

**Summary of ADF Projects, 2015**  
**Crops Research Funding**

<b>42 crop-related research projects</b>	\$6,867,489
<b>Breakdown by Commodity</b>	
Oilseeds	\$1,603,460
Cereals	\$1,438,764
Pulses	\$733,100
Other	\$3,092,165
<b>Total</b>	<hr/> \$6,867,489
<b>Breakdown by Organization</b>	
University of Saskatchewan	\$4,046,395
Agriculture and Agri-Food Canada	\$780,254
National Research Council	\$619,134
University of Regina	\$358,000
POS Bio-Sciences	\$225,000
Alliance Grain Traders	\$200,000
Saskatchewan Research Council	\$193,800
Saskatchewan Food Industry Development Centre	\$100,000
Northern Quinoa Corporation	\$165,656
University of Manitoba	\$69,250
Mustard 21 Canada Inc.	\$60,000
Saskatchewan Flax Development Commission	\$50,000
<b>Total</b>	<hr/> \$6,867,489

## Oilseeds

### *Lecithin Extraction from Canola Gum* (20140049)

#### **Objectives:**

- Scaling up of the optimized laboratory scale process through pilot scale trials
- Comparison of the composition and functionality of the canola lecithin final product to selected commercially available soybean
- Laboratory scale development of a scalable, cost effective extraction and purification process for canola lecithin.

**ADF Funding:** \$225,000

**Organization:** POS Bio-Sciences

**Contact:** Udaya Wanasundara, (306) 978-2800

### *Genics Carrier Pad for Wood Preservatives using Crop Residue* (20140082)

#### **Objectives:**

- Develop temporal absorption and release profiles of wood preservative formulas.
- Use aqueous-based wood preservative, develop vacuum-formed, flax-based carrier pads.
- Provide recommendations for technology development for commercialization for a manufacturing line.
- Reduce old carbon content by 55% of commercial carrier pad for wood preservative industry by using flax-based pad.
- Process crop residual (straw) using pulping for vacuum-formed pads with required physical and mechanical properties.

**ADF Funding:** \$208,000

**Genics Inc.:** \$50,000

**Organization:** University of Regina

**Contact:** Denise Stilling, Engineering, (306) 337-2696

### *Canola dehulling and utilization of fractions* (20140102)

#### **Objectives:**

- The overall objective is to determine both the oil lost to the hull during impact dehulling and to decrease oil losses.
- Determine the effect of seed genotype on dehulling efficiency
- Determine the effect of dehulling on the Crusher's margin
- The impact of hull lipids on the refining characteristics of canola seed.
- Develop a method for observing impact dehulling.
- Study the effect of collision velocity on dehulling efficiency
- Determine the effect of impact surface geometry on dehulling efficiency
- Determine the effect of seed conditioning on dehulling efficiency
- Determine the chemistry of hull lipid fractions

**ADF Funding:** \$ 411,500

**Organization:** University of Saskatchewan

**Contact:** Martin Reaney, Plant Sciences, (306) 966-5027

***Development of broadleaf herbicide tolerant Brassica juncea through microspore mutagenesis***  
(20140142) – conditional approval

**Objectives:**

- To develop herbicide tolerance in Brassica juncea germplasm through microspore culture and mutations

**ADF Funding:** \$225,000

**Mustard 21:** \$90,000

**Organization:** Agriculture & Agri-Food Canada (AAFC)

**Contact:** Murray Lewis, (306) 385-9390

***Introgression of disease resistance from Brassica nigra into canola using a new-type B. napus***  
(20140143)

**Objectives:**

- Transfer blackleg resistance into B. napus.
- Transfer clubroot resistance into B. napus
- Identify and map clubroot resistance gene(s) in B. nigra
- Develop SNP markers tightly linked to the resistance gene(s)

**ADF Funding:** \$195,640

**Saskatchewan Canola Development Commission:** \$96,360

**Organization:** Agriculture & Agri-Food Canada (AAFC)

**Contact:** Fengqun Yu, (306) 385-9375

***Ecology of Swede Midge Host Plant Interactions*** (20140159)

**Objectives:**

- Examine host range of swede midge.
- Investigate host plant resistance of non-hosts.
- Investigate biochemical basis of resistance.
- Examine plant susceptibility factors to swede midge feeding.

**ADF Funding:** \$108,000

**Western Grains Research Foundation:** \$107,000

**Saskatchewan Canola Development Commission:** \$107,000

**Organization:** Agriculture & Agri-Food Canada (AAFC)

**Contact:** Juliana Soroka, (306) 385-9362

***Western Canadian Oilseed Flax Cooperative Trials 2015 – 2016*** (20140160)

**Objectives:**

- Collect data for the support of varietal registration of oilseed flax lines.

**ADF Funding:** \$50,000

**Western Grains Research Foundation:** \$150,000

**Organization:** Sask Flax Development Commission

**Contact:** Wayne Thompson, (306) 664-1901

***Integrated Crop Management for High Yielding Flax Production*** (20140188)

**Objectives:**

- The overall objective of this research is to improve flax yield via improved agronomy and weed management.

**ADF Funding:** \$120,320

**Western Grains Research Foundation:** \$120,320

**Saskatchewan Flax Development Commission:** \$120,320

**BASF:** \$21,000

**FMC:** \$15,000

**Organization:** University of Saskatchewan

**Contact:** Christian Willenborg, Plant Sciences, (306) 966-8354

***Development of Mustard Variety Registration System for SK*** (20140203)

**Objectives:**

Primary objective:

- To help fast track mustard varieties by generating the field Co-op data needed for registration.
- To provide robust eco zone field data for mustard growers to help make selection of mustard varieties for their farm.
- To develop data for getting PBR status on new varieties.
- To establish long-term (3 to 5 years) contracts with research providers / collaborators.
- Assist M21 and AAFC breeding efforts to identify new cultivars with at least a 10-15% improvement in yield potential.
- To generate merit data to identify new cultivars with improved yield, seed quality, and disease resist. based on 2 years data.
- To generate PBR field data and variety descriptions to allow for protection of Mustard Growers sponsored IP.

**ADF Funding:** \$60,000

**Western Grains Research Foundation:** \$165,460

**Organization:** Mustard 21 Canada Inc.

**Contact:** Daryl Males, (306) 290-3850

**Cereals**

***Improvement in wheat carbon flux for increased yield and Harvest Index*** (20140012)

**Objectives:**

- Produce an improved wheat prototype line with enhanced productivity and Harvest Index.
- Specifically, we propose to partially silence the endogenous mtPDHK for enhancing the expression of the mtPDH and subsequently increasing the carbon flux towards the seed sink, using gene editing technology applied to a breeding line amenable to microspore transformation/regeneration and of interest to the industry.

**ADF Funding:** \$500,230

**Western Grains Research Foundation:** \$246,382

**Organization:** National Research Council

**Contact:** Elizabeth-France Marillia, (306) 975-5282

***Investigation of Avenanthramides, a Type of New Healthy Compounds in Oat*** (20140027)

**Objectives:**

- To improve the nutritional value of oat through increasing the level of avenanthramides, and novel bioactive compounds in oat that have strong antioxidant, anti-inflammatory and anti-allergic properties.
- Survey the content of avenanthramides in oat species, cultivars and breeding lines, and identify the genes encoding hydroxycinnamoyl-CoA:hydroxyanthranilate N-hydroxycinnamoyltransferase (HHT) catalyzing the key step of the biosynthesis of avenanthramides in oat seeds. The sequence information of these genes can be used to develop functional DNA markers for oat breeding programs to increase levels of the healthy compounds.

**ADF Funding:** \$336,000

**Prairie Oat Growers Association:** \$90,000

**Organization:** University of Saskatchewan

**Contact:** Xiao Qiu, Food & Bioproduct Science, (306) 966-2181

***Improving the quality package of high anthocyanin wheat: from field to consumer*** (20140065)

**Objectives:**

- To identify the distribution of anthocyanin pigments in CDC Primepurple grain.
- To study the effects of pH and temperature on stability of anthocyanin pigments in CDC Primepurple wheat bran and/or wholegrain.
- Investigate the impact of processing on stability of anthocyanin pigments in bakery products.
- Investigate co-pigmentation to improve the color and stability of anthocyanin pigments
- Enhanced quality. To develop high anthocyanin wheat lines with improved dough handling and baking properties.

**ADF Funding:** \$91,575

**Western Grains Research Foundation:** \$91,575

**Organization:** University of Saskatchewan

**Contact:** Pierre Hucl, Crop Development Centre, (306) 966-8667

***Development of fully cleistogamous wheat and associated markers*** (20140081)

**Objectives:**

- Identify and determine effects of Clys1 null alleles.
- Develop a fully cleistogamous wheat line.
- Develop DNA markers completely linked to Clys1 null alleles and to Clys1 alleles with variation in the miRNA region.

**ADF Funding:** \$118,904

**Western Grains Research Foundation:** \$59,452

**Saskatchewan Wheat Development Commission:** \$59,452

**Organization:** National Research Council

**Contact:** Patricia Vrinten, (306) 975-5248

***Development and commercialization of SNP marker technology for rapid identification of malting barley varieties*** (20140123)

**Objectives:**

- Discovery of SNP markers for identifying malting barley varieties
- SNP assay development, evaluation, selection and validation
- Process development and scale-up
- Commercialization of rapid malting barley variety identification test(s)

**ADF Funding:** \$153,190

**Western Grains Research Foundation:** \$153,190

**Organization:** University of Saskatchewan

**Contact:** Aaron Beattie, Crop Development Centre, (306) 966-2102

***Aster yellow disease in spring wheat: a benchmark characterization and cultivar assessment*** (20140198)

**Objectives:**

- To document the symptomology of AY in recent wheat cultivars and to estimate the yield losses depending on the number of leafhopper
- To evaluate the reaction of selected wheat cultivars to AY
- To estimate the AY disease incidence and identify the phytoplasma strains present in leafhopper and wheat grown in trials grown

**ADF Funding:** \$82,800

**Western Grains Research Foundation:** \$82,800

**Saskatchewan Wheat Development Commission:** \$82,800

**Organization:** University of Saskatchewan

**Contact:** Pierre Hucl, Crop Development Centre, (306) 966-8667

***Breeding for resistance to leaf blotch pathogens in Saskatchewan oat*** (20140228)

**Objectives:**

- Isolation of leaf blotch pathogens from commercial oat fields
- Evaluation of pathogenic variability
- Identification of resistance in oat germplasm
- Genetic mapping of resistance in oat

**ADF Funding:** \$86,815

**Western Grains Research Foundation:** \$86,815

**Prairie Oat Growers Association:** \$45,000

**Organization:** University of Saskatchewan

**Contact:** Aaron Beattie, Crop Development Centre, (306) 966-2102

***Enhancing wheat midge resistance in spring and durum wheat*** (20140250)

**Objectives:**

- Genetic analysis of oviposition deterrence in spring and durum wheat
- Genetic analysis of Sm1 expression in the variety Shaw

**ADF Funding:** \$69,250

**Western Grains Research Foundation:** \$69,250

**Saskatchewan Wheat Development Commission:** \$69,250

**Organization:** University of Manitoba

**Contact:** Alejandro Costamagna, Entomology, (204) 474-9007

**Pulses**

***Response of Soybean to Iron Fertilization in Saskatchewan Soils*** (20140086)

**Objectives:**

- To determine nature and incidence of iron deficiency in soybean and response to fertilization in Saskatchewan soils.

**ADF Funding:** \$75,400

**Organization:** University of Saskatchewan

**Contact:** Jeff Schoenau, Soil Science, (306) 966-6844

***Production of fiber-rich, starch-rich and protein-rich fractions from by-product of lentil processing*** (20140137)

**Objectives:**

- To investigate the pilot-scale processing of high fibre, high protein and high starch products once the processing is optimized.
- To separate fibre fraction from starch and protein in the by-product obtained from lentil processing.
- To isolate starch and protein fractions using isoelectric technique after separation of fibre from starch and protein.

**ADF Funding:** \$116,000

**Organization:** University of Saskatchewan

**Contact:** Lope Tabil, Chemical & Biological Engineering, (306) 966-5317

***Metabolic Profiling of Wild Lentils and Their Interspecific Hybrids for Improving Lentil Varieties*** (20140243)

**Objectives:**

- Determine the polyphenolic profile of wild lentil accessions
- Determine the polyphenolic profile of interspecific hybrid populations
- Associate polyphenol profiles to disease resistance, especially for Aphanomyces root rot

**ADF Funding:** \$341,700

**Organization:** University of Saskatchewan

**Contact:** Albert Vandenberg, Crop Development Centre, (306) 966-8786

***Utilization of pulse proteins as functional bioactive peptide production*** (20140245)

**Objectives:**

- Economically analyze the feasibility of pulse proteins for functional peptide processing and development.
- To develop benchtop and pilot processing technology for functional peptides.
- Scale up processing technology will be developed.
- To evaluate the functionality of peptides.

**ADF Funding:** \$200,000

**Organization:** Alliance Grain Traders

**Contact:** Mehmet Tulbek, (306) 244-5622

**Other**

***Precision Subsoiling of Fields to Improve Soil Physical Conditions, Plant Growth and Economic Return***( 20140025)

**Objectives:**

- To determine effectiveness of subsoil tillage to improve soil conditions and yield in field areas with structural limitation.

**Specific Objectives:**

- To measure and map soil structural limitations across a farm field in southern Saskatchewan in which traffic - induced soil compaction, and naturally dense subsoil (Bnt) horizons exist intermixed with non-compacted soils. Structural limitations will be assessed using a cone penetrometer taking soil penetration resistance (soil strength) readings, bulk density, air permeability and water infiltration measurements at specific points on a grid. A map will be made of the zones with soil strength and density above critical limits for root growth.
- To apply subsoiling using a Paraplow subsoiler only to specific areas in the plot which have been identified as having structural limitations in the root zone. For comparison purposes, a treatment is included in which subsoiling is conducted across the entire plot area. Check plots without sub-soiling will be used as a control. Yield data from three crops grown in rotation over three years (wheat-pea-canola) will be collected.
- To evaluate the effect of the subsoiling by taking soil penetration resistance, bulk density, air permeability, water infiltration and crop yield measurements at grid points in the year of application and the following two years. An economic evaluation of the subsoiling cost-benefit when applied to specific field zones versus whole field will be conducted.

**ADF Funding:** \$55,000

**Western Grains Research Foundation:** \$55,000

**Saskatchewan Wheat Development Commission:** \$55,000

**Organization:** University of Saskatchewan

**Contact:** Jeff Schoenau, Soil Science, (306) 966-6844



***Protein-based entrapment systems for probiotic delivery in feed and food applications***  
(20140084)

**Objectives:**

- To demonstrate the ability of probiotic strains to inhibit the growth of pathogenic bacteria in vitro.
- To evaluate the ability of probiotics delivered using the PES to directly (or indirectly) enhance intestinal health.
- Modification of the PES system to improve shelf-life and scale-up production.

**ADF Funding:** \$203,416

**Organization:** University of Saskatchewan

**Contact:** Michael Nickerson, Food & Bioproduct Sciences, (306) 966-5030

***Health effects of Saskatoon berries in elderly smokers*** (20140090)

**Objectives:**

- To validate the health effects of saskatoon berries
- To promote saskatoon berries as “superfruits”

**ADF Funding:** \$69,951

**Organization:** University of Saskatchewan

**Contact:** Jim Fang, Pharmacy & Nutrition, (306) 966-6372

***Quinoa Breeding and Agronomy*** (20140091) – conditional approval

**Objectives:**

- Develop detailed agronomic information package for Quinoa for the Northern Prairies of Western Canada.
- New improved quinoa cultivars adapted for Canadian Growing Conditions.
- Identification of quinoa germplasm with traits potentially useful in future Quinoa cultivar development.

**ADF Funding:** \$165,656

**Western Grains Research Foundation:** \$124,242

**Organization:** Northern Quinoa Corporation

**Contact:** Alister Muir, (306) 260-9680

***Microbial pathways of N<sub>2</sub>O production in irrigated soils: establishing a biological baseline***  
(20140099)

**Objectives:**

- To quantify the rates of microbial conversions among N pools in irrigated soils with different N fertilizer applications
- To quantify the number of gene copies present for key steps in the microbial nitrification and denitrification processes.
- To relate the above information with gaseous emissions to show how soil conditions determine the pathways and magnitude of N<sub>2</sub>O.

**ADF Funding:** \$82,980

**Organization:** Agriculture & Agri-Food Canada (AAFC)

**Contact:** Bobbi Helgason, (306) 975-6510

***Effects of Vertical Tillage on Soil Structure and Crop Yields in Southern Saskatchewan***  
(20140108)

**Objectives:**

- This project will evaluate the performance of vertical tillage (VT) compared to conventional tillage (CT) and no-till (N).

**ADF Funding:** \$43,275

**Western Grains Research Foundation:** \$43,275

**Saskatchewan Wheat Development Commission:** \$43,275

**Saskatchewan Pulse Growers:** \$43,275

**Organization:** University of Saskatchewan

**Contact:** Bing Si, Soil Science, (306) 966-6877

***Reducing the risk of pathogen contamination on fresh fruits and vegetables*** (20140114)

**Objectives:**

- Quantify on-farm pathogen prevalence and persistence
- Rank on-farm environmental sites based on their significance as reservoirs for pathogens
- Minimize risk factors associated with pathogen contamination of produce fields and produce crops

**ADF Funding:** \$150,000

**Organization:** University of Regina

**Contact:** Christopher Yost, Biology, (306) 585-5223

***Polyploid Breeding of Prairie Fruit Crops*** (20140115)

**Objectives:**

- General goal:
  - Understanding feasibility for polyploid breeding of prairie fruits.
- Specific goals:
  - Haskap Improvement for Larger fruit, later ripening, faster growing
  - Develop protocols for flow cytometry for the following prairie fruits: Grapes, Saskatoons, Seabuckthorn and Haskap
  - Create hybrid seeds for use in chromosome doubling
  - Develop chromosome doubling protocols for the following prairie fruits: Grapes, Saskatoons, Seabuckthorn and Haskap
  - Create 4x Parents for breeding of Seedless Table Grapes using prairie germplasm.
  - Saskatoon Improvement for larger fruit and/or later blooming
  - Preliminary investigations of polyploid seabuckthorn

**ADF Funding:** \$130,000

**Organization:** University of Saskatchewan

**Contact:** Robert Bors, Plant Sciences, (306) 966-8583

***Diesel Grade Drop-in Renewable Fuel from Second Generation Non-edible Oil*** (20140118)

**Objectives:**

- To assess the potential for sustainable local small-scale (micro biorefinery) production of diesel fuels from carinata oil.

**ADF Funding:** \$193,800

**Milligan:** \$5,000 (in-kind)

**Agrisoma:** \$5,000 (in-kind)

**Organization:** Saskatchewan Research Council

**Contact:** Sundaramurthy Vedachalam, Process Development, (306) 933-7373

***Novel low light tolerant edible crops*** (20140124)

**Objectives:**

- To screen existing horticulture food crops which can be grown under low light and cool temperature conditions.
- To evaluate photosynthetic traits of low light adapted crops in order to develop physiological markers for future selection.
- To create Factsheets for the culture of low light tolerant crops.
- To develop a national plant germplasm repository of low light tolerant vegetable and fruit crops.

**ADF Funding:** \$85,000

**Organization:** University of Saskatchewan

**Contact:** Karen Tanino, Plant Sciences, (306) 966- 8617

***Controlling disease in fenugreek using fungicides*** (20140149)

**Objectives:**

- The objective of this research is to protect the yield, and quality of fenugreek from leaf disease. To meet the stated objective we need to develop an understanding of fungicide efficacy, best application timing and number of applications required to control cercospora fungal disease in fenugreek.

**ADF Funding:** \$59,250

**Organization:** Agriculture & Agri-Food Canada (AAFC)

**Contact:** William May, (306) 695-5225

***Protein Modification using Physical and Hydrothermal Treatments*** (20140153)

**Objectives:**

- Expand the expertise in Saskatchewan on protein modification
- To develop new protein functionality using SK ingredients

**ADF Funding:** \$100,000

**Organization:** Saskatchewan Food Industry Development Centre

**Contact:** Shannon Hood-Niefer, (306) 964-1819

***Screening of coriander and caraway germplasm for resistance to blossom blight*** (20140163)

**Objectives:**

- Characterization of the blossom blight pathogens
- Collection, preservation and characterization of germplasm of coriander and caraway with emphasis on disease resistance

**ADF Funding:** \$137,150

**Western Grains Research Foundation:** \$137,150

**Saskatchewan Herb and Spice Association Specialty Ag:** \$20,000

**Organization:** University of Saskatchewan

**Contact:** Sabine Banniza, Crop Development Centre, (306) 966-4959

***Increasing avoidance of frost injury in annual field crops*** (20140202)

**Objectives:**

- To determine if differences in leaf frost resistance are related to physical cuticular parameters
- To determine if differences in leaf frost resistance are related to composition of the cuticular layer

**Funding:** \$131,963

**Western Grains Research Foundation:** \$43,987

**Organization:** University of Saskatchewan

**Contact:** Karen Tanino, Plant Sciences, (306) 966-8167

***Development of an Automated Fungal Detection System using MEMS-based Spore Sensor*** (20140220)

**Objectives:**

- To design and build a sensor within a spore trap to detect the presence of specific spore
- To test the sensor and build and test a wireless sensor network

**ADF Funding:** \$150,000

**Western Grains Research Foundation:** \$50,000

**Organization:** University of Saskatchewan

**Contact:** Anh Dinh, Electrical & Computer Engineering, (306) 966-5344

***Crop Sequencing of Large Acreage Crops and Special Crops*** (20140223)

**Objectives:**

- An objective of this research is to determine the best fit of special crops into crop sequences
- An objective of this research is to determine if optimum crop sequences change depending on the environment

**ADF Funding:** \$109,384

**Western Grains Research Foundation:** \$109,383

**Saskatchewan Wheat Development Commission:** \$109,383

**Prairie Oat Growers Association:** \$32,500

**Canaryseed Development Commission of Saskatchewan:** \$32,500

**Organization:** Agriculture & Agri-Food Canada (AAFC)

**Contact:** William May, (306) 695-5225

***Nutritional and soil requirements for propagating and growing Haskap plants*** (20140239)

**Objectives:**

- Survey of mineral content of soils and leaves in Haskap orchards
- Screening germplasm for Iron Chlorosis resistance
- Effect of major Nutrients on Haskap development
- Useful germplasm identified for breeding program
- Analysis of Haskap's tolerance of salinity
- Website with photos and mineral analysis useful for growers

**ADF Funding:** \$73,950

**Organization:** University of Saskatchewan

**Contact:** Robert Bors, Plant Sciences, (306) 966-8583



***Can enhanced efficiency N fertilizers mitigate against N losses in single-pass seeding operations?*** (20140257)

**Objectives:**

Evaluate the benefits of EEF technologies and related 4R Nutrient Stewardship practices to the agriculture industry

- demonstrate and quantify improved nitrogen use efficiency through reductions in nitrous oxide (N<sub>2</sub>O) emissions achieved through adoption of enhanced efficiency fertilizer (EEF) products under irrigated and dryland (rainfed) conditions;
- determine the N<sub>2</sub>O reduction potential of spring versus fall applications of conventional and enhanced efficiency synthetic N fertilizers and relate reduction to enhanced nitrogen use efficiency;
- determine experimentally-based N<sub>2</sub>O emission modifiers for the Nitrous Oxide Emissions Reduction Protocol (NERP) for Saskatchewan; and
- determine the agronomic and economic benefits of adopting EEF technologies under irrigated and dryland farming conditions in Saskatchewan.

**ADF Funding:** \$235,196

**Western Grains Research Foundation:** \$235,195

**Saskatchewan Wheat Development Commission:** \$117,598

**Organization:** University of Saskatchewan

**Contact:** Richard Farrell, Soil Science, (306) 966-2772

***Development of Biomass Flocculants for Water & Waste Water Treatment Applications*** (20140260)

**Objectives:**

- Milestone 1 – Preparation of cationic and anionic biopolymer flocculants using starch and cellulose based platforms
- Milestone 2 – Evaluation of flocculant properties in simulated wastewater systems containing simulated particulates.
- Milestone 3 – Evaluation of flocculant properties in real wastewater systems

**ADF Funding:** \$109,000

**Organization:** University of Saskatchewan

**Contact:** Lee Wilson, Chemistry, (306) 966-2961

***Hydrocolloids from Saskatchewan Crops*** (20140276)

**Objectives:**

- Hydrocolloid rheology studies
- Physical tests of hydrocolloid performance in functional food and nutraceuticals.
- Develop rapid analysis method for hydrocolloid composition
- Develop rapid analysis of hydrocolloid viscosity by diffusion
- Develop methods for concentrating seed coat based gum fractions
- Analysis of seed of collections of breeders seed and the core collection of flaxseed

**ADF Funding:** \$447,125

**Organization:** University of Saskatchewan

**Contact:** Martin Reaney, Plant Sciences, (306) 966-5027

***Production of a protein concentrate from ethanol stillage*** (20140277)

**Objectives:**

- Develop a laboratory continuous AGF reactor
- Determine the microbial populations of AGF stillage
- Desalt and concentrate the free solution from ethanol AGF fermentation
- Develop a safe feed ingredient, clarify stillage and isolation of glycerylphosphorylcholine (GPC)
- Determine the feed quality, water quality and amount of protein concentrate produced by AGF of thin stillage: Pilot scale.
- Scale up the process for making AGF stillage for high protein feed to pilot scale
- Separate GPC from AGF stillage concentrate

**ADF Funding:** \$360,069

**Organization:** University of Saskatchewan

**Contact:** Martin Reaney, Plant Sciences, (306) 966-5027