

Message from Director of Research and Production

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A BIG PART of MPSG’s mission is to provide production support to farmers. Frequently, this means finding and translating scientifically valid answers to agronomic questions. One challenge we share with growers is that the well of made-in-Manitoba answers is, in some cases, quite shallow. This is because our history of pulse and, especially, soybean production and research is relatively short. Questions pile up fast; good, useful answers take time. MPSG’s research committee deals with this reality by setting priorities and patiently sticking with them.

In the current round of new research projects, we’ve maintained that approach. We have six questions to answer about yield and quality, including the need to understand what our options are to increase soybean crude protein. On the overall question of containing pest control costs, we’ve funded work to get a handle on glyphosate-resistant weeds. The plan to improve soil quality will be helped by research to understand how soil pathogens respond to annual legumes. And, with the burgeoning market for plant protein, it’s time to answer the question of how our crops can be made into various forms of tofu. Step by step, the well is getting deeper. ■

2020 Funding Approved for Research†

RESEARCHER	PROJECT	START	END	MPSG FUNDING	TOTAL VALUE		
CROP YIELD AND MARKET QUALITY							
MPSG – MCVET	Evaluating Yield, Disease Resistance and Protein in Pulse and Soybean Varieties	1990	ongoing	cost recovery	cost recovery		
AAFC – Hou	Evaluation and Selection of Adzuki Beans for Adaptation and Production in Manitoba	2017	2020	\$108,000	\$108,000		
AAFC – Mohr	Management Practices to Optimize Establishment and Early-Season Growth of Soybeans	2017	2021	\$73,462	\$144,022		
IHARF				\$35,280			
CMCDC				\$35,280			
U of M – Lawley	Cover Crop Strategies for Dry Bean and Soybean Crops in Manitoba	2017	2022	\$195,444	\$195,444		
U of M – Lawley	Predicting Soybean Phenology in Manitoba	2017	2020	\$73,600	\$147,200		
AAFC – Morrison				\$22,800	\$45,600		
AAFC – Mohr	Sustainable Soybean Cropping Systems for Western Manitoba	2017	2022	\$98,325	\$196,651		
U of M – MacMillan	Soybean Seeding Windows	2017	2019	In 2016, MPSG committed \$400,000 per year for five years to support applied research at the University of Manitoba. Under this program an Agronomist-in-Residence conducts research, extension and student training. Projects are reviewed annually to ensure they align with farmer priorities.	\$417,796.50		
U of M – MacMillan	Soybean Seeding Depth Assessment	2017	2019				
U of M – MacMillan	Soybean Iron Chlorosis – Variety Screening	2017	ongoing				
U of M – MacMillan	Effect of Preceding Crop and Residue Management on Dry Beans	2017	ongoing				
U of M – MacMillan	Optimizing Nitrogen Rates for Dry Bean Production	2017	ongoing				
U of M – MacMillan	Novel Pulse Cropping Systems	2017	ongoing				
U of M – Lawley	Optimizing the Frequency of Soybeans in Manitoba Crop Rotations	2018	2022				
PAMI	Assessment of Pre- and Post-Emergent Rolling in Non-Stony Fields	2018	2020			\$58,780	\$117,561
AAFC – Hou	Dry Bean Breeding for Early Maturity and Pest Resistance	2018	2023			\$728,188	\$1,456,376
AAFC – Bing	Pea Breeding for Yield, Pest Resistance and Flavour	2018	2023			\$98,630	\$2,776,828
AAFC – Han				\$43,155			
AAFC – Cober	Short-Season Food-Type Soybean Breeding	2018	2023	\$186,930	\$2,368,188		
AAFC – Cober	Meeting the Soybean Protein Meal Standard in Western Canada	2018	2023	\$131,699	\$658,500		
MPSG – On-Farm Network	Soybean Response to Seeding Rate	2012	2020	OFN	OFN		
MPSG – On-Farm Network	Evaluation of Single vs. Double vs. No inoculation Strategies for Soybeans	2017	2020	OFN	OFN		
MPSG – On-Farm Network	Soybean Response to Biological Stimulants	2019	2022	OFN	OFN		
MPSG – On-Farm Network	Soybean Response to Row Spacing	2019	2022	OFN	OFN		
MPSG – On-Farm Network	Evaluation of inoculation Strategies for Peas	2019	2022	OFN	OFN		
MPSG – On-Farm Network	Evaluation of Inoculation Strategies for Dry Beans	2019	2022	OFN	OFN		
MPSG – On-Farm Network	Dry Bean Response to Nitrogen Fertility	2019	2022	OFN	OFN		
MPSG – On-Farm Network	Intercropping with Soybeans	2019	2022	OFN	OFN		
WADO	Intercropping Practices for Yellow Peas	2019	2022	\$23,004	\$69,012		
AAFC – Mohr	Economic and Environmental Value of Peas and Soybeans in Rotation	2019	2022	\$82,800	\$160,560		
U of M – Stasolla	Genetics to Overcome Drought and Salinity Effects in Soybeans	2019	2022	\$139,725	\$270,945		
U of M – House	Overcoming the Discount for Low Protein: Genetics and Environment Effects	2019	2021	\$48,875	\$140,635		

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RESEARCHER	PROJECT	START	END	MPSG FUNDING	TOTAL VALUE
CROP YIELD AND MARKET QUALITY continued					
U of M – Oresnik	A Superior Rhizobium Strain for N-Fixation in Soybeans	2019	2022	\$188,830	\$366,166
MPSG/MWBG/MCGA	Tools and Techniques to Manage Extreme Moisture	2019	2022	\$120,000	\$823,000
REDUCE THE COST OF PEST CONTROL					
U of M – Gulden	Rotational Effects and Optimized Plant Spatial Arrangement for Wheat Production in MB	2017	2022	\$82,800	\$349,140
U of M – Costamagna	Determining the Role of Crop and Non-Crop Habitats to Provide Sustainable Aphid Suppression in Soybeans	2017	2020	\$107,838	\$215,677
MPSG – On-Farm Network	Soybean Response to Seed Treatment	2017	2020	OFN	OFN
MPSG – On-Farm Network	Field Pea Response to Foliar Fungicide	2017	2020	OFN	OFN
MPSG – On-Farm Network	Dry Bean Response to Foliar Fungicide	2017	2020	OFN	OFN
MPSG – On-Farm Network	Soybean Response to Foliar Fungicide	2018	2020	OFN	OFN
U of M – Gulden	Optimizing Plant Spatial Arrangement and Weed Management for Dry Bean Production	2015	2020	\$236,325	\$236,325
AAFC – McLaren	Management of Root Rot in Peas in Manitoba	2018	2021	\$0	\$88,305
U of A				\$45,404	
BU – Cassone	Evaluation of the Risks Associated with Wireworm to Soybean Production	2018	2021	\$44,053.50	\$157,090
U of M – Entz	Novel Mechanical Weed Control Tools for Integrated Weed Management in Narrow-Row Dry Beans	2018	2020	\$68,200	\$115,000
U of M – Entz	Combcut Control of Herbicide Escapes in Soybean	2019	2020	\$13,570	\$27,140
AAFC – Vankosky	Prairie Insect Survey	2018	2023	\$20,000	\$571,000
AAFC – Leeson	Prairie Weed Surveys	2018	2023	\$25,000	\$753,100
AAFC – Leeson	Prairie Herbicide-Resistant Weed Survey	2018	2023	\$3,000	\$88,000
* AAFC – Geddes	The Next Generation of Prairie Herbicide-Resistant Weed Surveys	2020	2023	\$48,445	\$96,890
AAFC – Turkington	Prairie Disease Monitoring Network	2018	2023	\$45,000	\$1,360,000
AAFC – Geddes	Glyphosate-Resistant Kochia – Rotation, Seeding Rates and Row Spacings	2018	2023	\$15,000	\$1,282,000
PAMI – Landry	Spray Drift Reduction with High-Clearance Sprayers	2018	2023	\$30,000	\$424,000
AAFC – Mohr	New Crop Rotation Economics	2018	2023	\$35,000	\$1,300,000
U of L – Leroy	Economics of Diverse Crop Rotations	2018	2023	\$15,000	\$351,000
AAFC – Chatterton	Optimizing Disease Management Strategies for White Mould and Bacterial Blights of Dry Bean	2018	2023	\$61,951	\$616,904
AAFC – Chatterton	Pea Root Rot – Resistance Genes, Crop Rotation and Intercropping	2018	2023	\$30,679	\$1,636,818
AAFC – Shirliffe				\$18,426	
U of M – Tenuta				\$20,639	
AAFC – Chatterton	Root Lesion Nematode Survey	2018	2023	\$4,975	\$853,813
AAFC – McLaren	Strategies for Effective Management of Phytophthora and Root Rot Complexes of Soybeans	2018	2023	\$75,506	\$887,919
LU – Belanger	Root Diseases – Genetic Screening Methods	2018	2023	\$44,657	\$652,776
U of M – Daayf	Defining Pathogen-Related Soil Quality Targets for Annual Legumes to Pursue Through Crop Rotation	2019	2022	\$88,172	\$253,782
U of M – Daayf	Soybean Disease Survey	2019	2020	\$60,000	\$60,000
AAFC – Geddes	Integrated Weed Management to Mitigate Glyphosate-Resistant Weeds	2019	2022	\$110,940	\$309,984
* BU – Cassone	Development of Improved Diagnostic Tools for Pathogens of Soybeans	2020	2023	\$87,804	\$175,608
GROW MARKET DEMAND					
U of G – Duncan	Cholesterol-Lowering Properties of Dry Beans	2018	2023	\$136,431	\$757,680
AAFC – Ramdath				\$47,196	
U of S – Nickerson	Pulse Ingredient Processing for Improved Flour Quality	2018	2023	\$103,802	\$2,866,150
AAFC – Hou				\$12,571	
AAFC – Balasubramarium	Dry Bean Cooking Quality	2018	2023	\$15,942	\$87,444
RRC – McRae	Manufacturing Tofu from Dry Beans	2019	2022	\$39,928	\$84,020
IMPROVE SOIL QUALITY					
U of M – Lobb	Agronomic and Environmental Impacts of Land Rolling in Soybean Production	2018	2020	\$49,450	\$91,727.40
U of M – Lawley	Cover Crops – Establishment Windows, Soil Health and Yield	2018	2023	\$40,000	\$1,519,772.15
MPSG – On-Farm Network	Field Rolling in Soybeans	2018	2021	OFN	OFN
* U of M – Tenuta	Validating an Available On-Farm Soil Health Test Method	2020	2022	\$84,695	\$168,426
On-Farm Network (OFN)				\$431,000	\$431,000
Total Project Funding Commitments				\$4,634,138	\$28,899,975

* Indicates new projects

† At time of printing.

AAF – Alberta Agriculture and Forestry
AAFC – Agriculture and Agri-Food Canada
BU – Brandon University
CMCDC – Canada-Manitoba Crop Diversification Centre

IHARF – Indian Head Agricultural Research Foundation
LU – Laval University
MCGA – Manitoba Canola Growers Association
MCVET – Manitoba Crop Variety Evaluation Trials
MPSG – Manitoba Pulse & Soybean Growers

MWBG – Manitoba Wheat and Barley Growers Association
PAMI – Prairie Agriculture Machinery Institute
RRC – Red River College
U of A – University of Alberta

U of G – University of Guelph
U of L – University of Lethbridge
U of M – University of Manitoba
U of S – University of Saskatchewan
WADO – Westman Agricultural Diversification Organization