

## CAP Ag Action Manitoba - Research and Innovation Activity

### Projects approved 2018-2020 (first 3 intakes)

Applicant Institution	Project Title	Project Length	Project Start Date	Project End Date
151 Research Inc.	Stored Grain Spoilage Monitoring with 3D Imaging	3 Years	2018	2021
Agriculture and Agri-Food Canada	Investigating the Potential of Avenanthramides on Glycemic Control - a novel marketable attributes for Manitoban oats	2 Years	2018	2020
Agriculture And Agri-Food Canada	Genomics research for improving rust resistance in wheat, a component of the Genome Canada project '4D Wheat'	3 Years	2020	2023
Agriculture and Agri-Food Canada	Evaluation of genetic resistance and commercial fungicides for the management of Fusarium head blight on barley and oat	3 Years	2019	2022
Brandon University	Soil health assessment for enhanced productivity and resilience for cattle grazing systems in Manitoba grasslands	3 Years	2019	2022
Canadian Hemp Trade Alliance	Defining best management practices & technologies for safer storage, aeration & drying of whole hemp plants and seeds	3 Years	2019	2022
Canadian Malting Barley Technical Centre	Development of malting and brewing analytical services at CMBTC	1 Year	2018	2019
Canadian Malting Barley Technical Centre	Assessment of new malting barley varieties for production and malting selection in Manitoba	3 Years	2020	2023
Cytophage Technologies Inc.	Creating bacteriophage to replace antibiotics in disease prevention within Manitoba's swine industry	3 Years	2019	2022
Direct Farm Manitoba	Economic Impacts of Farmers' Markets in Manitoba	1 Year	2020	2021
DL Seeds Inc.	Building Capacity for New Traits in Canola	1 Year	2018	2019
EcoPoxy Inc.	Ecopoxy Bio-based Resin Technology Development	3 Years	2018	2021
Function Four Ltd.	Smart apiary management - using embedded sensors, machine learning, and AI to optimize production, improve product quality, economic diversification	3 Years	2019	2022
Genome Prairie	Genome360 SeekNET: Manitoba agricultural next generation sequencing network	2 Years	2020	2022
Horizon Lab Ltd.	Milk Measurements to Enhance Health of Dairy cows	2 Years	2018	2020
International Institute for Sustainable Development	Reducing Agriculture's Climate Risks and Impacts Through Better Water Retention Management and Spatial Hydrologic Modeling	3 Years	2020	2023
International Institute for Sustainable Development	Targeted Action - Improving Outcomes from Agricultural BMPs in Manitoba's Watersheds	3 Years	2019	2022
Manitoba Canola Growers Association	Next Generation Biosurveillance in Canola	3 Years	2018	2021
Manitoba Crop Alliance	Corn Population and Row Spacing Project	2 Years	2018	2020
Manitoba Crop Alliance	A comprehensive, multidisciplinary, multi stakeholder approach to the development of tools and techniques to manage extreme moisture	3 Years	2019	2022
Manitoba Crop Alliance	Enhancing pre-harvest sprouting tolerance in wheat	3 Years	2019	2022
Manitoba Crop Alliance	Optimizing Pre-harvest sprouting tolerance in malting barley	2 Years	2018	2020
Manitoba Crop Alliance	ROI of Variable Rate Fertilizer Prescriptions	2 Years	2019	2021
Manitoba Crop Alliance	Short and long term strategies for mitigating the effects of excess moisture on wheat yield and quality	3 Years	2018	2021
Manitoba Crop Alliance	Beneficial Practices for Soil and Water Quality, Excess Water Management and Drought Resiliency in an Undulating Soil-Landscape in Southwestern Manitoba	3 Years	2020	2023
Manitoba Crop Alliance	Development of Long Type Confection Sunflower Hybrids	3 Years	2018	2021
Manitoba Crop Alliance	Development of Long-Type Confection Sunflower Hybrids - Phase 2	3 Years	2020	2023
Manitoba Forage and Grassland Association	Investigating the influences of soil health and land drainage on the hydrologic behavior of the Assiniboine River Basin	1 Year	2019	2020
Manitoba Forage Seed Association	Alfalfa Blossom Blight Fungicide Control	2 Years	2019	2021
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Manitoba Forage Seed Association	Effects of Plant Growth Regulator Application Timing on Perennial Ryegrass	2 Years	2019	2021
Manitoba Forage Seed Association	Effects of trinexapac-ethyl (TE) on Established Annual Ryegrass and Fescue Seed Crops	3 Years	2020	2023
Manitoba Horticulture Productivity Enhancement Centre	Yield Improvements for Manitoba's Potato Industry	3 Years	2018	2021
Manitoba Pork Council	Suspended Burlap Strip for Sow Enrichment in Farrowing: Effect on Sow Behaviour and Piglet Performance	1 Year	2018	2019
Manitoba Pulse & Soybean Growers	Assessment of Pre- and Post-emergent Rolling of Non-stony Soybean Fields	2 Years	2018	2020
Manitoba Pulse & Soybean Growers	Building knowledge and achieving genetic improvements to overcome the effect of drought and salinity on soybean	3 Years	2019	2022
Manitoba Pulse & Soybean Growers	Defining Pathogen Related Soil Quality targets for Annual Legumes to Pursue Through Crop Rotation	3 Years	2019	2022
Manitoba Pulse & Soybean Growers	Development of an integrated weed management (IWM) package to mitigate and manage glyphosate-resistant weeds in soybean	3 Years	2019	2022
Manitoba Pulse & Soybean Growers	Development of Superior Rhizobium spp Strains to support Biological Nitrogen Fixation in Dry Bean	3 Years	2019	2022
Manitoba Pulse & Soybean Growers	Economic and environmental potential of growing dry pea and soybean in a common rotation	3 Years	2019	2022
Manitoba Pulse & Soybean Growers	Evaluation of the Risks Associated with Wireworm to Soybean Production	3 Years	2018	2021
Manitoba Pulse & Soybean Growers	First 3 Years of 5 Year Study into the Management of Root Rot of Pea in Manitoba	3 Years	2018	2021
Manitoba Pulse & Soybean Growers	Impacts of Land Rolling on Soil Erosion	2 Years	2018	2020
Manitoba Pulse & Soybean Growers	Inter-cropping Practices for Yellow Pea	3 Years	2019	2022
Manitoba Pulse & Soybean Growers	Overcoming the Discount of Low protein in Manitoba Soybean. Determination of the Impact of Genotype, Environment and Year on Soy Protein Quality	2 Years	2019	2021
Manitoba Pulse & Soybean Growers	Investigating pea crop rotation length and sequence for sustainable protein production in Manitoba	3 Years	2020	2023

Manitoba Pulse & Soybean Growers	Evaluating the Feeding Value of Western Canadian Soybean for Layers, Pullets, Broilers, and Swine	3 Years	2020	2023
Manitoba Pulse & Soybean Growers	The Next Generation of Prairie Herbicide-Resistant Weed Surveys and Biovigilance	2 Years	2020	2022
Manitoba Pulse & Soybean Growers	Effect of the Frequency of Soybean in the crop rotation on Rhizobium and the Soil Microbial Community	3 Years	2020	2023
Manitoba Pulse & Soybean Growers	Understanding how soil health affects soybean yield and protein and how those effects vary by factors the grower can and cannot control	3 Years	2020	2023
Manitoba Pulse & Soybean Growers	Development of Improved Diagnostics Tools for Pathogens of Soybean	3 years	2020	2023
Maple Leaf Foods Inc.	Freedom Farrowing Crate Options in Existing Sow Facilities	1 Year	2018	2019
Maple Leaf Foods Inc.	Developing a Next Generation Agriculture Biosecurity System to Enhance the Canadian Pork Industry	1 Year	2020	2021
Minto BioProducts Ltd.	Using fungal endophytes for enhanced production of agricultural crops in saline areas in Manitoba	3 Years	2020	2023
MSP Starch Products Inc.	MSPrebiotic Biomarker Discovery - mining microbiome and metabolomic data to link prebiotic consumption to improved parameters in healthy people	2 Years	2020	2022
New Era Ag Technologies Inc.	Assessing the effects of wood ash as a soil amendment to control clubroot and on the growth and yield of wheat, canola, soybeans, and field peas in North West Manitoba soils	3 Years	2020	2023
Parkland Industrial Hemp Growers Co-op Ltd.	Hemp Specialty Variety Development	3 Years	2018	2021
Peak of the Market	Characterization of the soil biological, chemical, and environmental factors related to the incidence of tuber blemishes on (Dark) Red Norland	2 Years	2019	2021
Peak of the Market	Seed Management of Sangre for Optimal Performance	3 Years	2018	2021
Prairie Agricultural Machinery Institute	Develop double cut header system for hemp	1 Year	2018	2019
Prairie Agricultural Machinery Institute	Pneumatic Grain Conveying in Seeding Equipment	2 Years	2019	2021
Prairie Mountain Hops	Construction and purchase of industrial hops cooler building, hops drier building, electrical power upgrades and routing and purchase of industrial hops processing equipment including harvester pelleting machine and vacuum packaging equipment	2 Years	2018	2020
Prairie Skyline Ventures Ltd.	Characterization of an active ingredient in buckwheat with glucose lowering properties	1 Year	2018	2019
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Red River College	Development of value-added food platform technologies using plant-based proteins sources including bean, soy and hemp	2 Years	2019	2021
Richardson International Limited - Innovation Centre	Richardson Innovation Centre - equipment purchase	1 year	2018	2019
Schweitzer-Mauduit Canada, Composites Innovation Centre Manitoba Inc.	Flax shive briquettes for biomaterial applications	1 Year	2018	2019
SeCan Association	Accelerated Development of High Yielding, Disease Resistant, Spring Wheat Varieties for Manitoba (ADWM)	3 Years	2018	2021
Southeast Resource Development Council	Screening Varieties of Purple Potatoes, Purple Carrot and Lingonberries to Identify High Bioactive/Antioxidant Levels	3 Years	2020	2023
Southeast Resource Development Council	Field Trials for Growing Wild Rice on Inland Paddies	3 Years	2020	2023
St. Boniface General Hospital Inc.	Effects of dietary flaxseed on memory and cognition	3 Years	2019	2022
St. Boniface General Hospital Inc.	Flaxseed prevents broken hearts in breast cancer (CANFLAX study)	3 Years	2019	2022
St. Boniface General Hospital Inc.	Pea Protein Sustains Muscle Mass in Weight Loss	3 Years	2018	2021
St. Boniface General Hospital Inc.	The effect of flax milk on arterial hypertension. Evaluation of blood pressure response by 24 hour ambulatory blood pressure monitoring	2 Years	2019	2021
St. Boniface General Hospital Inc.	Can processing technique and/or inclusion of protein isolates alone or in combination with animal protein enhance the benefits of functional foods containing Manitoba grown beans?	3 Years	2020	2022
Steve's Livestock Transport Ltd.	The Utilization of Advanced Transport Technology for Isowean Piglet Transportation	2 Years	2018	2020
SWM International, Schweitzer Mauduit Canada Inc.	Research and development of natural twines for Large Square Balers	2 Years	2019	2021
Topigs Norsvin Canada Inc.	Improving competitiveness and sustainability of pork production through increase in feed efficiency, improved carcass quality and higher animal welfare standards by innovative application of microbiome profiling, computed tomography and genomics	3 Years	2018	2021
University of Alberta	Evaluation of red osier dogwood extract as alternative to antibiotics to improve growth and health of newly weaned calves	2 Years	2019	2021
University of Manitoba	Assessing the Impact of Tile Drainage and Water Management on Yield and Quality of Canola and Soybean	3 Years	2018	2021
University of Manitoba	Biobed for managing pesticide rinsate with on-farm testing under Manitoba conditions	3 Years	2019	2022
University of Manitoba	Breeding and development of intermediate wheatgrass as a perennial grain crop for western Canada	3 Years	2019	2022
University of Manitoba	Preserving Soil Health on Farmed Clay Soil in Manitoba	3 Years	2019	2022
University of Manitoba	CombCut control of herbicide escapes in soybean	1 Year	2018	2019
University of Manitoba	Cost-effectiveness analysis of the anti-inflammatory effects of flax oil	2 Years	2019	2021
University of Manitoba	Cover Crops and Cropping Systems Innovation for Manitoba	3 Years	2019	2022
University of Manitoba	Developing rapid molecular diagnostic tools for detecting herbicide resistant weed biotypes	2 Years	2019	2021
University of Manitoba	Effect of plant growth regulators on Fusarium head blight infection of spring wheat	3 Years	2019	2022
University of Manitoba	Enhancing tolerance to iron deficiency	3 Years	2018	2021
University of Manitoba	Frequency of Soybean in Manitoba Crop Rotation	3 Years	2018	2021
University of Manitoba	Investigation of health promoting effects of Manitoba-grown Red Osier Dogwood as an alternative to antibiotics in nursery pig production	2 Years	2019	2021

University of Manitoba	IWM in narrow-row field beans	2 Years	2018	2020
University of Manitoba	Linking Fusarium traits to malt quality defects	3 Years	2019	2022
University of Manitoba	Manitoba Agricultural Policy and Economic Analysis Internships	3 Years	2019	2022
University of Manitoba	Mitigating Free Asparagine, Acrylamide Precursor	3 Years	2018	2021
University of Manitoba	Mitigating Soybean Harvest Losses Through Enhancing Podding Height	3 Years	2018	2021
University of Manitoba	Perennial forage grain for fall grazing of beef cattle	3 Years	2019	2022
University of Manitoba	Strategic Supplementation for Cattle Performance	2 Years	2019	2021
University of Manitoba	Supervision of Autonomous Agricultural Machines	3 Years	2018	2021
University of Manitoba	The role of gut microbiome and diet type in determining the efficiency of feed utilization in swine	3 Years	2019	2022
University of Manitoba	Tools for cultivar-specific plant stand optimization in wheat	2 Years	2019	2021
University of Manitoba	Integrated Management of Varroa and its Interacting Stressors to Enhance Winter Survival of Honey Bees	3 Years	2020	2023
University of Manitoba	Smart Vertical Farm for Health in Northern Communities	3 Years	2020	2023
University of Manitoba	Optimization of struvite as a phosphorus fertilizer in Manitoba crop rotations	3 Years	2020	2023
University of Manitoba	Assessing the relationship between tick abundance on pastures and on cattle, and the risk ticks represent to cattle and livestock workers	3 Years	2020	2023
University of Manitoba	Novel locally-sourced high-quality protein feeds for cattle	3 Years	2020	2023
University of Manitoba	Efficacy and Safety of White Button Mushrooms	2 Years	2019	2021
University of Winnipeg	Socioeconomic Impact of a Legume-Based Health Care Intervention for Treating Peripheral Artery Disease	2 Years	2020	2021
University of Winnipeg	Impacts of cattle grazing on the proliferation of foxtail barley and the function of wet meadow rangelands in Manitoba	2 Years	2019	2021