredient and identify food companies that have an interest in using pulses in commercial applications.

"The white paper will serve as somewhat of a teaser to gauge interest and then Pulse Canada will follow up with individual companies," explains Bacon. "The ultimate goal is to build working relationships with companies and help them to use pulses as ingredients in their food products."

### **PROMOTING PULSES AS AN INGREDIENT**

In late October, Pulse Canada launched a multi-media campaign to promote the white paper to the global food industry. *Give Peas a Chance – The case for more pulses in the field and on the plate* was featured on several websites and e-newsletters geared at food retailers and manufacturers, including JustFood. com, Food Technology magazine, Prepared Foods and Food Navigator. com. People were encouraged to visit the Pulse Canada website at www. pulsecanada.com/givepeasachance and download the paper.

Interest in the white paper has been very positive. As of mid-November, more than 300 people had downloaded *Give Peas a Chance – The case for* more pulses in the field and on the plate from the Pulse Canada website. This includes contacts from all over the world – as far away as Thailand, New Zealand and Egypt to countries closer to home in North and South America. The white paper appears to have widespread appeal, with everyone from company CEO's, research and development managers and marketers to nutritionists, analysts, food researchers and professors downloading the paper to learn more about pulses.

The campaign has also piqued the interest of some major food companies, such as General Mills, Nestle, Barilla, Sara Lee, ADM, Cargill, PepsiCo,

## 2010 MANITOBA SPECIAL CROPS SYMPOSIUM SPONSORS

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The directors of Manitoba Pulse Growers Association thank everyone in the pulse, soybean, and special crop industry for the tremendous show of support during the fourth Manitoba Special Crops Symposium. Without the support provided by the businesses below, this event would not be possible. MPGA also acknowledges the cooperation and contributions of Manitoba Corn Growers Association, the National Sunflower Association of Canada, and MAFRI in building this event.







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#### continued from page 20

Danone, Kellogg, Del Monte, Roquette, H.J. Heinz and Kraft Foods, who have all downloaded the white paper and shown interest in learning more about the opportunities to use pulses as a sustainable food ingredient. Pulse Canada is following up with everyone who downloads *Give Peas a Chance – The case for more pulses in the field* and on the plate to build contacts and offer additional information. "The message is very simple," says Bacon. "If more pulses are eaten, more will be grown and that's great news for health and for the environment."

To learn more about the potential to use pulses as a food ingredient and explore new market opportunities, visit www.pulsecanada.com/ givepeasachance. Pulse Canada is funded through grower contributions provided by groups like the Manitoba Pulse Growers Association. Pulse Canada's office is located in Winnipeg.







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## CANADIAN SOYBEAN COUNCIL NEWS

Michelle McMullen Manager, Canadian Soybean Council

### IP SOYBEAN PRODUCER PROGRAM

The Canadian Soybean Council (CSC) offered its first ever IP Soybean Producer Program on January 20, 2010. The one-day program, coordinated by the Canadian International Grains Institute, was designed to attract producers who have not grown IP soybeans, have recently started growing IP soybeans, or was in need of a refresher course. Thirty-two producers from across southwestern Ontario were in attendance.

Topics covered by industry experts during the program included:

- Global Markets for Canadian IP
   Soybeans
- Contracts and Logistics of Growing IP Soybeans
- Selecting the Right Soybean Varieties
- Production Challenges and Management
- What Happens When You Don't Make Premium?

It is CSC's goal to offer IP Soybean Producer Programs in Manitoba, Ontario and Quebec in the winter of 2011. The programs offered will be tailored to the needs of each production region. Stay tuned for programs offered in Manitoba!

### CANADIAN SOYBEAN DISPATCH

Three year's ago, the Canadian Soybean Council increased its communication efforts to export markets with the launch of the Canadian Soybean Dispatch. The goal of this publication is to inform our customers about what's happening here in Canada.

This year's publication will be unveiled during the CSC Outgoing Program to Japan. Copies will be provided to companies exporting Canadian soybeans and Canadian embassies around the world to help in promotional efforts. We will also be mailing copies to past participants of our incoming programs. An electronic version of the publication will also be available on the CSC website at http:// www.soybeancouncil.ca/publications.htm



The 2009 edition highlights:

- 2009 Soybean Production Statistics
- Summaries of soybean growing season
- Quality of the 2009 Canadian soybean crop for the Canadian Grain Commission's annual Harvest Sample Program
- IP soybean producer profiles featuring Albert and Robert Turski of LaSalle
- Quality assurance in Canadian soybean variety development
- The role of the Canadian Grain Commission in grain safety assurance for Canadian soybeans
- The role of exporters in ensuring a quality product gets to world markets

### CGC HARVEST SAMPLE PROGRAM

CSC would like to thank all the soybean producers in Manitoba who submitted soybean samples to the Canadian Grain Commission's (CGC) annual harvest program. By submitting samples, you are helping us promote the quality of Canadian soybeans to our domestic and international customers.

For the Soybean Harvest Sample Program, we are asking producers to submit both GM and non-GM soybeans. The soybean survey is divided into two parts: crush and food type soybeans. Our goal is to have a representative sample of the soybean crop across Canada.

If you are interested in participating in this important program, you can sign up directly with the CGC by visiting *www.grainscanada.gc.ca*, or emailing *harvest-recolte@grainscanada.gc.ca* or calling 1-800-853-6705.

### **CSC OUTGOING PROGRAM TO JAPAN**

The CSC Outgoing Program to Japan is scheduled for February 22-26, 2010. The program, coordinated by the Canadian International Grains Institute, will see representatives from Canada's soybean industry visit Osaka, Nagoya, Tokyo and Nagano.

The purpose of outgoing programs is to better understand the needs of current and potential customers and identify appropriate individuals to host on incoming programs. In addition, these programs provide an opportunity for our industry to communicate what's happening in Canada and learn about the current situation in our export markets.

The format of this year's program includes visits to soyfood companies in Osaka and Nagoya, a tour of a port, an information seminar in Tokyo and a meeting with soybean producers near Nagano. In addition, for the first time, the Japan Ministry of Agriculture, Fisheries and Forestry is coordinating the Japan-Canada Soybean Consultation meeting, which will allow members of Canada's soybean industry to exchange information with representatives from Japan's nine soyfood industry associations.

Seven individuals will be representing Canada's soybean industry:

Jim Gowland, CSC Chair Michelle McMullen, CSC Manager Joe Thomson, IP Soybean Producer Ken Hester, Agriculture and Agri-Food Canada

Norm Woodbeck, Canadian Grain Commission

Dr. Linda Malcolmson, Canadian International Grains Institute

In addition, the following exporters will be joining CSC in Japan:

Sue Robert, Thompsons Limited Steve Scholze, Parrish & Heimbecker Dwight Gerling, DG Global Brady Elliot, Southwest Ag Partners Troy Snobelen, Snobelen Farms Limited





## KAP DELEGATES SET DIRECTION FOR 2010

Keystone Agricultural Producers' farmer delegates from across the province gathered in Winnipeg from January 27 to 29, 2010 to discuss relevant and timely agricultural issues, and to set the direction for the organization for the year ahead. Here are some of the resolutions that were debated at the annual meeting and have become KAP policy (for the complete list, please see our website at www.kap.mb.ca):

### **ENVIRONMENT**

### Beneficial Management Practices Cost Share Limits

- THAT KAP lobby the provincial government to change the Manitoba Sustainable Agricultural Practices Program and Environmental Farm Action Program to reduce the cost share limit to levels similar to the Canada-Manitoba Farm Stewardship Program; further,
- THAT KAP lobby the provincial government to be open and

transparent with its intentions to target specific Beneficial Management Practices and regions of the province.

### Beneficial Management Practices Funding Applications

THAT KAP lobby MAFRI to provide all Manitoba Sustainable Agricultural Practices Program and Environmental Farm Action Program applicants with a confidential, written explanation of why their application was rejected or accepted.

### Beneficial Management Practices Funding

• THAT KAP lobby the provincial and federal governments to increase funding for the Manitoba Sustainable Agricultural Practices Program and the Environmental Farm Action Program so that more farmers may implement Beneficial Management Practices on their farms.

### Beneficial Management Practices Funding Program Development

• THAT KAP lobby the provincial government to invite Keystone Agricultural Producers to have a

more complete and involved role in the future development of Beneficial Management Practices funding programs.

### Beneficial Management Practices Application Assistance

THAT KAP lobby MAFRI to instruct its GO office staff to assist applicants to the Manitoba Sustainable Agricultural Practices Program and the Environmental Farm Action Program in properly filling out applications so that projects can be chosen based on environmental benefit rather than procedural details.

### Crop Residue Burning Permitting

• THAT KAP lobby the provincial government to revise the crop residue burning permitting process to be based on seasonal conditions rather than calendar dates.

### Onsite Wastewater Management Systems and Property Value Assessments

• THAT KAP encourage all rural Manitobans with sewage ejectors as

continued on page 19

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their onsite wastewater management systems to appeal their property tax assessment to reflect the devaluation associated with the forced replacement of these systems at the time of property transfer.

### Onsite Wastewater Management Systems Regulations

• THAT KAP work with the Association of Manitoba Municipalities to develop a site specific approach to deal with onsite wastewater disposal that allows for continued use of ejectors in suitable locations.

### Drainage Work

• THAT KAP work with Manitoba Water Stewardship to clearly define what work is allowed under drainage licenses, with a view of having agriculture's needs as a higher priority.

### Funding for Regulatory Compliance

 THAT KAP lobby the Minister of Manitoba Agriculture, Food and Rural Initiatives to introduce programs to provide financial assistance to producers to comply with changes to environmental regulations.

### RURAL DEVELOPMENT AND LAND USE

### Liability of Off-Road Vehicles on Agricultural Land

• THAT KAP lobby the provincial government to change the Occupiers' Liability Act to protect agricultural landowners from threats of liability created by trespassers on their land.

## LIVESTOCK AND FOOD SAFETY

- Value Chains
- THAT KAP work with and support the initiatives of the Manitoba Cattle Producers Association and the Canadian Cattlemen's Association to return value chain dollars back to primary producers.

## Removing the Ban on New Hog Operations

• THAT KAP lobby the provincial government to amend The Environment Act to remove the current ban on new hog operations, which affects all or parts of 35 municipalities in Manitoba.

### **BUSINESS RISK MANAGEMENT**

#### Interest on Outstanding MASC Claims

THAT KAP lobby for changes to Manitoba Agricultural Services Corporation's (MASC) policy where in the case of outstanding producer claims, interest equal to that which MASC charges on producer debt is calculated and paid on the outstanding balance as a part of the final producer payment.

### Interlake and AgriRecovery

 THAT KAP lobby the federal and provincial governments for an AgriRecovery program to be developed to provide sufficient assistance to suffering north Interlake producers for the 2009 crop year.

### OTHER

The Canadian Wheat Board (CWB) and the World Trade Organization (WTO)

- THAT KAP lobby the federal government to have trade negotiators reinstate the square brackets around Article 3.a.iv in Annex K of the December 2008 revision of the WTO draft modality on Agriculture, regarding the use of state trading enterprises; further,
- THAT KAP lobby the federal government to oppose any change to the Canadian Wheat Board's single desk marketing system until western Canadian farmers are consulted and a majority of western Canadian grain producers agree to a change.

Keystone Agricultural Producers is Manitoba's largest general farm policy organization, representing over 7,000 farm families and 22 commodity groups throughout the province. Our strength is our democratic structure, and our mission is to represent and promote the interests of the province's farm families.

### **NEWS RELEASE**

### **NEW SOLO + BASAGRAN FORTE TANK MIX REGISTRATION FOR DRY BEANS**

To date there have been very limited post-emergent control options for dry beans in Western Canada. Growers have had to primarily rely on a Group 1 graminicide, a Group 3 soil applied product or use Pursuit in a limited number of bean types to provide suppression of wild oats. With the support of the Minor Use Group and Manitoba Pulse Growers now there is a better weed control option for post-emergent grass and broad-leaf control for dry bean production with rotational flexibility. BASF has recently received approval by the PMRA for the tank mix of SOLO + BASAGRAN FORTE + 28% UAN for use on dry beans. SOLO + BASAGRAN FORTE provides a new superior grass and broadleaf weed control solution that contributes to resistance management for dry bean producers.

SOLO + BASAGRAN FORTE provides control of weeds such as wild oats (including Group 1 and Group 8 resistant bio-types), volunteer cereals, Persian darnel, barnyard grass, green and yellow foxtail, volunteer canola, wild mustard (including Group 2 and Group 4 resistant bio-types), lamb's quarters, stork's bill and redroot pigweed to name a few. SOLO + BASAGRAN FORTE + UAN also provides suppression of tough to control weeds like wild buckwheat, Kochia (including Group 2 resistant bio-types), Cleavers and sow thistle to provide broad spectrum superior control.

SOLO + BASAGRAN FORTE + UAN gives you the option to grow any type of canola, flax, cereals, corn, soybeans, sunflowers, field peas, lentils, chickpeas and canaryseed the following year.

BASF continues to actively work with grower groups to provide innovative solutions and continued label expansions of BASF crop protection products to support dry bean production. For more information about the new registration please contact your retailer or visit www.agsolutions.ca or call 1-877-371-BASF (2273).

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

\*Material sourced from the Canadian Agricultural Safety Association – media articles

nsurance may offer you \$10,000 for a leg, \$6,000 for an arm, but fingers only net about \$900. What dollar value would assign to your body? How about your life? And what would the real costs of injury or death mean to you, your family and your business?

 $Plan \cdot Farm \cdot Safety$  is the theme of this three-year Canadian Agricultural Safety campaign. Each aspect of the theme will be promoted over the next three years. This year the campaign will promote *Plan* with safety walkabouts and planning for safety. In the second year, the focus will be on *Farm* including implementation, documentation and training. In the third year, emphasis will be on *Safety* including assessment, improvement and further development of safety systems.

The year-long *Plan* campaign will be launched with Canadian Agricultural

Safety Week (CASW), from March 14 to 20. The Canadian Federation of Agriculture (CFA) and Canadian Agricultural Safety Association (CASA) deliver CASW in partnership with Farm Credit Canada (FCC) and Agriculture and Agri-Food Canada.

"When it comes to safety on farms, a moment of carelessness can have tragic consequences," says Marcel Hacault, CASA executive director. "Machines have no mercy and livestock have no conscience when it comes to dealing with humans. So it is up to each one of us to take responsibility for our own safety at all times – or it could cost dearly in many ways."

Two of the leading causes of death on Canadian farms are machinery and livestock. For machinery – tractors are by far the worst with rollovers, runovers and entanglements being the most high-risk incidents. For non-machinery, the most risky activity is livestock handling – particularly bulls, horses, and cows with calves, says a study by the Canadian Agricultural Injury Reporting program (CAIR). On average, 115 people are killed and another 1,500 are seriously injured by farm-related incidents in Canada each year – and many more minor injuries are never even reported.

The CAIR study looked at hospitalized and non-hospitalized injuries, permanent disabilities and death and calculated estimations for direct costs including hospital care, physician services, drugs and rehabilitation. It also considered indirect costs such as loss of productivity and costs associated with living with a permanent disability as a result of injury.

The twelve-year study determined there was significant variation in the cost for each of these injury types. The cost for premature death was greatest at \$274,573, followed by a permanent disability injury at \$142,553. The cost per hospitalized occurrence was \$10,144, and \$695 per non-hospitalized incident. In total, the cost to our economy for agricultural injuries is estimated at between \$200 and \$300 million annually.

More information on farm safety can be found at www.casa-acsa.ca. 🍭



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Note from the editor – 2009 was a tough year for pulse producers. White mould was a severe disease problem in most fields. The on-going spells of cool and wet weather contributed to a favourable environment for the disease to flourish. Dr. Ron Howard with Alberta Agriculture and Rural Development addressed the topic, 'Effective Strategies for Managing White Mould in Pulse Crops' twice at the Special Crops Symposium due to overwhelming response from the board to have this presentation repeated. With that level of interest in learning all we can about white mould, I asked BASF to submit an article on 'White Mould: 2009' to the Pulse Beat. I hope you find it valuable.

anadian dry bean growers know how to keep their eyes on the prize – high yielding, high quality beans for their customers – and as such, Canada has continued to rank as one the top five bean exporters in the world. With Canadian bean production ranging from 4 to 4.5 million tones per year, this focus on yield and quality means growers aren't playing with small change either. That's why it's key to protect dry beans from disease from the get-go – before it gets a foothold in the crop.

For optimal disease control, growers across Canada continue to turn to BASF for leading fungicide technology. LANCE, active ingredient boscalid, is highly effective at preventing diseases in dry beans. White mold (Sclerotinia sclerotiorum) is best managed preventatively by applying LANCE at 20–50% bloom.

For diseases like anthracnose and rust, there is no better choice than

HEADLINE fungicide, to maintain plant health and optimize yield and quality.

This type of protection really pays off - as growers in the 2009 BASF GrowForward Yield Challenge witnessed, with yield increases topping off at a 686 lbs/ac difference between LANCE and untreated dry beans. Casey Koomen from Taber, Alberta, saw a significant increase in his yield when he applied LANCE to his dry beans: his LANCE-treated beans harvested 503 lbs/ ac more than his untreated crop. "We had more than an inch of rain over the weekend [after the plants were treated], and it was cool and damp – and when I went out to the field I noticed that the plants not treated with LANCE were infested with Sclerotinia white mold," explained Koomen. "The rest of the field, which had two applications of LANCE, showed some signs of disease - but it seemed to be isolated to single plants whereas the check strip showed large areas of disease and was spreading."

### PREVENTIVE APPLICATION IS KEY

White mold in dry beans is first observed as wet, soft spots or lesions on infected leaves, branches, stems and pods. Stems and branches infected will cause affected plant parts to wilt and later die – appearing bleached and dried.

Anthracnose will first appear as brown, purple or reddish lesions on the veins of the underside of the leaf.

To protect dry beans from disease, apply HEADLINE plus LANCE in a preventive manner – before disease symptoms appear. The result is a contribution from two unique modes of action that enter the leaf tissue, to provide the most effective broadspectrum disease control in dry beans.

"By the time you see symptoms of white mold, rust or anthracnose you are already playing catch up. When yield and quality are impacted it is much more effective to stay ahead of the disease," says Robert Hornford, Senior Technical Development Specialist with BASF Canada. "Wet or moist weather is conducive to disease development and the spread of all three diseases, so it is particularly important to spray early under these conditions to get ahead of the disease."

Applied before the appearance of white mold, LANCE should be timed to provide the greatest possible protection during the complete flowering stage. First applications on dry beans should be made when the first pin bean appears (20 to 50% bloom). In the cases of rust or anthracnose you need to be preventative and get a HEADLINE application down at the first indication of the disease. But regardless of the disease, a second application of HEADLINE or LANCE should be made seven to 10 days after the first application if disease weather conditions are cool and wet or the disease.

Concludes Hornford, "Throughout the growing season, growers will see the benefits of HEADLINE and LANCE even under a lower incidence of disease. At harvest, the results will be most visible in yield, quality and improved return."







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### LYGUS BUGS ON EDIBLE BEANS

### **N. J. Holliday** Department of Entomology University of Manitoba

lant bugs can be abundant in bean fields in some years, and the objective of our studies is to derive economic thresholds allowing producers to determine when control is necessary. There are two groups of plant bugs involved: lygus bugs, primarily the tarnished plant bug Lygus lineolaris, and Adelphocoris bugs, primarily the alfalfa plant bug. In 2009, 13 commercial fields were sampled for plant bugs weekly with 100 sweeps of a sweep net. There were seven fields in the Carman area (2 pinto beans, 2 navy bean fields and 3 soybean fields) and six fields in the Portage la Prairie area (2 pinto, 2 navy and 2 soybean). For most of the season, insect numbers were very low but a surge of adult lygus bugs had occurred in the first two weeks of September. Relationships of insect numbers to yield and bean quality will be investigated by harvesting small areas in each field.

In the laboratory a colony of tarnished plant bug, Lygus lineolaris, has been established to provide insects of known identity for field and laboratory studies. Currently, we are working to establish a colony of alfalfa plant bugs. So far, in the laboratory, we have studied the effects of feeding by L. lineolaris on different growth stages of navy beans (R1: dominated by buds and subsequent flowering, R2: flowers and subsequent pods and R4-R5: seed fill stage). We confined male or female adults or fifth instar nymphs to a single reproductive structure for five days and characterized short-term and long-term effects of feeding. There was no significant abortion of reproductive structures in the R1 stage. At the R2 stage, injury and flower and pod abortion did occur. Clear symptoms were visible when three lygus bugs were caged at the R4-R5 stage; as the experiments are still in progress long-term effects and effects on yield are not yet available. Visual and microscopic observations of feeding injury were made, and photographs taken for use in extension literature.

Using field-collected and laboratoryreared lygus bugs, field cage studies were performed in a navy bean field at the University of Manitoba Fort Gary campus and in a pinto bean field at Portage la Prairie. In each site known numbers of nymphs and adults of lygus bugs were introduced to 1 m2 cages. Treatments were replicated six times in a randomized complete block design. In the study on navy beans, there were 14 plants per cage and these were caged at the R2-R3 stage. Treatments were control (no insects), 30 lygus bug adults and 60 lygus bug adults per cage. In the pinto bean trial, caging was done at the R6 stage and there were six or seven plants in each cage. Treatments were control (no insects), 30 lygus bug adults and 30 lygus nymphs consisting of equal numbers of fourth and fifth instars. These studies are still in progress. The plants will remain caged until they reach harvest maturity, and then will be harvested to assess seed quality and quantity resulting from each treatment.

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Elroy R. Cober<sup>1</sup> and Al Sloan<sup>2</sup> Agriculture and Agri-Food Canada <sup>1</sup>Eastern Cereal and Oilseed Research Centre <sup>2</sup>Morden Research Station

he Agriculture and Agri-Food Canada soybean breeding program focuses on developing high-value yellow hilum and specialty varieties for food, feed and industrial raw materials. Funding provided by the MPGA allows enhanced testing of germplasm and experimental lines in Manitoba. In 2009, we grew five trials at Morden and two at Portage. The early maturing material in the Ottawa AAFC program is well adapted to Manitoba and so our research focuses on early maturity in SQWH as well as on specialty high protein and natto soybean cultivar development; and moving genetic resistance to soybean aphid and other pests including rust and other diseases into our short season material.

The growing season at Morden started off exceptionally cool and wet. This resulted in delayed seeding and very slow and variable soybean emergence. The poor spring conditions were also compounded by late-June and early-July rains which kept the soil saturated and slowed growth. The slow growth pattern was sustained by below normal temperatures in July and August. This contributed to a delay in flowering which will most likely lead to reduced yields. The warmer temperatures in late-August and early-September have certainly helped but we will have to have delayed frosts to get plants to maturity.

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Although the number of field cages used in 2009 was limited by the small number of lygus bugs available, results from these studies will be used to assess the general level of the economic threshold. A field study of the economic threshold, in which insecticide was to be used to manipulate plant bug populations in large field plots, could not be performed because there were so few plant bugs in fields in July and August. In the most advanced trials, grown at both Morden and Portage, we have yellow hilum lines targeted to the non-GMO SQWH market similar to OAC Prudence. Specialty types include tofu, natto, and lipoxygenase free lines. Lines from parents chosen for tolerance to iron deficiency chlorosis have also reached the elite test level. Lines from soybean cyst nematode resistant parents are also at the elite level. Although SCN is still only found in south-eastern North Dakota and Minnesota, SCN is in the Red River water shed and a large flood could move it long distances in a short time.

In the screening trials, there are a good number of lines that fit the SQWH category. There is also a larger range of food types being tested including larger seeded lines, tofu lines and natto lines.



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Growing Forward



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

ith funding from the MPGA, the 2009 dry bean breeding activities at AAFC-Morden included evaluation and development of dry bean cultivars (including slowdarkening pinto and Peruano yellow beans) for production in Manitoba, screening of dry bean germplasm collections for breeding use in Manitoba, and screening of breeding lines from the Manitoba Cooperative Registration Trials for white mould resistance.

### **NEW LINES SUPPORTED FOR** REGISTRATION

In 2009, two navy bean lines H96204 and H96048 (developed jointly by AAFC-Morden, Lethbridge, and Harrow, with moderate resistance to common bacterial blight), black bean

line BK05-009 and small red bean line SR05-008 (developed jointly by AAFC-Morden and AAFC-Lethbridge) were supported for registration in Canada. All four lines were tested in the 2009 MPGA Variety Screening (Regional) Trials, and the results can be found in the Seed Manitoba 2010 and can also be accessed at the MPGA website. The navy bean line H96204 and the black bean line BK05-009 performed really well with early maturity and high yield. The variety registration of these two lines is in progress. The exclusive rights to H96204 and BK05-009 have been granted to Canterra Seeds Ltd. for commercialization.

### **MPGA VARIETY SCREENING** (REGIONAL) TRIALS

In the MPGA Long Season Wide Row Dry Bean Regional Trials, 59 entries were tested at four locations (Morden, Carman, Winkler, and Portage la Prairie). In the Short Season Narrow Row Regional Trials, 16 entries were tested at Thornhill. The experimental



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results were published in the Seed Manitoba 2010 and in the Pulse Beat which can be accessed at the MPGA website.

### MANITOBA COOPERATIVE **REGISTRATION TRIALS**

In the Manitoba Dry Bean Cooperative Registration Trials, 45 lines along with 7 check cultivars were tested in the Wide Row Trials, and 11 lines with 4 checks were tested in the Narrow Row Trials at four locations (Morden, Carman, Winkler, and Portage la Prairie). These entries were also evaluated for white mould resistance in a disease nursery at Winkler. A comprehensive evaluation of each line was made based on traits that included seed yield, maturity, disease resistance, lodging, plant and pod height, plant growth habit, seed size, and seed quality. The results were reported at the annual meeting of the Prairie Recommending Committee for Pulse and Special Crops (PRCPSC) of the Prairie Grain Development Committee (PGDC) in February, 2010, and used to support cultivar registration in Canada.

### BREEDING SELECTIONS AND TEST OF ADVANCED LINES

We continued with breeding selections in various market classes with a focus on slow-darkening pinto and Peruano yellow beans. Individual plants were selected and evaluated for seed quality. These selections will be grown in 2010 and further evaluated and selected for yield and other agronomic traits. In the evaluation of advanced selections, 96 superior lines were tested in the preliminary yield trials, and 56 were tested in the pre-coop trials at two locations, respectively. White mould infection was severe in 2009. A thorough survey was conducted in our experimental trials, and materials with better resistance were identified and will be used in future breeding.

### **GERMPLASM EVALUATION**

Black bean germplasm was evaluated for their adaptation to the Manitoba growing conditions. These collections

### **Robert L. Conner** Agriculture and Agri-Food Canada Morden Research Station

scochyta blight, which also is known as Mycosphaerella blight, is the most widespread foliar disease of field peas in western Canada and is a major constraint to the expansion of the acreage of the crop in Manitoba. The fungus Mycosphaerella pinodes forms brown to black lesions on the leaves, stems and pods. Often the lesions coalesce and can girdle the stem, which leads to lodging. Early, severe epidemics of Ascochyta blight can reduce field pea yields by as much as 50–60%.

Tissue-specific resistance in either the leaves, stems or pods to Ascochyta blight has been reported in field pea cultivars. Some cultivars expressed more than one form of tissue-specific resistance. These different types of resistance were often associated with reduced lodging and smaller yield losses. However, most of research to identify sources of different types of tissue-specific resistance has been conducted with cultivars that are no longer widely grown in western Canada.

In 2009, a new four-year study sponsored by MPGA was initiated to assess of the various forms of Ascochyta blight resistance in newly registered field pea cultivars. Twenty-seven newly registered field pea cultivars were evaluated for tissue-specific

#### continued from page 28

were also screened for resistance to anthracnose – one of the major dry bean diseases in our area. Lines with resistance to both anthracnose races 73 and 105 were identified. These lines can be used in crossing for future cultivar development.

With continued support from the MPGA, we are committed to developing new cultivars for the Manitoba dry bean growers and industry in diverse market classes with improved yield, disease resistance, and seed quality.

resistance and tolerance. Half the plots of each cultivar were inoculated by evenly spreading infected straw within the plots in order to allow early establishment of Ascochyta blight. To prevent disease development, the other plots were sprayed with a foliar fungicide on two different dates spaced two weeks apart. Ascochyta blight severity was assessed at weekly intervals starting in early-July and continuing until the end of August. At the end of August, randomly selected plants from each plot were individually rated for Ascochyta blight severity on the leaves, stems and pods. A few days before harvest, the plots were scored for lodging. At the end of the growing season, the plots were harvested with a small-plot combine and the seed was dried to 15% moisture and then cleaned and weighed. All the disease and agronomic data collected during the study were statistically analyzed.

Ascochyta blight symptoms were severe on the inoculated susceptible check cultivar Topper in all the experiments. The fungicide application significantly reduced Ascochyta blight severity until late in the growing season, which resulted in 5% to 19% higher yields. In each experiment, most of the newly registered field pea cultivars had Ascochyta ratings on their leaves and stems that were statistically lower than those of the susceptible check cultivar Topper, but were not significantly lower than the moderately susceptible check cultivar Radley. Reductions in Ascochyta blight severity on the leaves and stems were associated with slower disease development throughout the growing season.

Tolerance to Ascochyta blight has been reported in the past. Tolerant varieties often develop severe Ascochyta blight symptoms, but still manage to produce high yields. A comparison of the yields of the inoculated and fungicide-protected plots of the same cultivars was used to identify cultivars that might be tolerant to Ascochyta blight. The yields of seven field pea cultivars were not severely reduced by Ascochyta blight, which suggests that they might be disease tolerant or partially resistant. Previous research on tolerance to Ascochyta blight has shown that it is often an inconsistent trait that can only been reliably detected based on data collected over a number of years.

The results of these experiments indicate that certain newly registered field pea cultivars may be partially resistant or tolerant to Ascochyta blight. Future field trials over the next three years will identify partially resistant and tolerant cultivars and will determine the effectiveness of resistance or tolerance in reducing yield losses caused by Ascochyta blight. This research will ultimately assist field pea producers in selecting field pea cultivars that will reduce economic losses caused by Ascochyta blight. 🍣

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## FIELD PEA DISEASE SURVEY IN MANITOBA IN 2009

### Debra McLaren<sup>1</sup>, Daniel Hausermann<sup>1</sup>, Robert Conner<sup>2</sup>, Tom Henderson<sup>1</sup>, Waldo Penner<sup>2</sup> and Teri Kerley<sup>1</sup>

Agriculture and Agri-Food Canada <sup>1</sup>Brandon Research Centre <sup>2</sup>Morden Research Station

n 2009, two separate surveys of diseases of field peas were conducted. Crops of field pea were surveyed for root and foliar diseases at 40 different locations in Manitoba. The crops surveyed were chosen at random from regions in southwest and south-central Manitoba, where most field pea is grown. The survey for root diseases occurred during late June and early- to mid-July when most plants were at the 12-17 node stage. Root diseases were rated on a 0 (no disease) to 9 (death of plant, the seedling died back quickly after emergence) scale. Five to ten roots with lesions were collected per field for isolation of fungi in the laboratory in order to confirm the visual disease assessment. Foliar diseases were assessed during late-July and early-August when most plants were at the round pod stage. A minimum of thirty plants (10 plants at 3 sites per field) were sampled from each field. The severity of foliar diseases was estimated using a scale of 0 (no disease) to 9 (whole roots/plants severely diseased). Powdery mildew was rated as the percentage of leaf area infected.

Three diseases were observed in the root disease survey (Table 1). Fusarium root rot (Fusarium spp.) was the most prevalent disease and was observed in all fields surveyed. Fusarium avenaceum was more frequently isolated from symptomatic roots than F. solani in 2008 and 2009. Rhizoctonia root rot (Rhizoctonia solani) and fusarium wilt (F. oxysporum) and were detected in 5 and 34 fields, respectively, in 2009. Severity means for all root diseases were higher in 2009 than in the previous year. Cool, wet conditions during the early months slowed crop emergence and although the optimal temperatures for growth of root pathogens such as F. solani are approximately 25–30°C, the disease will develop at 18°C and above.

Four foliar diseases were observed (Table 2). Mycosphaerella blight (Mycosphaerella pinodes) was the most prevalent and was present in all fields surveyed. Sclerotinia stem rot (Sclerotinia sclerotiorum) was detected in 8% of fields in 2009 compared with 16% and 28% of fields in 2008 and 2007, respectively. Powdery mildew (Erysiphe pisi) was observed in only one field. The low prevalence of this disease can likely be attributed, in part, to the adoption of new cultivars by growers, because all newly registered pea cultivars are required to have resistance to powdery mildew. This disease was observed very late in the growing season on a few susceptible lines at AAFC-Morden which suggests that there may have been more crops with powdery

mildew than were detected at the time of the survey. Foliar diseases, such as bacterial blight (Pseudomonas syringae pv. pisi), septoria blotch (Septoria pisi), and downy mildew (Peronospora viciae) were not observed in the surveyed fields. Anthracnose (Colletotrichum pisi) was found at trace levels in two fields (Table 2).



## Table 1. Prevalence and severity of root diseases in 40 crops of field pea in Manitoba in 2009.

	-	Disease Severity (0–9) <sup>1</sup>		
Disease	No. Crops Affected	Mean	Range	
Fusarium root rot	40	2.1	0.5-4.2	
Fusarium wilt	34	2.1	0.7–4.2	
Rhizoctonia root rot	5	1.6	0.9–2.4	

<sup>1</sup>*All diseases were rated on a scale of 0 (no disease) to 9 (whole roots severely diseased)* 

Table 2. Prevalence and severity of foliar diseases in 40 crops of field pea in Manitoba in 2009.

	_	Disease Severity (0–9) <sup>1</sup>	
Disease	No. Crops Affected	Mean	Range
Mycosphaerella blight	40	3.3	1.0–7.6
Sclerotinia stem rot	3	0.8	0.7–1.0
Powdery mildew	1	<1	<1
Anthracnose	2	0.7	0.3–1.0

<sup>1</sup>Powdery mildew was rated as the percentage of leaf area infected; other diseases were rated on a scale of 0 (no disease) to 9 (whole plant severely diseased). Mean values are based only on fields where the disease was present.

### **Anfu Hou, Dry Bean Breeder** Agriculture and Agri-Food Canada Morden Research Station

oybean cultivars can be classified as conventional (non-GMO) and GMO (genetically modified Roundup Ready) cultivars. While the GMO cultivars dominate the world soybean acreage due to the advantages in weed control and low cost of production, the conventional cultivars still occupy significant markets such as in European countries and Japan, especially as food grade specialty soybeans. The specialty soybeans are generally offered with premium prices at markets. Soybean is used in the oriental countries to make soyfood such as tofu, natto, soy sauce, soymilk, and miso. Soybean seed quality varies for the purpose of different end-uses. Making of tofu generally requires large-seeded soybean (>18 g/100 seed), whereas natto requires smallseed soybean (<10 g/100 seed). The large-seeded soybean is also grown and consumed as vegetable soybean (edamame) when harvested at the green-seed stage.

Soybean can be characterized into different maturity groups, according to the zone and crop heat unit it grows in. The soybean cultivars suitable for production in Manitoba generally belong to the maturity group (MG) 00, which should mature in approximately 120 days. The breeding efforts for such early-mature cultivars are often limited by the lack of genetic materials. Worldwide, the soybean growing conditions in northern China and Japan, and part of Russia are similar to that in Manitoba. Evaluation of collections from those areas may provide much-needed genetic resources for public breeding in Manitoba. In 2009, the AAFC Morden dry bean breeding program received funding from the MPGA to evaluate soybean collections for their adaptation to southern Manitoba.

### **PI COLLECTIONS**

One hundred and fifty-five soybean lines were introduced from the USDA

Soybean Germplasm Collection at Urbana, Illinois. These lines were originated from many countries worldwide but mainly from China, Japan, and Russia, with maturity classified as MG 000 to MG 00. Seed of these collections was increased in 2008 in greenhouse at the Morden Research Station. Check cultivars were used for comparison which included OT03-10, OT03-13, AC Rolland, OAC Prudence, and AC Orford.

### FIELD DESIGN

The collections were planted in single rows of 5 m long and 60 cm in spacing, without replications in a field at Morden, on June 4, 2009. Seventy-one lines had a density of 100 seeds per plot. Due to the limited number of seeds, twenty one lines were planted with less than 50 seeds per plot. The number of emerged plants was recorded. Field management was the same as to the dry beans.

### TRAITS INVESTIGATED

Traits investigated included photoperiod sensitivity, flower colour, flowering and mature date, disease resistance, lodging resistance, growth habit, shattering resistance, seed germination ability, seed size and quality, protein and oil content, and yield potential.

### **RESULTS AND DISCUSSION**

Most collections had good emergence. Three lines did not germinate, and 19 lines had poor germination. All lines flowered in the 2008 greenhouse and under the 2009 field conditions, indicating no major photoperiodsensitivity concerns in these lines to grow under the Manitoba conditions. Date of flowering varied significantly: from July 23 to August 20. The maturity also varied significantly among different accessions, but most lines matured at harvest. Only seven lines failed to mature. In the growth habit, 125 lines were determinate or semi-determinate. and 25 lines were indeterminate. Shattering is generally a major adaptation concern for germplasm, but most of these collections did not shatter. Sixteen lines had slight-moderate shattering, while only nine lines showed

severe shattering. No major disease symptoms were observed in the field. Eight lines showed symptoms of leaf chlorosis (mineral deficiency). In seed quality, 41 lines were large-seeded (tofu or vegetable bean type), and 22 were small-seeded (natto type). Detailed seed weight is being collected and analyzed. Estimation of seed protein and oil content is also in progress.

### CONCLUSION

The 155 worldwide early-mature soybean collections flowered and mostly matured in the 2009 growing conditions at Morden. Lines were identified with desirable agronomic traits including lodging and shattering resistance, emergence ability, early maturity, and yield potential. Large- (tofu type) and small-seeded (natto type) lines were identified and can be used as potential genetic materials for specialty soybean breeding. Selections will be made and planted in replications in 2010 for further investigation. Elite materials will be available for future breeding.

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### Drs. R. L. Conner<sup>1</sup>, D.L. McLaren<sup>2</sup>, N.Z. Lupwayi<sup>3</sup> and M.A. Monreal<sup>2</sup> <sup>1</sup>Morden Research Station <sup>2</sup>Brandon Research Centre <sup>3</sup>Lethbridge Research Centre

usarium root rot, caused by the fungus Fusarium solani f. sp. pisi, is a common root disease of field peas in Manitoba. Infection results in the invasion and plugging of the water transporting vessels in the roots, which can result in stunting of the plant, yellowing of the foliage and sometimes premature plant death. Fusarium root rot also reduces nodulation and nitrogen fixation by rhizobia bacteria on the roots of field peas. Research conducted outside of Canada indicates that a green-manure crop of oats can reduce the level of certain root diseases in subsequent field pea crops. Mycorrhizal fungi and crop residue management also have been shown to reduce yield losses caused by root diseases in other crops. Such alternative disease control methods may provide

a stable, cost-effective and sustainable form of disease management.

In 2006, a four-year study was established at field sites near Morden and Brandon to evaluate the efficacy of different tillage and rotation regimes in combination with arbuscular mycorrhizal fungi and residue management in reducing yield losses caused by Fusarium root rot. The treatments included oats harvested for grain with: a) straw removed (tilled and untilled), b) straw removed (tilled and untilled) with fungicide for peas in 2008 and 2009 c) straw chopped and returned (tilled and untilled), and d) oats incorporated into the soil as green manure. A continuous pea treatment was also included in the study. Other treatments included incorporation of a mycorrhizal fungus into the soil following oats harvested as grain (tilled and untilled), and into the soil during seeding (tilled and untilled).

In 2006, the soil was inoculated with Fusarium solani f. sp. pisi to ensure that the root rot pathogen was evenly



distributed across the sites. In 2007, oats were planted on the Fusarium solani inoculated site and tillage and mycorrhizal treatments were applied. In 2008, field peas were grown on oat stubble from 2007. A second site was used for inoculation with Fusarium solani f. sp. pisi in 2007 and was used for the establishment of an oat crop in 2008 and for a field pea crop in 2009 following the same protocol used at the first site.

Measurements taken in the field pea plots at both locations in 2008 and 2009 included seedling emergence rates, root rot severity, root nodulation and crop yield. To assess the effects of arbuscular mycorrhizal inoculum on plant growth, above-ground plant biomass and the roots were also sampled in each plot at approximately six weeks after seeding. Root samples from specific treatments at Morden and Brandon also were collected six weeks after seeding and were prepared for future examination to determine the extent of root arbuscular mycorrhizal fungus colonization in each of the plots. In 2009, soil samples were also collected from some of the treatments in order to examine their effects on the composition of the soil microflora. Preliminary statistical analyses of the disease and yield data from 2008 and 2009 indicated the following results.

Considerable variability was observed in the responses of the different disease and agronomic variables to the different cultural management treatments. However, continuous pea production and the green manure treatment usually adversely affected plant biomass production and crop yield. Repeated inoculations of mycorrhizal fungi generally improved root nodulation and yield. Straw removal in combination with tillage sometimes reduced root rot severity. Generally treatments that enhanced seedling emergence and root nodulation also increased yields. Root rot severity and dry plant biomass did not have a direct influence on each other or the other agronomic traits examined in this study. 🍣

### Kan-Fa Chang<sup>1</sup>, Robert L. Conner<sup>2</sup>, Debra L. McLaren<sup>3</sup>, Bruce D. Gossen<sup>4</sup> and Sheau-Fang Hwang<sup>5</sup>

<sup>1</sup>Field Crop Development Centre, Alberta Agriculture and Rural Development, Lacombe, AB <sup>2</sup>Morden Research Station, <sup>3</sup>Brandon Research Centre, <sup>4</sup>Saskatoon Research Centre and <sup>5</sup>Crop Diversification Centre North, Alberta Agriculture and Rural Development, Edmonton, AB

ero-tannin fababean has good potential for use in human food and as a feedstock for livestock and aquaculture. Fababean seed has a high energy and protein (28–32%) content. Fababean has also been used as an excellent forage crop. Inclusion of fababeans in crop rotations has an additional benefit, since the rhizobial bacteria readily form nodules on the roots which can fix large amounts of nitrogen. Much of the nitrogen fixed in the roots of the fababean plants is returned to the soil where it is available to subsequent crops. In the next few years, fababean production is expected to increase in the prairie provinces. Market demand is high and production costs are similar to those for field pea.

Root diseases could be a major constraint to long-term fababean production. Disease surveys of fababean in Alberta from 2004 to 2006 have shown that Fusarium root rot is an important soil-borne disease. More than 13 species of Fusarium have been reported to cause root rot in fababean. Fusarium species infect the taproots and destroy the fibrous roots, resulting in stunting and wilting of the crop leading to major vield losses. Tanninfree fababean cultivars have thinner seed coats with lower concentrations of saponins and alkaloids, which increases their susceptibility to fusarium root rot.

In Alberta, seed-treatment fungicides were evaluated for their control root rot of fababean in preliminary field trials. Treatment of seed with Vitaflo 280 and Apron Maxx improved emergence compared to non-treated controls inoculated with root rot pathogens. Both fungicides also improved yield in plots that had been inoculated with Fusarium species.

In 2009, a new three-year study funded by MPGA was undertaken at sites near Morden, Brandon, Saskatoon and Lacombe to study the effects of seed-treatment fungicides, inoculum concentration and root rot severity on nodulation and yield loss in fababean as well as the interaction between fungicidal seed treatments and inoculum level on emergence, nodulation, root rot and yield. The results from each site are currently being analysed.

In 2009, a joint root rot survey of commercial fababean fields was conducted in Manitoba and Alberta. The survey for root diseases was conducted in late-July to early-August at Brandon, mid-August at Morden and in late-August to early-September in Alberta. Root rot severity was assessed at five sites in each field and a total of 50 plants were collected for isolation of the causal organisms in the laboratory in order to determine the most common cause of root rot. This winter, the pathogenicity of each of the fungal isolates will be determined. The results of the survey will soon be published.

This new research should improve root rot control in fababean and encourage greater fababean production, leading to increased crop diversification. More widespread fababean cultivation will dampen supply fluctuations that currently inhibit the growth of the processing industry and will encourage development of new markets for both raw and value-added products. Improved seed quality also will make fababeans more attractive as a component in meal rations for livestock.

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### 2009 BEAN DISEASE SURVEY

### Robert L. Conner<sup>1</sup>, Debra L. McLaren<sup>2</sup>, Waldo C. Penner<sup>1</sup> and Daniel J. Hausermann<sup>2</sup> <sup>1</sup>Morden Research Station <sup>2</sup>Brandon Research Centre

n 2009, new funding from the Manitoba Pulse Growers Association was used to support research conducted at the Brandon Research Centre to identify the predominant bean root rot pathogens to the species levels in 2009. In addition to conventional procedures for fungal species identification, new molecular methods are being developed, which will enable a much more rapid and precise identification of root rot pathogens. A number of different fungal pathogens have been reported to cause root diseases in dry beans. More rapid and accurate monitoring of the root rot fungi in Manitoba will enable the detection of shifts in the composition of the root rot pathogen populations and this information will also be used to permit a more thorough screening of breeding material as part of the development of new root rot resistant dry bean cultivars.

Two disease surveys of commercial dry beans fields in Manitoba were carried out in 2009. The first survey of root diseases was carried out in the late July when plants were at the early bloom stage. The 40 fields surveyed were selected at random from regions in southern Manitoba, where most field bean crops are grown. At least ten plants were sampled at three separate sites in each field surveyed. Root diseases were rated on a scale of 0 (no disease) to 9 (death of plant or the seedling died back soon after emergence). Fifteen to eighteen roots with disease symptoms were collected from each bean field for isolation of the causal organisms in the laboratory.

Fusarium root rot (Fusarium spp.) was detected in all of the 40 fields surveyed (Table 1), indicating that it continues to be the most prevalent root disease of dry bean. Fields in which Fusarium species were isolated had root rot severity ratings that ranged from 1.9 to 6.8 with an average of 4.3 (i.e., lesions covered more than 50% of the root system). Rhizoctonia root rot (Rhizoctonia solani) was detected in 24 of the 40 crops surveyed with severity ratings of 2.7 to 6.8 and an average severity of 4.3. Twenty-seven crops had average root rot ratings above a severity value of 4, so would have suffered reductions in yield. The identity of the predominant pathogen species isolated from each field is currently being determined.

During the root disease survey, the severity of halo blight (Pseudomonas syringae pv. phaseolicola) also was assessed as a percentage of leaf tissue with symptoms. Halo blight was observed in 10 of the 40 bean fields with severity values ranging from 1 to 15% and averaging 4.3%. Halo blight was a severe problem in some bean fields in Manitoba in 2008 and is usually most severe under cool, wet conditions such as occurred in 2009, so it was expected to be severe and widespread. Fortunately, halo blight did not become a serious problem in 2009.

At the end of the growing season, a survey of foliar diseases was carried out at 43 locations in Manitoba. Foliar diseases were identified based on their symptoms. Common bacterial blight (CBB) (Xanthomonas axonopodis pv. phaseoli) was assessed using a combination of the incidence of leaf infection and symptom severity based on lesion size (0 = no disease to 5 = 50-100% of the leaf area covered by lesions). The severity of anthracnose (Colletotrichum lindemuthianum), rust (Uromyces appendiculatus) and white mould (Sclerotinia sclerotiorum)

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## Table 1. Prevalence and severity of root diseases and halo blight in 40 fields of dry bean in Manitoba in 2009.

	No. Crons	Disease	Severity
Disease	Affected	Mean <sup>1</sup>	Range
Fusarium root rot <sup>2</sup>	40	4.3	1.9-6.8
Rhizoctonia root rot <sup>2</sup>	24	4.3	2.7-6.8
Pythium root rot	0	0.0	0.0
Halo blight <sup>3</sup>	10	4.3%	1–15%

<sup>1</sup>Means are based on an average of the fields in which the diseases were observed. <sup>2</sup>Root diseases were rated on a scale of 0 (no disease) to 9 (death of plant or seedlings died back soon after emergence).

<sup>3</sup>Halo blight severity was assessed as a percentage of leaf tissue displaying symptoms.

Table 2. Prevalence and severity of foliar diseases in 43 fields of dry bean in Manitoba in 2009.

	N. P. LL	Disease Severity <sup>1</sup>		Incidence of Leaf Infectio		
Disease	Affected	Mean <sup>2</sup>	Range	Mean <sup>2</sup>	Range	
Common bacterial blight	43	3.0	3.0	19.1%	1-40%	
Anthracnose	0	0.0%	0.0%			
Rust	1	2.0%	2.0%			
White mould	41	14.5%	0.1-60%			

<sup>1</sup>Anthracnose, rust and white mould severity were rated as the percentage of infected plant tissue; common bacterial blight severity was rated on a scale of 0 (no disease) to 5 (whole plant severely diseased).

<sup>2</sup>Means are based on an average of the fields in which the diseases were observed.

## **Working for You!**



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### **Production/Agronomic**

• Submitted a list of herbicide, fungicide and insecticide priorities for the 2010 Canadian Minor Use Pesticide Priority Setting Workshop to be held on March 23-25 in

- Attended an IP Soybean Production education course in London, Ontario. Topics discussed included global markets for Canadian IP soybeans and IP soybean production challenges and management.
- Attended the Ontario Oil and Protein Seed Crop Committee (OOPSCC) meetings in London, Ontario. Topics discussed included placing food grade soybeans into a Schedule III, Part 1 registration system which would allow for much quicker registration of varieties.

### Research

- Determined MPGA's financial contributions to the projects in the Science Clusters. The Eastern Field Crops Science Cluster was submitted to AAFC on December 23, 2009. The Pulse Science Cluster was submitted to AAFC on January 22, 2010. This is part of the Growing Forward program, which gives us the opportunity to obtain matching federal funding on our research dollars.
- Elected a representative to the Western Grain Research Foundation (WGRF). This person will represent pulse growers in Western Canada and sit on the endowment fund committee, which reviews research proposals.
- Conducted a Call for Research Proposals for beans, soybeans, peas and faba beans in January. Information on the research projects approved for funding in 2010 will appear in the next edition of the Pulse Beat.

### Market Development

• Supported the Canadian Soybean Council (CSC) in organizing its Outgoing Program to Japan. This mission took place during the week of February 22nd.

• Supported Pulse Canada's Market Access initiatives and Canada Brand projects included in their 2010 Agri-Marketing Program. This program is designed to increase market development and improve market access for pulses in Canada.

### Policy

- The CGC will be focusing on ensuring that all elevators and grain dealers are issued the proper class of license. Currently, licensed primary and terminal elevators have a maximum shrinkage level of zero, and there are no regulations pertaining to licensed transfer or process elevators. The CGC proposes to extend the shrinkage allowance of zero to licensed transfer and processed elevators. Stakeholders were invited to communicate their positions to the CGC by October 30, 2009. Zero shrinkage is good for the farmer and is what the MPGA will continue to support.
- Attended KAP's 26th Annual General Meeting in Winnipeg.

### Communication

- Sent a letter to the new Ag Minister, Stan Struthers, requesting a face-to-face meeting to introduce ourselves and discuss our successes, challenges and concerns.
- Helped organize the 4th annual Manitoba Special Crops Symposium, which took place February 10th and 11th at the Winnipeg Convention Centre.
- Participated in Manitoba Ag Days in Brandon. MPGA had a booth set up, providing information on its activities and handing out pulse recipe books. MPGA also had representation at Sask Pulse Days in Saskatoon and FarmTech in Edmonton.
- Co-hosted a CropLife reception at the legislative. The theme was "The future of food, feed, fuel and fibre in Manitoba."

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

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was rated as the percentage of infected plant tissue.

As in previous years, common bacterial blight was the most prevalent foliar disease and symptoms were observed in all 43 of the surveyed fields (Table 2). The incidence of leaf infection caused by common bacterial blight ranged from 1 to 40% with an average of 19.1%, while severity was

consistently rated as 3.0 (lesions covered 10-25% of the leaf area). Incidences of infected leaves of 20% or greater were observed in 26 fields and would have reduced crop yields. Anthracnose was not detected in any of the dry bean crops. White mould was much more severe in 2009 than it had been in the previous four years. White mould symptoms were detected in 41 fields

with an incidence of plant infection that ranged from 0.1 to 60% with an average of 14.5%. An incidence of white mould of 10% or higher was observed in 20 dry bean fields and this would have reduced crop yield. Bean rust was only observed in one dry bean field with an average severity of 2%. 🂐

### Do We Need to Apply Manganese on Soybeans?

Brent Reid, Farm Production Advisor–Pulses and John Heard, Soil Fertility Specialist Manitoba Agriculture, Food and Rural Initiatives

here is some evidence from research in Ontario, Indiana, Wisconsin, Michigan and Kansas that applying glyphosate to RR soybeans for weed control could interfere with the uptake and use of manganese in the plant. Does that hold true for Manitoba? What conditions cause it? What is the best way to overcome the problem if it does happen? Soybean growers are asking those questions so we set out to find some answers.

### THE PROBLEM

Possible causes of sudden yellowing in young soybean plants include iron deficiency chlorosis and lack of nodules and nitrogen. In Ontario and the Corn Belt they have also identified a condition called 'Yellow Flash' which is caused by a lack of manganese (Mn).

There have been reports of suspected Mn deficiency symptoms appearing after glyphosate is applied to RR soybeans, compared to conventional soybeans that aren't sprayed with glyphosate. These reports could lead you to believe that the glyphosate is inducing the deficiency. Growers can recognize this deficiency as interveinal chlorosis (yellowing) on the newest trifoliates. It can vary from a slightly pale green colour in the interveinal tissue, to yellow, to almost white, but the veins remain dark green. This could easily be confused with iron chlorosis which is very common in some areas of Manitoba that have excess moisture, high levels of bicarbonate or salinity.

### THE CAUSE

There are four major soil factors that seem to be common to Mn deficiencies. The most significant factor is high soil pH, and the others include high organic matter, moisture, and soil test levels. Peat soils are high in organic matter and this is where Mn deficiencies tend to be observed on cereals in Manitoba. Dry soils cause Mn to oxidize into a less water soluble form, whereas moist soils allow Mn to remain in the reduced, water soluble form which is readily available for the plant to use. In Manitoba, results from over 5,000 soil tests show the Mn level was below the critical level in only six instances. We do not expect Mn deficiency to be prevalent with such rare occurrences.

George Rehm, a retired University of Minnesota Nutrient Specialist, makes a good point when he states that a lot of research is done in soils that have borderline or deficient levels of Mn to begin with. He cautions growers that it is difficult to take data from one state and transfer it to another.

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## **Contract Agents and Buyers of Edible Beans**

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Researchers at Purdue University in Indiana have attributed some Mn deficiencies to a reduction of the effectiveness of Mn use within the plant. It appears that glyphosate will tie up Mn in the leaf, making it unavailable. Many soybean breeding companies have been doing work on this and have overcome the problem.

### THE MANITOBA EXPERIENCE

This past summer MPGA sponsored trials at Carman, Rosebank and St. Adolphe to test if spraying glyphosate on RR soybeans had any affect on the uptake or use of manganese.

These sites were soil sampled to determine the levels of Mn, pH and soil type. Plots of 3 varieties (LS0036, 24-52R and NSC Portage RR) were replicated 3 times and planted between May 21st and May 28th. Soil Mn at all sites exceeded the critical level of 1.0 parts per million (ppm) and moisture was not limiting in the 2009 season.

Sites	Carman	Rosebank	Ste. Adolphe
Soil Type	Winkler clay loam	Reinfeld Ioam	Scanterbury clay
Soil Mn	11.1 ppm	12.1 ppm	10.2 ppm
Soil pH	7.0	6.4	6.3
Soil OM	5.4%	-	7.5%
Seeding date	May 21	May 27	May 28
Foliar application	June 30	June 30	July 5
SPAD reading	Aug 5	Aug 5	Not done
Tissue test dates			
Pre-spray	June 30	June 30	July 3
Post-Spray	July 8	July 10	July 16
Harvest date	Oct 21	Oct 22	Oct 24

Tissue tests were taken from each plot prior to spraying and all of them far exceeded the published critical levels of 20 ppm for Mn. Tony Vyn, from Purdue University in Indiana, feels that the 20 ppm critical level is based on old research, and critical levels for Mn may have changed because of modern, higher-yielding cultivars, as well as the dominant use of foliar applied glyphosate.

SPAD tests were also taken on the most fully expanded leaf prior to spraying to determine chlorophyll levels.

The soybeans were sprayed at the beginning of July with Roundup WeatherMax or Roundup Ultra 2 at 0.67L/acre with 0.25% v/v LI 700 surfactant in 100L/ha water. The treated plots included Mn fertilizer (Nortrace Citraplex 22% Mn) at 1 lb/ acre. Some research has shown that glyphosate inhibits the uptake of foliar Mn applied prior to, with, and for up to eight days after glyphosate applications. Some growers have been adding it in as a tank-mix partner despite some indications that weed control may be reduced. This effect can be minimized by using a chelated type.

Tissue tests were taken again after spraying. The application of Mn increased tissue Mn levels at two locations; however, all levels still exceeded the published critical levels of 20 ppm.



Chlorophyll levels were also measured after spraying and the content was not influenced by the Mn treatment.



### THE BOTTOM LINE

Growth and yield response to Mn was not expected based on the very high soil and tissue levels and presence of moist spring soils. Similarly, there were no treatment differences in chlorophyll content or visual appearance (Figure 1). The lack of any yield effect at Carman and St. Adolphe was expected; however, the significant yield response at Rosebank was surprising, especially since applied Mn did not increase tissue levels. The yield response was consistent across all three cultivars.

Mn applications did not affect yields at Carman and St. Adolphe, but significantly increased yields at Rosebank by 4.4 bu/ac. This response was unpredictable based upon very high soil and leaf Mn levels.



Yields also varied by location and cultivar, but there were no interactions between Mn application and cultivar.



Further research is required to determine the consistency of this response and whether current soil and tissue critical levels are appropriate for soybeans. Growers need to be cautious in spending time and money on applications of Mn at this time and should continue to focus on the bigger issues like proper inoculation, stand establishment and weed control.

### **PRODUCER PROFILE**

### **Roxanne Roels** Executive Director, Manitoba Pulse Growers Association

raig Riddell has included pulse crops in his rotation for about 20 years, and has grown almost all of them – peas, edible beans, fababeans and soybeans. "I encourage growers to consider the whole package when deciding to include pulses in the rotation," asserted Craig. "In the past, pulse production was often encouraged because of the benefits of reduced fertilizer costs and the rotational benefits for future crops. Today's producer also sees that pulse crops are a solid contributor to the bottom line in the year of production."

Along with his cousin Cliff Riddell, wife Colleen and daughter Maria, Craig operates Riddell Seed Co. at Warren, Manitoba. They farm 2,900 acres, of which, 90% is dedicated to production of pedigreed seed on a wide range of crops, including winter and spring wheat, oats, barley, soybeans, fababeans, canola and several forage seed species.

"Our rotation is based on making every acre contribute to the bottom line," says Craig. "Not only have soybeans and fababeans provided the most consistent production and financial returns of any of our crops over the past several years but they also consistently boost production and returns from the following crops in the rotation. "Recently, their proportion of pulses has grown to cover about 45% of their acreage, and mainly consists of zero-tannin fababeans and soybeans.



Craig and Colleen Riddell with daughter Maria

"These two crops have proven to be the best adapted to our area based on our soil type, climatic conditions, and the strong rotational benefits they offer for the rest of our rotation." Craig goes on to say, "we are consistently impressed by the rotational benefits of these crops on our farm."

Riddell's farm tends to try out new products, crops, and production practices through on farm trials. They conduct head-to-head comparisons of cereals on pulse vs. canola stubble, and have discovered yield gains of up to 20%, not to mention the savings on nitrogen fertilizer. Riddells have found that pulse crops also offer a powerful tool in mixing up both herbicide rotations and application timings to weed populations, reducing the chance of developing herbicide resistance. In addition, growing soybeans and fababeans offer Riddells a chance to employ zero or minimum till practices, which they find challenging with other crop kinds. These pulse

crops also exhibit relative resistance to downgrading from harvest time rains, thereby providing a hedge against exposure to weather related downgrading in other crops.

On the Riddell Seed Co. farm a large portion of their pulse acres are dedicated to certified seed production both for their own retail seed sales and as a contract grower for pulse seed companies. "Pedigreed seed has a large role to play in the pulse industry where buyers are far more focused on sourcing a uniform and consistent product than in other crop sectors," emphasized Craig. "As the pulse crop industry moves to increased traceability, the use of certified seed brings assurances to both producers and buyers that farmers can trust they have a uniform and defined product to justify the segregation and handling steps required in the process."

Craig has been growing Snowbird zero-tannin fababeans since 2007. "Fababeans have always proven to be a good fit on our farm and in the area in terms of performance and offering a great rotational benefit," states Craig. "However, marketing opportunities were limited due to our distance from the traditional foreign food grade markets." In light of this hurdle, he feels that with the registration of a variety with the zero-tannin trait, these fababeans open up a much larger market as a feed ingredient that requires no roasting or further processing as is required with the traditional fababean

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varieties and other pulse crops. "Any livestock feeders we have had switch to zero-tannin fababeans have been verv pleased with this new protein source as a new option in a province still reliant on imported protein. The first variety, Snowbird, has actually proven to be a very good performer for the first one out of the gate and we will be bringing forward new varieties with even better local adaptation in the near future," concluded Craig. He feels that fababeans provide an option for a large part of the province where too few heat units make soybeans questionable or too much moisture limits production of peas as pulse crop options. An additional benefit of fababeans is that there is no other pulse crop that can offer the rotational benefits and nitrogen fixing abilities of this crop.

Craig sees a bright future for pulses as a part of Manitoba crop rotations. "With soybeans, continuous variety improvement has led to the availability of low heat unit lines that don't have the performance drag associated with the earlier varieties we had to work with. Soybeans have become a permanent and reliable crop for a large part of the province," states Craig. "New opportunities like zero-tannin fababeans offer another option for Manitoba producers." Other areas of the province have a real good fit with peas or edible beans.

"What I consider to be the most important development for long-term growth in pulse acres in Manitoba is the arrival of enough reputable buyers to create an effective marketplace for growers to sell these crops," emphasized Craig. "In our area it took a while, but we now have a wide selection of grain companies receiving soybeans, giving growers an established set of options to move their production."

Pulse crops are excellent, solid, and consistent contributors to Riddell Seed Co.'s bottom line. Variety improvements and a better understanding of pulse agronomy make this their new reality. "From a business perspective we're not looking to incorporate pulses as a guard against input costs or to help our cereal crops down the road," says Craig. "The reality is that in recent years we are making sure we include enough pulses in our rotation so we don't have too many cereals where profits have been harder to come by."







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### The Farmers' Perspective on Haiti

Multigrain International LLC www.multigrain.info

arket opportunities for offgrade edible beans and peas come from unexpected places, and this one is humanitarian. Partners of the Red Cross and other faith-based aid groups have asked Multigrain International to communicate their needs to farmers in North America. Our goal is to identify sources of pulses for this Food Aid Procurement Project and its effort to feed victims of the Haitian earthquake. Food aid organizations emphasize that this is not a call for donations. Fair market value will be paid for your products. Because of limited available funding and the time-sensitive nature of their need, these aid groups are looking for off-grade and substandard product, including high damage, old crop or mixed-year crop, and contrasting classes.

In order to take part, log onto *www.multigrain.info*, and if you haven't already, create a profile. Check off the commodities that you handle, and Multigrain International can match your products with their need. The aid groups that are asking for our help will need millions of pounds of product over the foreseeable future.

If you would like to circumvent the process of creating an online profile, just send an email to *foodaid@multigrain.com* with a list of commodities you typically grow, and you will be contacted throughout this and next crop year regarding the Food Aid Procurement Project.

Our goal as an industry is to feed millions of people. In cooperation with the international food aid community, we have a unique opportunity to impact hunger in a profound way.

## **FOB Price Report\***

Prices as of Wednesday, February 17, 2010

Multigrain International - information for the trade, by the trade.

		<u> </u>					
Prices in \$CAD		2010 Dealer Price (CAD/cwt)			2010 Grower Price (CAD/cwt)		
BEANS — PINTOS	REGION	Low	High	Average	Low	High	Average
#1 – Premium Color	ID/MT/NM/OR/WA	39.73	43.91	41.30	28.23	31.37	29.48
#1 – Premium Color	AB/CO/KS/NE/UT/WY	35.55	35.55	35.55	27.18	30.32	28.93
#1 – Premium Color	MB/MN/ND/SD/SK	28.23	31.37	30.42	24.05	26.14	25.29
#1 – Good Color	ID/MT/NM/OR/WA	38.68	43.91	40.43	28.23	29.27	28.93
#1 – Good Color	AB/CO/KS/NE/UT/WY	35.03	35.55	35.29	26.14	30.32	28.58
#1 – Good Color	MB/MN/ND/SD/SK	28.23	31.37	30.26	24.05	28.23	25.35
#1 – Fair/Average Quality (FAQ)	ID/MT/NM/OR/WA	37.64	43.91	40.08	28.23	29.27	28.93
#1 – Fair/Average Quality (FAQ)	AB/CO/KS/NE/UT/WY	35.03	35.55	35.29	26.14	30.32	28.58
#1 – Fair/Average Quality (FAQ)	MB/MN/ND/SD/SK	28.23	31.37	29.86	24.05	28.23	25.35
#2	ID/MT/NM/OR/WA	36.59	42.87	39.03	28.23	28.23	28.23
#2	AB/CO/KS/NE/UT/WY	33.46	33.98	33.72	25.09	29.27	27.53
#2	MB/MN/ND/SD/SK	27.18	29.27	28.54	23.00	25.09	24.18

\*Canadian and US Pinto Bean FOB price report separated by quality, region, dealer and grower pricing.

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## CLANCEY'S STATS

### Brian Clancey Senior Market Analyst and Publisher

t is said that when it comes to commodities, history is two years for farmers and three years for traders. This is clearly expressed when farmers make seeding decisions based on the recent performance of crops.

This is most clearly illustrated with the rush into red lentils occurring in western Canada his year. Farmers in Alberta are expected to boost lentil area from around 42,000 acres to over 300,000 this year; while farmers in Saskatchewan could increase red lentil seedings from around 1.23 to 1.7 million acres this year. That suggests that if Canada plants a record 3.2 million acres of lentils, over two million acres will be red and almost 1.2 million acres green.

By contrast, field pea seedings in western Canada are expected to decline, with some farmers using lentils instead of peas in their rotations this year. This reflects the fact that movement thus far this season has lagged last year while prices have been lackluster. Grower bids through the middle of February average CDN \$5.46 per bushel, down from \$5.90 across the entire 2008–09 marketing year and well below the \$9.05 average bid experienced in 2007–08.

Dry edible beans have managed a steadier performance from a price perspective, but movement is no better than last season. The weighted average grower bids for dry edible beans in the United States has average U.S. \$31.74 per 100 pounds (cwt) since the start of the marketing year, down from its 2008–09 season average bid of \$32.65 cwt and just behind the 2007–08 season average of \$31.92 cwt.

Significantly, export movement of dry edible beans is lagging the previous season, with shipments from Canada down almost 12,000 metric tons (MT) in the August through November period at roughly 40,000 MT. While Canada's smaller crop would be expected to result in a decline in total export movement, growers may interpret a uniformly slower pace as disinterest in the crop.

Dry edible bean growers in the United States are having a slightly better experience. Export movement from the United States is up 1,700 MT from last year at almost 106,000 MT, while total production was down 16,000 at 1.5 million MT.

Grower attitudes toward dry edible beans are also affected by ongoing imports from China and other origins. While North American remains a net exporter of beans, imports are encouraged by the fact prices in that region tend to be above world trading levels. Free trade in beans between Canada, the United States and Mexico has created a huge market where prices are able to rise by roughly the economic value of any tariff and on-tariff barriers to product trying to enter from China, Argentina, Brazil or other origins.

Even so, dry edible bean imports represent a fraction of total production and consumption. Imports by the United States reached 102,546 MT between January and November of 2009, down from 119,812 the previous year. Annual imports have recently

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ranged between a high of 129,877 MT in 2008 and a low of 76,672 MT in 2003. Imports include classes of beans not grown in North America as well as beans needed to replace product shipped from the United States to Mexico.

If not for last fall's harvest delays and resulting quality problems, this season would be very much "business as usual." In the absence of strong prices, movement and any excitement in the market, it is hard to find a reason for dry edible bean seedings to be much changed from last year.

Spring wheat, soybeans, corn and barley are the main field crops grown in North Dakota. It is only in recent years that farmers in that state have planted more land to dry peas, edible beans and lentils than sunflower. But, in each of these specialty crops, North Dakota is the largest producer in the United States.

Dry edible bean generally produce average gross returns per acre than peas, lentils or other field crops grown in North Dakota. This makes sense insofar as there are more production and marketing risks associated with dry edible beans than these other crops. In recent years, gross returns from edible beans have averaged 4% lower than corn; 54% higher than soybeans; and 79% higher than average returns in the state from growing all classes of wheat.

So far this season, dry edible beans have managed a better than average performance relative to wheat and corn in North Dakota, but have underperformed relative to soybeans. Crop budgets prepared by North Dakota State University suggests the gross income potential from edible beans will decline further relative to corn and soybeans in the coming marketing year, but will continue to out-perform wheat.

Wheat acreage is declining in North Dakota, but growers are more likely to switch that land into soybeans and corn than take a chance with dry edible beans. This suggests there will not be much of an increase in edible bean seedings in North Dakota. It may only rise from 610,000 to 635,000 acres, while total land in edible beans in the United States remains basically unchanged at around 1.561 million acres. Land in edible beans in Canada is also unlikely to rise, with growers in Manitoba continuing to expand soybean area.

If realized, it may be a disappointment to packagers and food manufacturers in Mexico. They are unusually interested in this season's acreage outlooks for black and pinto beans in the United States, suggesting they are worried about their crops.

So far, moisture has been uneven in some of Mexico's key growing areas, suggesting regional shortages could develop. If there are problems in Mexico and no improvement in production levels in Canada and the United States, there could be greater interest in eliminating non-tariff and tariff trade barriers affecting imports from China and elsewhere.

Such a combination of events suggests there will be considerable tension in North Americas internal market for dry edible bean throughout 2010. But, it seems unlikely to result in any significant changes in grower interest toward beans.

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- Stringent, third-party quality control

#### B-Beans, F-Fababeans, L-Lentils, P-Peas, S-Soybeans

Company	Commodity	Phone	City/Town	CGC Registered
Agassiz Feeds	Р	204-638-5840	Dauphin, MB	Ν
Agassiz Seed Farm Ltd.	B, S	204-745-6655	Homewood, MB	Ν
AgriTel Grain Ltd.	P, S	204-268-1415	Beausejour, MB	Ν
B. B. F. Enterprises Ltd.	S	204-737-2245	Lettellier, MB	Ν
Belle Pulses Ltd.	Р	306-423-5202	Bellevue, SK	Y
Best Cooking Pulses, Inc.	P, L	204-857-4451	Portage la Prairie, MB	Y
B & R Seeds Ltd.	P	204-379-2582	St. Claude, MB	Ν
Cargill Ltd.	Р	204-947-6219	Winnipeg, MB	Y
Central Grain Company	В	204-233-4977	Winnipeg, MB	Ν
Global Grain Canada	В	204-829-3641	Plum Coulee, MB	Y
H & W Seed Service	В	204-325-7440	Winkler, MB	Ŷ
Hensall District Co-op	В	204-295-3938	Winnipeg, MB	Ŷ
Horizon Agro	P. L. S	204-746-2026	Morris, MB	Ŷ
James Richardson International	р	204-934-5621	Winnipeg, MB	Ŷ
Pioneer Grain	р	204-934-5961	Winnipeg, MB	Ŷ
• Tri Lake Agri Limited	р	204-523-5380	Killarney, MB	Ŷ
Iordan Mills	S	204-331-3696	Winkler MB	Y
Delmar Commodities	S P	201-331-3696	Winkler MB	Y
Linear Grain	B S P	201 551 5676	Carman MB	v V
Portage Bean Station	B, 5, 1	204-745-0747	Macdonald MB	v V
Louis Drevfus Canada Ltd	D	204-274-2225	Wacdonaid, Wib	1
• Virden Station	p	204-748-6282	Virden MB	v
Masterfeeds	FP	204-638-5840	Dauphin MB	N
Nutri-Dea I td	1, 1 D	204-030-3040	Portage la Prairie MB	N
Parent Seeds I td	RDIS	204-237-3553	St Joseph MB	V
Adrain Bean Station	B, I, L, J	204-757-2025	Macdonald MB	I V
Parrish & Heimbecker I td	D	204-830-9111	Winning MB	I V
• Nutri Dea Limited	r D	204-987-4920	Portago la Proirio MB	I N
Paterson & Song Limited N M		204-255-5555	Winning MB	V
Quarry Crain Commodition	r, 5 S	204-750-2070	Stonowall MB	I N
Poy Logumov	BEIDS	204-407-0077	St. Joan Bantista MB	V
• Fisher Seeds I td	D, 1, L, 1, 5 E	204-730-3377	Dauphin MB	I V
Duncan Soads	P R	204-022-0000	Mordon MB	I V
S S Johnson Soods	D D B	204-022-0027	Arborg MB	I V
Saskatchawan Wheat Pool AgPro	r, D D I	204-570-5228	Pagina SV	I V
Saskatchewan wheat root – Agrio	r, L S	204 737 2000	Latellior MR	I V
The Duratone Corporation	5 D	204-737-2000	Arborg MB	I N
The Furatone Corporation	R D I	204-370-3000	Blanhaim ON	IN V
Kaystona Crain	D, I, L B S	204 325 9555	Winklor MR	I V
Circle T Agri Services	D, 3 B	204-323-3333	Troborno MB	I V
• Circle 1 Agri Services	D	204-723-2104	Educin MB	I V
TransClobal Commodition	D DDCI	204-232-2132	Minning MP	I N
Vanderween Commodity Services	D, F, S, L S	204-975-0805	Carman MB	IN V
Vitorro	5	204-745-0444	Winning MP	I V
Viterra Special Crops	r, o DELD	204-934-1320	Correct MB	I V
Descripting Station	D, г, L, г р	204-743-0711	Dortago la Drairio MP	I V
Receiving Station	D	204-830-0373	Portage la Prairie, MB	I V
Profinio Mountain Acri I + 1	D D	204-029-2004	Pluin Coulee, MB	ľ V
• France Mountain Agri Ltd.	r D	204-93/-03/0	KODIIN, MB	ľ V
Winkler Deceiving	D D	/01-349-3/21	vvainalia, ND	Y V
• winkler Kecelving	D D	204-325-0/6/	WINKIER, MB	Y V
walker Seeds Ltd.	r	200-8/3-3///	I isdale, SK	Ү У
western Grain Trade Ltd.	Р	306-445-4022	North Battleford, 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**



- 1) Mash  $\frac{3}{4}$  of the beans.
- 2) In large non-stick skillet, cook beef, onions and garlic over medium heat, about 6 minutes or until beef is no longer pink and onions are translucent. Spoon off excess fat.
- 3) Stir in mashed beans, whole beans, tomato paste, water, basil, thyme and oregano. Bring to boil, reduce heat and simmer until slightly reduced, about 15 minutes. Season with salt and pepper.
- 4) In medium bowl, combine egg with cottage cheese and mix well.

### Bean Lasagna

### Serves 8 (1.8 kg) 2 cups (500 mL) cooked red kidney beans OR 1 – 19 oz can (540 mL) red kidney beans, rinsed and drained ½ lb (250 g) lean ground beef 1 onion, chopped 1 garlic clove, minced 13 oz can (369 mL) tomato paste 3 cups (750 mL) water

1 tsp (5 mL) dried basil <sup>1</sup>/<sub>2</sub> tsp (2 mL) ground thyme <sup>1</sup>/<sub>2</sub> tsp (2 mL) ground oregano <sup>1</sup>/<sub>2</sub> tsp (2 mL) salt and pepper 1 egg, slightly beaten 2 cups (500 mL) 1% cottage cheese 8 oven-ready lasagna noodles 2 cups (500 mL) part-skim mozzarella cheese, shredded

- 5) Preheat oven to 350°F (180°C).
- 6) Spread 1<sup>1</sup>/<sub>2</sub> cups of meat sauce over bottom of 13 x 9-inch baking/lasagna dish. Set 1 cup of sauce aside. Arrange 4 lasagna noodles over sauce then coat with meat sauce again. Spread half of cottage cheese mixture over meat sauce then half of mozzarella over cottage cheese.
- 7) Repeat noodles to mozzarella layer.
- 8) Bake until noodles are tender, about 40 minutes. Let stand about 10 minutes before cutting.

### **Five-Minute Dips**

Serves 16 (480 g)

- 1 19 oz can (540 mL) black or navy beans\*, rinsed and drained
- $^{1\!\!/_{\!\!2}}$  cup (125 mL) fat-free ranch dressing
- <sup>1</sup>/<sub>2</sub> tsp (2 mL) cumin\*\*
- 2 garlic cloves
- \*For lentil dip, use lentils instead of beans
- \*\*For lentil dip, use 1 tsp curry powder instead of ½ tsp cumin
- 1) Place all ingredients into food processor or blender. Blend to desired consistency.





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<sup>1</sup> In the year of application. Better Crops/Vol. 86 (2002, No. 4), International Plant Nutrition Institute.

\* In 38 farmer-conducted split-field trials, TagTeam increased soybean yields by an average 7%. All trial results are published on our website. ® TagTeam and MultiAction are registered trademarks of Novozymes A/S. All rights reserved. © 2009 Novozymes. 9084 10.09 LUNA 2009-24047-01