

Summary of ADF Projects, 2012

Livestock Research Funding

Jan. 18, 2012

26 livestock-related research projects: \$3,493,549

Breakdown by Commodity

Beef	\$1,292,988
Swine	\$749,022
Forage	\$565,036
Poultry	\$392,000
Other/General	\$494,503

Breakdown by Organization

University of Saskatchewan	\$1,649,804
Vaccine and Infectious Disease Organization	\$795,009
Western Beef Development Centre-PAMI	\$413,699
Prairie Swine Centre	\$374,013
Saskatchewan Forage Council	\$205,560
Agriculture and Agri-Food Canada	\$55,464

Beef

Determine the optimum level of Vitamin A inclusion in finishing rations

Objective:

- Determine the optimum level of Vitamin A used in finishing rations which in combination with certain genotypes would maximize feedlot profits through marker-assisted management for intramuscular fat deposition.

Funding: \$255,250

Contact: Fiona Buchanan, Animal and Poultry Science, (306) 966-4160
University of Saskatchewan

Investigation of necrosis in feedlot cattle

Objectives:

- Describe epidemiology of animals affected by necrosis.
- Map and describe the location of the lesions, which will provide insight into the possible cause(s) and pathogenesis.
- Determine bacteria's role in the creation of this disease.

Funding: \$40,000

Contact: Murray Jelinski, Large Animal Clinic Sciences, (306) 966-7166
University of Saskatchewan

Sulfur induced polioencephalomalacia in cattle

Objectives:

- Use chemical imaging and traditional toxicological approaches to compare healthy and affected cattle with clinical and experimental polioencephalomalacia.
- Determine serum protein profile changes in heifers exposed to low and high concentrations of dietary sulfur.

Funding: \$55,000

Contact: Elemir Simko, Veterinary Pathology, (306) 966-7307
University of Saskatchewan

Nutritional importance and economics of good pellet quality

Objectives:

- Determine how to best use pellet quality for different dietary formulations.
- Establish whether pellet size and/or durability influences feed sorting behaviour.
- Assess the effect of pellet quality on the estimated intake and waste of supplemented low quality forage diets.

Funding: \$275,690

Contact: Tom Scott, Animal and Poultry Science, (306) 966-4279
University of Saskatchewan

Prenatal detection and treatment of calves infected with the bovine viral diarrhea virus (BVDV)

Objective:

- Develop methods for prenatal detection and treatment of calves persistently infected with BVDV.

Funding: \$210,349

Contact: Sylvia Van Den Hurk, VIDO, (306) 966-1559
University of Saskatchewan

Prevention and diagnosis of stress-induced respiratory disease in feedlot calves

Objectives:

- Determine the physiological effects of stress that significantly increase susceptibility to fatal Bovine Respiratory Disease (BRD) in feedlot calves.

Funding: \$258,000

Contact: Philip Griebel, School of Public Health, (306) 966-1542
Vaccine and Infectious Disease Organization

Improving retention of radio frequency identification (RFID) tags for cattle

Objective:

- Investigate the potential of improved tag design, placement, or tag application protocols to improve RFID tag retention in cattle.

Funding: \$148,699

Contact: Troy Lucyshyn, (306) 682-5033 ext 225
Western Beef Development Centre - PAMI

Testing for Tritrichomonas Fetus

Objective:

- Develop and evaluate a new testing strategy for Tritrichomonas Fetus by pooling samples collected into a cost-effective phosphate buffered saline solution.

Funding: \$50,000

Contact: Cheryl Waldner, Large Animal Clinical Sciences, (306) 966-7168
University of Saskatchewan

Swine

Universal vaccine for swine influenza

Objectives:

- Develop and evaluate a universal vaccine for swine influenza.
- Generation and characterization of a recombinant swine influenza virus carrying both H1 and H3 subtype.
- Determine the pathogenicity of this vaccine in pigs.
- Evaluate the immunogenicity of this vaccine in pigs.

Funding: \$180,000

Contact: Yan Zhou, (306) 966-7716
Vaccine and Infectious Disease Organization

Strategies to improve post-weaning feed intake and growth of piglets

Objective:

- Determine, in a commercial like-setting, which piglets in the farrowing room consume creep feed, and encourage nursery phase one starter consumption with creep feed, through reducing competition and manipulating photoperiod.

Funding: \$61,065

Contact: Denise Beaulieu, (306) 667-7441
Prairie Swine Centre

Oral vaccine for piglets: a platform technology

Objective:

- Develop a safe and effective vaccine to fight against Lawsonia Intracellularis in neonatal piglets.

Funding: \$195,009

Contact: Heather Wilson, (306) 966-1537
Vaccine and Infectious Disease Organization

Feeding value of cull lentils for growing swine

Objectives:

- Characterize the nutritive composition of feed-grade lentils for growing pigs.
- Compare the nutritive composition of cleaned and uncleaned lentils to allow the economics of cleaning to be accessed.
- Provide a tool to be used by pork producers to place a monetary value on cull lentils relative to other feeds used in pork production.

Funding: \$53,986

Contact: Denise Beaulieu, (306) 667-7441
Prairie Swine Centre

Growth and transmission of disease-causing micro-organisms in livestock operations

Objective:

- Control the growth and spread of disease-causing micro-organisms in swine barns using commercially available nanoparticles.

Funding: \$129,182

Contact: Bernardo Predicala, (306) 667-7444
Prairie Swine Centre

Evaluation of a geothermal system for swine production

Objective:

- Evaluate the applicability of a geothermal system in swine production to reduce energy use and greenhouse gas emissions while improving animal production efficiency, profitability and competitiveness.

Funding: \$129,780

Contact: Yaomin Jin, Engineering (306) 667-7446
Prairie Swine Centre

Forages

Forage legumes in soil phosphorus fertility

Objective:

- Determine how rotating forage alfalfa, clover and pea for two years will affect phosphorus in the soil, focusing on the effects of phosphorus to the following annual crops.

Funding: \$39,012

Contact: Jeff Schoenau, Soil Science, (306) 966-6844
University of Saskatchewan

Genetic improvement of white prairie clover

Objectives:

- Evaluate various white prairie clover collections for stand establishment, forage bio-mass, forage quality, and seed yield under semi-arid climate of Saskatchewan.
- Evaluate effectiveness of different commercial inoculants on stand establishment, forage bio-mass, and seed production of white prairie clover in the greenhouse and in the field trial.

Funding: \$55,464

Contact: Michael Schellenberg, Research Branch, (306) 778-7247
Agriculture and Agri-Food Canada

Evaluation of grazing corn varieties

Objective:

- Study detailed economic and grazing production data from low-heat unit grazing corn varieties for cow-calf and back grounding producers in Western Canada.

Funding: \$250,000

Contact: Bart Lardner, (306) 682-3139
Western Beef Development Centre - PAMI

The economics of grain versus grass

Objectives:

- Determine potential returns on forage land throughout the soil zones of Saskatchewan.
- Determine potential returns on annual cropland throughout the soil zones of Saskatchewan.
- Compare and contrast the cost/benefit return for cropland versus perennial forages grown in the same soil zone.
- Determine a link between land use statistics for various census years to the potential net returns for forages versus cropland.
- Determine link between hay yield and potential net returns for forages.
- Use census data to measure the changes in land use from 2001 through 2011 and compare the changes with the returns in livestock production and grain/oilseed production.

Funding: \$15,000

Contact: Kathy Larson, (306) 764-3929
Western Beef Development Centre - PAMI

Trace mineral status of Saskatchewan pastures

Objective:

- Sample and analyze forage plants for trace mineral levels from Saskatchewan pastures (sites located within provincial and federal community pastures) located in the four soil zones of the province (brown, dark brown, black, and gray). This data will provide trace mineral profiles of the pastures and allow for an assessment of trace mineral supplementation programs on each pasture.

Funding: \$205,560

Contact: Janice Bruynooghe, (306) 867-8126
Saskatchewan Forage Council

Poultry

Controlling Inclusion Body Hepatitis (IBH) in the broiler chicken industry

Objectives:

- Optimize the live Fowl Adenoviral vaccine to immunize broiler breeders in order to control IBH in the broiler chicken industry.

Funding: \$230,000

Contact: Susantha Gomis, Veterinary Pathology, (306) 966-7299
University of Saskatchewan

Vaccines directed against Salmonella Enteritidis in poultry

Objective:

- Development of subunit vaccines to fight against Salmonella Enteritidis in order to prevent colonization and infection of poultry.

Funding: \$162,000

Contact: Wolfgang Köster, (306) 966-7479
Vaccine and Infectious Disease Organization

Other/General

Replacing fish oil in aquaculture diets

Objectives:

- Determine the best way to maximize the digestibility of algae/canola oil in diets fed to rainbow trout in fresh water and Atlantic salmon in seawater.

Funding: \$76,720

Contact: Murray Drew, Animal and Poultry Science, (306) 966-2367
University of Saskatchewan

Enhanced processing of manure using catalytic reaction

Objective:

- Develop a framework for large scale application for catalytic treatment of manure.

Funding: \$41,000

Contact: Bernard Laarveld, Animal and Poultry Science, (306) 966-4972
University of Saskatchewan

Nutritional relevance of feed

Objectives:

- Gain more knowledge of the nutritional relevance of feeds in order to understand the relationship between feed inherent structure and nutrient availability.
- Apply this information to the production of high quality feeding programs and to aid feed crop breeding programs.

Funding: \$145,500

Contact: Peiqiang Yu, Animal and Poultry Science, (306) 966-4132
University of Saskatchewan

Diet changes in ruminal function: a comparison between bison and cattle

Objectives:

- Compare the ruminal pH profiles, short-chain fatty acid absorption for bison and cattle fed diets (low forage versus moderate forage).
- Evaluate the dominant ruminal microbial species in bison and cattle.

Funding: \$93,395

Contact: Gregory Penner, Animal and Poultry Science, (306) 966-4219
University of Saskatchewan

The priming effect associated with long-term manure applications

Objective:

- Assess the magnitude and duration of the priming effect in soils receiving long-term manure applications.

Funding: \$137,888

Contact: Richard Farrell, Soil Science, (306) 966-2772
University of Saskatchewan