

Crops Research Funding

46 crop-related research projects	\$7,671,664
-----------------------------------	--------------------

Breakdown by Commodity

Cereals	\$1,606,056
---------	-------------

Oilseeds	\$1,738,149
----------	-------------

Pulses	\$2,386,204
--------	-------------

Alternative Crops	\$363,994
-------------------	-----------

Miscellaneous Crops Related	\$1,577,261
-----------------------------	-------------

Breakdown by Organization

University of Saskatchewan	\$3,662,505
----------------------------	-------------

Agriculture & Agri-food Canada	\$1,554,736
--------------------------------	-------------

National Research Council	\$696,997
---------------------------	-----------

Prairie Agricultural Machinery Institute	\$539,416
------------------------------------------	-----------

Prairie Tide Chemicals	\$445,000
------------------------	-----------

Western Applied Research Corporation	\$103,200
--------------------------------------	-----------

University of Regina	\$255,030
----------------------	-----------

Saskatchewan Food Industry Development Centre	\$163,500
--------------------------------------------------	-----------

Northeast Agriculture Research Foundation	\$161,280
-------------------------------------------	-----------

Alberta Invasive Species Council	\$90,000
----------------------------------	----------

Cereals

Establishment of Liquid Chromatography-Mass Spectrometry (LC-MS/MS) Based Mycotoxin/Deoxynivalenol (DON) Diagnostic Platform for Fusarium Head Blight (FHB) Research and Breeding Program (20160007)

Objectives: Develop a rapid, accurate, sensitive and cost-efficient DON diagnostic platform.
Develop a state-of-the-art analytical platform to identify and quantify additional FHB mycotoxins.
Apply DON diagnostic platforms to existing FHB research and breeding program in the National Research Council, Agriculture & Agri-Foods Canada and the University of Saskatchewan.

ADF: \$98,040

Saskatchewan Wheat Development Commission: \$98,040

Organization: National Research Council of Canada

Contact: Dr. Lipu Wang, 306-975-5283

An Integration of Agronomy and Breeding to Reduce Disease Susceptibility in Fall Rye (20160047)

Objectives: Evaluation of the Fusarium head blight (FHB) reaction to Fusarium graminearum of 75 fall rye cultivars in multi-environment replicated trials.
Comparison of the reaction of a sample of fall rye cultivars and lines to different species of Fusarium.
Comparison of the effect of fungicide application timing on FHB in three rye genotypes.
Evaluation of the leaf and stem rust reaction of up to 75 fall rye cultivars and lines in replicated trials.
Breeding for disease resistance in fall rye.
Examination of seeding rate x seeding date interactions to determine effects on yield and susceptibility to ergot.

ADF: \$159,882

Western Grains Research Foundation: \$159,881

Organization: Agriculture and Agri-Food Canada

Contact: Dr. Roger James (Jamie) Larsen, (403) 317-2159

Assessment and Deployment of a New Dwarfing Gene in Red Spring Wheat (20160080)

Objectives: Evaluate near-isogenic lines for potential linkage drag.
Develop a high through-put molecular marker for the Rht18 dwarfing gene.

ADF: \$71,263

Saskatchewan Wheat Development Commission: \$71,263

Alberta Wheat Commission: \$52,174

Organization: University of Saskatchewan

Contact: Dr. Pierre Hucl, Crop Development Centre, 306-966-8667

Breeding Spring Spelt and Emmer Wheat for Reduced Lodging (20160115)

Objectives: Develop spring spelt lines with reduced lodging and improved rust resistance.
Develop spring emmer lines with reduced lodging.

ADF: \$148,500

Organization: University of Saskatchewan

Contact: Dr. Pierre Hucl, Crop Development Centre, 306-966-8667

Optimization of Root Development and Photosynthesis Parameters for Yield Increase/Protection (20160126)

Objectives: Identify the genetic basis of sustained photosynthesis when plants experience drought/heat stress, and derive molecular markers.
Derive molecular markers for optimal root development characteristics that are pertinent for grain productivity.
Identify gene targets for future manipulations; maintain selected grain quality aspects.
Develop durum prototypes with advantageous root development and stress-resistant photosynthesis.

ADF: \$173,475

Saskatchewan Wheat Development Commission: \$173,475

Alberta Wheat: \$52,174

Organization: National Research Council Canada

Contact: Dr. Gopalan Selvaraj, 306-975-5577

Comparing Wheat Allergenicity in Ancient and Modern Wheats (20160197)

Objectives: Characterize wheat allergenic gluten protein components.
Analyze the change in Celiac disease causing wheat gluten polypeptides over 150 years of wheat improvement.
Determine the diversity in immune-reactive polypeptides in current wheat varieties belonging to all market classes.
Study the immunogenic / allergenic protein fractions in ancient wheats.
Characterize the allergenic / immunogenic proteins by peptide sequencing and identify genes coding the proteins.

ADF: \$170,800

Saskatchewan Wheat Development Commission: \$85,400

Western Grains Research Foundation: \$85,400

Organization: University of Saskatchewan

Contact: Dr. Ravindra Chibbar, Plant Sciences, 306-966-4969

Input Study: Intensive Wheat Management (20160210)

Objectives: To enhance wheat profitability by incorporating some or all components of intensive wheat management.
To identify how wheat classes and varieties are affected by enhanced wheat management.
To identify how interactions of wheat genetic characteristics respond to varying soil and climate conditions across Saskatchewan.

ADF: \$161,280

Saskatchewan Wheat Development Commission: \$161,280

Organization: Northeast Agriculture Research Foundation

Contact: Mr. Stewart Brandt, 306-843-7811

Development of Physiological Markers for High Throughput Field Screening of Drought Tolerant Wheat Lines (20160229)

Objectives: Non-destructive quantification of root biomass and architecture of drought tolerant and susceptible spring wheat varieties.
Non-destructive determination of the epicuticular wax thickness, wax composition and bulliform cells.
Determine the role of essential ions to drought tolerance in spring wheat varieties.
Identify phenotyping methods for high throughput screening of drought tolerant wheat varieties.

ADF: \$197,334

Saskatchewan Wheat Development Commission: \$98,666

Organization: University Of Saskatchewan

Contact: Dr. Karen Tanino, Plant Sciences, 966-8617

Accelerating Germplasm Development and Disease Testing (20160231)

Objectives: Pilot study to evaluate if large-scale phenotypic effects occur due to multiple generations of growth under constant light.
Evaluation of cultivars for response to accelerated growth conditions.
Rapid generation of RIL population under accelerated growth conditions.
Determine comparability of rust adult plant resistance and fusarium head blight tests under normal and accelerated growth.

ADF: \$170,793

Organization: National Research Council Canada

Contact: Dr. Patricia Vrinten, 306-975-4637

High-throughput Omics Approaches for Effective Breeding Selection of Durum Wheat Quality (20160288)

Objectives: Defining a reference proteome map of Canadian durum wheat for quality improvement.
Identification of Quantitative Trait Loci (QTLs) and alleles controlling protein composition, yellow pigment content (YPC) and milling quality.
Develop KASPar (Kompetitive Allele Specific PCR) based marker to practice marker assisted selection (MAS).

ADF: \$254,689

Saskatchewan Wheat Development Commission: \$127,343

Organization: National Research Council Canada

Contact: Dr. Wentao Zhang, 306-975-4796

Oilseeds

Development of Genetically Diverse Inbred Lines for Producing High-yielding Synthetic Varieties in Condiment Yellow Mustard (20160009)

Objectives: Developing genetically diverse elite inbred lines.
Establishing parental component lines for high yielding synthetics.
Production and performance evaluation of synthetics.

ADF: \$400,000

Organization: Agriculture & Agri-Food Canada

Contact: Dr. Bifang Cheng, 306-385-9358

Genome Wide Functional Analysis of Plasmodiophora brassicae Effectors and the Management of Clubroot Disease (20160138)

Objectives: Genome-wide identification and in planta expression profiling of Plasmodiophora brassicae (P. brassicae) secretome.
Functional analysis of P. brassicae effectors.
Elucidation of virulence mechanisms of P. brassicae intracellular, biotrophic parasitism on host plants.
Exploration of genetic diversity and population structures of P. brassicae in canola fields in Western Canada.

ADF: \$276,750

Saskatchewan Canola Development Commission: \$92,250

Organization: University of Saskatchewan

Contact: Dr. Peta Bonham-Smith, Biology, 306-966-4232

Regional Testing for Flax Cultivar Registration (20160150)

Objectives: Evaluate elite breeding lines, candidate lines, and check cultivars under shorter season environments for adaptation traits.
Evaluate elite breeding lines, candidate lines, and check cultivars in multi-location tests for stability of yield and maturity.

ADF: \$10,389

Saskatchewan Flax Development Commission: \$93,539

Western Grains Research Foundation: \$52,111

Organization: University of Saskatchewan

Contact: Dr. Helen Booker. Plant Sciences/Crop Development Centre, 306-966-5878

Mapping and Introgression of the Highly Effective Brassica rapa Blackleg Resistance Gene Rlm11 into Spring-type Brassica napus (20160158)

Objectives: Introgression of the Rlm11 gene from winter-type Brassica rapa to spring-type Brassica napus.

Genetic mapping of the blackleg resistance gene Rlm11.

ADF: \$120,668

Saskatchewan Canola Development Commission: \$120,666

Western Grains Research Foundation: \$120,666

Organization: Agriculture & Agri-Food Canada

Contact: Dr. Hossein Borhan, Molecular Genetics, 306-956-2827

Characterization of Rust Resistance Genes of Flax (20160222)

Objectives: Complete sequencing of RM gene locus and develop assays to distinguish between M, M1, and M3 genes.

Determine the location of the RK1 rust resistance gene and develop an assay to distinguish RK1 gene alleles.

Development of molecular marker assays to determine the rust resistance alleles present in flax germplasm.

Characterize the Core Collection for RK, RL, RM, RN, and RP allelic diversity.

ADF: \$119,166

Saskatchewan Flax Development Commission: \$118,927

Western Grains Research Foundation: \$119,046

Organization: University of Saskatchewan

Contact: Dr. Helen Booker. Plant Sciences/Crop Development Centre, 306-966-5878

Industrial Production of Beneficial Plant Endosymbionts for Seed Treatment and Improved Canola, Soybean & Pea (20160226)

Objectives: To undertake development, scale-up and field testing studies on Saskatchewan's microbial endophytes with yield promoting efficacy.

ADF: \$273,380

Organization: University of Saskatchewan

Contact: Dr. Vladimir Vujanovic, Food and Bioproduct Sciences, 306-966-5048

Industrial Products from Vegetable Oils (20160110)

Objectives: Develop methods for improving the physical and chemical properties of flaxseed and camelina oil.
Determine the yellowing of flaxseed and camelina based oil paints produced with ultra-pure oils.
Develop processes for improving the chemical and physical properties of canola and rapeseed oil.

ADF: \$225,750

Saskatchewan Canola Development Commission: \$90,250

Organization: University of Saskatchewan

Contact: Dr. Martin Reaney, Plant Sciences, 306-966-5027

Enhancing the Nutritional Value of Byproducts Through Steam Explosion (20160208)

Objectives: To improve the nutritional value of co-products from canola, flax and camelina through the application of steam explosion.

ADF: \$49,068

Saskatchewan Canola Development Commission: \$49,066

Saskatchewan Flax Development Commission: \$49,066

Organization: University of Saskatchewan

Contact: Dr. Rex Newkirk, Animal and Poultry Science, 306-281-6611

Utilization of Defatted Flaxseed Meal (20160219)

Objectives: To investigate the sensory attributes and consumer acceptability of the flaxseed protein concentrate containing products.
Develop an unassailable intellectual property portfolio.
To evaluate the functional properties and in vitro digestibility of the resulting protein concentrate.
To investigate the food applications of protein concentrate in protein fortified, gluten free, dairy free and egg free products.
To identify an industrial scalable method to develop a protein concentrate from defatted flaxseed meal.
To identify the flaxseed variety(ies) with the potential for development of protein concentrates.

ADF: \$225,000

Organization: Prairie Tide Chemicals

Contact: Dr. Martin King, 306-955-3566

Improved Management of Stored Flaxseed (20160303)

Objectives: To better define management practices for on-farm storage of flax seed.
To develop tools for effective dissemination of information to producers.

ADF: \$37,978

Saskatchewan Flax Development Commission: \$37,978

Organization: Prairie Agricultural Machinery Institute

Contact: Dr. Joy Agnew, 306-682-5033 ext 280

Pulses

Lentil Input Study (20160010)

Objectives: To determine which combination of the common agronomic practices produce the greatest lentil yield.
To determine which agronomic practices provide the best economic return to producers.

ADF: \$103,200

Western Grains Research Foundation: \$103,200

Saskatchewan Pulse Growers: \$103,200

Organization: Western Applied Research Corporation

Contact: Ms. Jessica Weber, 306-247-2001

Enhancing the Long-Term Sustainability of Pulse Cultivation Using System Approaches (20160036)

Objectives: Investigate major factors influencing root rot complex on pulse crops.
Discover antagonists (anti-fungal organisms) in the Saskatchewan soil that help pulse plants combat root rot pathogens.
Optimize crop rotation systems for dry and humid ecoregions of Western Canada using system approaches.
Enhance soil carbon and nitrogen dynamics in different cropping systems.
Minimize harvest loss in pulses through improved agronomic practices.
Decrease the carbon footprints of agroecosystems with improved farming strategies.
Enhance whole farms economic outcomes by improving input efficiency and increasing productivity.

ADF: \$511,986

Organization: Agriculture and Agri-Food Canada

Contact: Dr. Yantai Gan, Swift Current Research Centre, 306-770-4464

Epidemiology of Chocolate Spot of Faba Bean (20160074)

Objectives: Determine conditions leading to Botrytis spore release and infection in the field.
Evaluate conditions for chocolate spot disease development in controlled studies.
Assess incidence and severity of chocolate spot and other foliar diseases on faba bean in Saskatchewan and Alberta.

ADF: \$105,475

Saskatchewan Pulse Growers: \$105,475

Organization: Agriculture and Agri-Food Canada

Contact: Dr. Syama Chatterton, Science and Technology, (403) 317-2226

Genetic Analysis of Flowering Genes and Their Associated Effects on Agronomic Performance and Stress Tolerance in Chickpea (20160277)

Objectives: To evaluate the flowering genes and their associated effects on agronomic performance and adaptation in chickpea.

ADF: \$150,207

Saskatchewan Pulse Growers: \$150,206

Organization: University of Saskatchewan

Contact: Dr. Bunyamin Tar'an, Crop Development Centre, 306-966-2130

Developing Field Pea Varietal Blends for Higher Yields and Pest Suppression (20160294)

Objectives: Develop varietal blends of leafed and semi-leafless field pea for release by the Crop Development Centre.

ADF: \$53,492

Saskatchewan Pulse Growers: \$87,879

Western Grains Research Foundation: \$87,879

Organization: University of Saskatchewan

Contact: Dr. Steven Shirliffe, Plant Sciences, 306-966-4959

Enzymatic Hydrolysis of Pulse Starches to Produce Maltodextrins and Sweeteners for Food Use (20160057)

Objectives: To evaluate the application value of the derived regular and resistant maltodextrins and sweeteners in different food products.
To produce regular and resistant maltodextrins and sweeteners from the isolated pulse starches using different enzymatic methods.
To characterize the obtained regular and resistant maltodextrins and sweeteners.
To scale up isolation and enzymatic modifications of pulse starches in a pilot plant and assess the economic feasibility.
To isolate pea, lentil, and faba bean starches from starch rich flours.

ADF: \$298,895

Organization: University of Saskatchewan

Contact: Prof. Yongfeng Ai, Food & Bioproduct Sciences, 306-966-2139

Development of Novel Healthier Plant-Based Shortening Alternative Without the Presence of Saturated and Trans Fats (20160136)

Objectives: Evaluation of the new shortening replacer in baked-food products.
Modification of pulse proteins to improve oil holding properties.
Strategies to remove off-flavour from pulse proteins.
Preparation of pulse protein gels in the aqueous phase.
Development of mixed vegetable oil pulse protein gel.
Characterize the mixed vegetable oil-pulse protein gels as shortening replacer and determine their stability.

ADF: \$95,050

Saskatchewan Pulse Growers: \$100,000

Organization: University of Saskatchewan

Contact: Prof. Supratim Ghosh, Food & Bioproduct Sciences, 306-966-2555

Development of Resistant Starch and Emulsifiers from Pulse Starches for Food Applications (20160202)

Objectives: To isolate starches from commercial starch-rich flours of pea, lentil, and faba bean.
To characterize chemical structures and functional properties of the resistant starch (RS) and emulsifiers developed from the octenylsuccinylated (OS) pulse starches.
To assess the performance of the OS starches in selected food products.
To scale up the isolation and octenyl succinic anhydride (OSA) modification of one pulse starch in a pilot plant and assess the economic viability.
To produce resistant starch (RS) and emulsifiers from the pulse starches using (OSA) modification.

ADF: \$193,500

Organization: University of Saskatchewan

Contact: Prof. Yongfeng Ai, Food & Bioproduct Sciences, 306-966-2139

Enzymatic Treatment of Chickpea Flour and Air-Classified Fractions to Improve Their Functionality for Ingredient Line Extensions (20160246)

Objectives: To examine the effect of enzyme treatment on the physicochemical properties of chickpea flour and air-classified flour fractions.
To examine functionalities of enzyme-treated chickpea flour and air classified fractions.
To examine the performance of selected enzyme-treated chickpea ingredients in various prototype products.

ADF: \$162,000

Organization: University of Saskatchewan

Contact: Dr. Takuji Tanaka, Food & Bioproduct Sciences, 306-966-1697

Optimization of Fermentation Platforms (Batch vs Solid-State) for Improving the Value of Pulse (Pea and Fava Bean) Fractions (20160289)

Objectives: Determine optimal conditions for submerged (batch) fermentation for protein modification.
Determine optimal conditions for solid-state fermentation for protein modification.
Examine the potential of fermented pea (flour and protein concentrates) for novel food development.

ADF: \$100,500

Saskatchewan Pulse Growers: \$100,500

Organization: University of Saskatchewan

Contact: Dr. Darren Korber, Food & Bioproduct Sciences, 306-966-7786

Tolerance of Pulse Crops to Seed Placed Nitrogen Fertilizer (20160022)

Objectives: To assess the tolerance of pulses to seed-row placed fertilizer blends and composite products containing nitrogen.

ADF: \$44,450

Saskatchewan Pulse Growers: \$44,450

Organization: University of Saskatchewan

Contact: Prof. Jeff Schoenau, Soil Science, 306-966-6884

Improved Management of Stored Pulse Crops (20160178)

Objectives: To collect data specific for pulse crops grown in Saskatchewan that is critical for improved storage management.
To generate and disseminate practical information to producers on managing stored pulses.

ADF: \$130,527

Organization: Prairie Agricultural Machinery Institute – PAMI

Contact: Dr. Joy Agnew, 306-682-5033 ext 280

Relating Soil Microbial Properties to Pulse Crop Performance Following a Conventional, Vertical and Zero Till Application (20160185)

Objectives: Determine the return on investment (ROI) on pulse crop production potential with the introduction of tillage management.
Evaluate the effect of conventional, vertical and zero tillage on pulse emergence, disease pressure, and yield.
Evaluate greenhouse gas (GHG) emissions from applying tillage practices in a primarily no-tillage crop rotation.
Evaluate microbial populations in the soil in a zero-till environment alongside conventional and vertical tillage.

ADF: \$350,172

Organization: Prairie Agricultural Machinery Institute – PAMI

Contact: Ms. Patricia Lung, 306-682-5033 ext 228

Knowledge, Tools and Practices to Manage Insect Pests of Pulse Crops in Saskatchewan
(20160215)

Objectives: Determine the overwintering biology of pea leaf weevil populations in southern Saskatchewan.
Obtain baseline data on aphids and their natural enemies in pulse crops to aid in future development of action thresholds.
Assess foliar/nodule damage and yield in field peas in response to seed-coated and foliar insecticides in a field plot study.
Compare on-farm yields of treated and untreated seed to develop and validate action thresholds for pea leaf weevil in field peas.

ADF: \$86,750

Saskatchewan Pulse Growers: \$86,750

Organization: Agriculture & Agri-Food Canada

Contact: Dr. Owen Olfert, 306-385-9355

Alternative Crops

Characterizing Canary Seed Germplasm for Fusarium Blight (FHB) and Enhanced Herbicide Tolerance (20160079)

Objectives: Characterize canary seed germplasm panel for response to group 2, 10 and 27 herbicides.
Evaluate canaryseed germplasm for FHB resistance in a field disease nursery.
Characterize lines selected after three years of screening with a three times (3X) rate of fenoxaprop-ethyl. Screen canary seed panel at 3X.
Identify the suspected toxins produced from FHB of canary seed.
Determine the benefit of fungicide application to control FHB in canaryseed.
Determine the infection time of FHB of canary seed.

ADF: \$112,200

Western Grains Research Foundation: \$112,200

Organization: University of Saskatchewan

Contact: Dr. Pierre Hucl, Crop Development Centre, 306-966-8667

Determining the Impact of Aphids in Canaryseed (20160191)

Objectives: To develop a better understanding on when an insecticide application is required against cereal aphids in canaryseed.

ADF: \$55,975

Western Grains Research Foundation: \$55,975

Organization: Agriculture & Agri-Food Canada

Contact: Mr. William May, Indian Head Research Farm, 306-695-5225

Longer-Term Health Effects of Saskatoon Berries in Elderly – a Placebo Controlled Study
(20160008)

Objectives: To persuasively confirm the longer-term health effects of Saskatoon berries.
To promote Saskatoon berries to mainstream consumers nationally and internationally.

ADF: \$195,819

Organization: University of Saskatchewan

Contact: Dr. Jim Fang, Pharmacy & Nutrition, 306-966-6372

Miscellaneous Crops Related

Field Evaluation of One Seed Treatment Inducing Multiple Agronomic Responses from Emergence to Yield (20160218)

Objectives: Determine the optimum seed soaking treatment dose under field conditions and examine field-based effects on agronomic traits.
Determine the optimum spray treatment dose under field conditions.
Evaluate the interaction of the novel seed treatment with standard seed treatments.

To optimize seed treatment delivery systems for on-farm use.

To optimize seed treatment delivery systems for seed coating.

ADF: \$278,850

Saskatchewan Wheat Development Commission: \$92,950

Organization: University Of Saskatchewan

Contact: Dr. Karen Tanino, Plant Sciences, 966-8617

Biology and Host Specificity of Potential Biological Control Agents for Common Tansy
(20160240)

Objectives: Initiate testing of *Chrysolina eurina*.
Complete testing of *Microplontus millefolii*.
Conduct testing of *Platyptilia ochrodactyla*.

ADF: \$90,000

Organization: Alberta Invasive Species Council

Contact: Mr. Barry Gibbs, (587) 999-0954

Protein Quality and Consumer Acceptance of High-Moisture Meat Analogues: Closing the Commercialization Gap (20160193)

Objectives: Determine effect of formulation and extrusion parameters on digestibility.
Understand market dynamics of plant-based foods.
Determination of the protein quality of high-moisture meat analogues.

ADF: \$163,500

Organization: Saskatchewan Food Industry Development Centre

Contact: Dr. Shannon Hood-Niefer, 306-964-1819

Recovery of Protein and Nutraceutical from Ethanol Thin Stillage (20160233)

Objectives: Develop strategies for characterizing stillage protein concentrate.
Develop lactobacillus fermentation of thin stillage.
Determine feed value of wet stillage protein concentrate.
Develop processes for separating protein isolates from stillage.
Determine the capacity of thin stillage to add value to biodiesel glycerine.
Scale up processes for recovery of valuable compounds from solution remaining from centrifugal separation.

ADF: \$220,000

Organization: Prairie Tide Chemicals

Contact: Dr. Martin King, 306-955-3566

Development of Bio-Desiccant Materials from Modified Biopolymers and Agricultural Biomass (20160266)

Objectives: Pilot-scale testing of Energy Recovery Ventilator devices in collaboration with academic/industrial partners.
Develop a suitable desiccant for vapour phase adsorption of water.
Screening of biopolymers, biomass, and their modified forms through characterization of their physicochemical properties.
Evaluate the performance of desiccant materials under dynamic conditions.

ADF: \$376,500

Organization: University of Saskatchewan

Contact: Dr. Lee Wilson, Chemistry, 306-966-2961

Tools for Carbon Neutral Farming: The Role of Dugouts in Greenhouse Gas Capture (20160015)

Objectives: Measure greenhouse gas (GHG) capture (or release) by dugouts by measuring C burial and flows of carbon dioxide (CO₂), Methane (CH₄), nitrous oxide (N₂O) during summer.
Determine best management practices to maximize greenhouse gas capture by dugouts.
Measure how GHG capture (or release) by dugouts varies among seasons during the 'ice free' season (early spring – fall).
Compare rates of GHG capture (or release) in dugouts with those measured for natural wetlands.

ADF: \$255,030

Organization: University of Regina

Contact: Dr. Kerri Finlay, Biology, 306-585-4236

Investigation into Converting a Combine Grain Loss Signal Into a Grain Loss Rate (20160192)

Objectives: Optimize the harvest loss sensor.
Determine if current loss sensing technology is adequate.
Decrease harvest losses for all Saskatchewan crops.
Correlate existing harvester loss sensor data with actual loss curves.

ADF: \$20,739

Saskatchewan Pulse Growers: \$20,737

Saskatchewan Wheat Development Commission: \$20,737

Saskatchewan Canola Development Commission: \$20,737

Organization: Prairie Agricultural Machinery Institute – PAMI

Contact: Mr. Nathan Gregg, 306-682-5033 ext 229

Fertigation of Canola and Wheat (20160241)

Objectives: To assess in-season application of N fertilizer to canola and wheat by fertigation (crop yield & quality, and GHG emissions).
To assess plant tests (tissue testing, plant reflectance) as indicators of crop N needs, and develop test interpretive criteria.
Technology transfer, through field days, reports, publications, and meetings.

ADF: \$114,000

Organization: Agriculture & Agri-Food Canada

Contact: Dr. Dale Tomasiewicz, 306-867-5412

In-Crop Weed Clipping for Weed Control (20160291)

Objectives: Develop a weed clipping strategy to reduce crop-weed competition and weed seed production.

ADF: \$58,642

Saskatchewan Pulse Growers: \$125,496

Saskatchewan Wheat Development Commission: \$92,894

Alberta Wheat Commission: \$65,218

Organization: University of Saskatchewan

Contact: Dr. Steven Shirliffe, Plant Sciences, 306-966-4959