Agriculture Development Fund Livestock and Forages Projects

January, 2026

Agriculture Development Fund (ADF)
Livestock and Forages Projects for 2026

- **25** livestock and forage projects were approved by ADF for a total of **$4,494,281.**
- **2** partnership agreements were approved for a total of **$3,947,313.**
- **13** industry partners co-funded projects for a total of **$1,341,580.**

Institution	Number of Approved Projects	Total Amount Funded
Agriculture and Agri-Food Canada	1	$101,661
Lakeland College	1	$171,600
Pollinature Research & Conservation Inc.	1	$205,000
Prairie Diagnostic Services	2	$433,476
Prairie Swine Centre Inc.	2	$2,299,370
University of Alberta	1	$235,000
University of Regina	2	$312,859
University of Saskatchewan	17	$4,682,628
Total	**27**	**$8,441,594**

Commodity	Number of Approved Projects	Total Amount Funded
Beef	7	$1,414,565
Beef/Dairy	1	$196,000
Bison	1	$257,301
Poultry	5	$791,976
Sheep	2	$397,000
Swine	2	$299,370
Other/Multiple Species	1	$235,000
Forages	6	$903,069
Partnerships	2	$3,947,313
Total	**27**	**$8,441,594**

Livestock and Forages Project Co-funders	Number of Approved Projects
Alberta Beef Producers	2
Alfalfa Seed Commission of Alberta	1
Canadian Poultry Research Council	1
Manitoba Forage Seed Association	2
Results Driven Agriculture Research	5
Saskatchewan Alfalfa Seed Producers Development Commission	2
Saskatchewan Barley Development Commission	1
Saskatchewan Cattle Association	5
Saskatchewan Chicken Industry Development Fund	1
Saskatchewan Forage Seed Development Commission	2
Saskatchewan Pork Development Board	1
Saskatchewan Sheep Development Board	2
Western Dairy Research Collaboration	1
Total	**13**[1]

[1]A total of 13 projects received co-funding support. Some projects were co-funded by more than one co-funder.

Agriculture and Agri-Food Canada

Screening and field evaluation of Intermediate wheatgrass pre-release germplasm with enhanced tolerance to salinity (*20251424*)

Principal Investigator: Sean Asselin, Agriculture and Agri-Food Canada
Objectives:

- Screen and identify 100 genotypes with superior salinity tolerance for clonal replication and field evaluation.
- Identify field-tested genotypes that produce saline-tolerant seedling for use as polycross parents.

Co-funded by: Saskatchewan Cattle Association, Saskatchewan Forage Seed Development Commission
ADF Funding: $101,661

Lakeland College

Biofortification of feed barley with Cu and Zn to improve forage value for livestock (*20251477*)

Principal Investigator: Balwinder Kumar, Lakeland College
Objectives:

- Evaluate barley yield, forage quality, and micronutrient uptake under copper (Cu)/zinc (Zn) soil and foliar biofortification.
- Assess the feasibility of Cu/Zn co-application with fungicides to reduce costs and field passes.
- Determine Cu/Zn concentration in green forage, silage, and hay to optimize livestock micronutrient intake.
- Determine economic returns of Cu/Zn biofortification of livestock forage through cost-benefit analysis.
- Evaluate the impact of Cu/Zn biofortified forage on growth and reproductive performance in cattle.

ADF Funding: $171,600

Pollinature Research & Conservation Inc.

Improving parasite control and pollinator health in alfalfa leafcutting bee management systems (*20251214*)

Principal Investigator: Gail MacInnis, Pollinature Research & Conservation Inc.
Objectives:

- Develop integrated pest management strategies by studying the biology and behavior of *Pteromalus venustus*, a significant pest for alfalfa leafcutting bees (ALBs).
- Assess the efficacy of two natural essential oil extracts for managing *P. venustus* in ALB incubation facilities.
- Develop supplemental nutrition strategies to support ALB development during periods of floral scarcity and delayed bloom.

Co-funded by: Alfalfa Seed Commission of Alberta, Manitoba Forage Seed Association, Saskatchewan Alfalfa Seed Producers Development Commission
ADF Funding: $205,000

Prairie Diagnostic Services

Prevalence and risk of mixed Salmonella serovar presence in poultry egg farming environment (*20251402*)

Principal Investigator: Ruwani Karunarathna, Prairie Diagnostic Services
Objectives:

- Develop a bioinformatics pipeline to accurately detect monoclonal and polyclonal Salmonella populations from metagenomic data.
- Determine the prevalence of mixed Salmonella serovars in poultry production environment using metagenomic sequencing approach.

ADF Funding: $237,476

Evaluation of miRNA as biomarkers of subclinical and clinical Johne's disease in cattle (*20251479*)

Principal Investigator: Roman Koziy, Prairie Diagnostic Services
Objectives:

- Evaluate miRNA expressions in calves with experimental *Mycobacterium avium* subspecies paratuberculosis infection.
- Evaluate miRNA expression in cattle over the course of three years from herds with known Johne's positive and negative status.

ADF Funding: $196,000

Prairie Swine Centre Inc.

Application of nanophotocatalysis for degradation of deoxynivalenol (DON) and masked mycotoxins in wheat grains (*20251443*)

Principal Investigator: Bernardo Predicala, Prairie Swine Centre Inc.
Objectives:

- Synthesize and characterize magnetic graphene oxide (MGO)-based nanophotocatalysts.
- Assess the photocatalytic performance of MGO-based nanophotocatalyst for DON and masked mycotoxin degradation in wheat grains.
- Evaluate long-term effect of applied treatment on stored raw grain quality and the fate of applied nanophotocatalysts.
- Conduct on-farm demonstrations and cost analysis on practical use of nanophotocatalysts under commercial conditions.

Co-funded by: Saskatchewan Pork Development Board
ADF Funding: $149,370

University of Alberta

Detection of chronic wasting disease prion contamination on CWD infected cervid game farms in Saskatchewan (*20251278*)

Principal Investigator: Holger Wille, University of Alberta
Objectives:

- Identify chronic wasting disease (CWD) prion contamination of soils on previously depopulated and currently active, contaminated cervid game farms.
- Determine persistence/longevity of CWD prions on previously depopulated premises.
- Determine which environmental parameters are linked with greater accumulation of CWD prions in the soil.
- Estimate the infectivity level of CWD-prions in the soil.

ADF Funding: $235,000

University of Regina

Green Ceramsite Technology for Phosphate Recovery and Dugout Water Quality Improvement (*20251257*)

Principal Investigator: Jinkai Xue, University of Regina
Objectives:

- Identify representative dugout water characteristics and conduct preliminary proof-of-concept experiments by using synthetic dugout water.
- Develop and optimize a laboratory-scale, flow-through, ceramsite-based dugout water treatment system.
- Build and deploy a pilot-scale treatment unit on three selected farms for on-site operation.

Co-funded by: Saskatchewan Cattle Association, Western Dairy Research Collaboration
ADF Funding: $180,291

Environmental Controls and Treatment Options for Blue-Green Algal Toxins in Dugouts (*20251390*)

Principal Investigator: Kerri Finlay, University of Regina
Objectives:

- Identify environmental controls of microcystin in dugouts.
- Evaluate the effectiveness of hydrogen peroxide as a treatment for microcystin.

Co-funded by: Saskatchewan Cattle Association
ADF Funding: $132,568

University of Saskatchewan

Development of novel hybrid bromegrass cultivars for western Canadian beef and forage sectors (*20251084*)

Principal Investigator: Bill Biligetu, University of Saskatchewan
Objectives:

- Evaluate forage and nutritional traits of genetically diverse hybrid bromegrass (HBG) populations developed over the last two decades.
- Apply the genomic selection and precision phenotyping methods to develop novel high yielding and high-fiber digestibility populations.
- Improve the seed yield of HBG to reduce seeding costs.
- Collect data for variety registration for new HBG breeding lines.

Co-funded by: Alberta Beef Producers, Manitoba Forage Seed Association, Results Driven Agriculture Research, Saskatchewan Cattle Association, Saskatchewan Forage Seed Development Commission
ADF Funding: $195,315

Enhancing the productivity and sustainability of alfalfa through the development of high yielding& high nitrogen fixing cultivar (*20251085*)

Principal Investigator: Bill Biligetu, University of Saskatchewan
Objectives:

- Identify and develop alfalfa populations for high biological nitrogen fixation (BNF) and high forage yield.
- Evaluate high yielding and high BNF alfalfa in field.
- Evaluate novel N fixing rhizobia adapted to cold climate to increase N fixing capacity.
- Identify candidate genes associated with high BNF in alfalfa.

Co-funded by: Results Driven Agriculture Research, Saskatchewan Alfalfa Seed Producers Development Commission
ADF Funding: $145,916

How long to wait? Forage recovery following intensive grazing (*20251112*)

Principal Investigator: Eric Lamb, University of Saskatchewan
Objectives:

- Identify stocking rate (grazing pressure) levels that maximize future native forage productivity and quality.
- Identify stocking rate (grazing pressure) levels that maximize recovery of desirable native species and suppress invasive weeds.

ADF Funding: $83,577

Innovative and sustainable platform enrichments to advance broiler welfare in Canada (*20251126*)

Principal Investigator: Karen Schwean Lardner, University of Saskatchewan
Objectives:

- Determine how platform height and ramp angle affect broiler usage, welfare, and performance.
- Assess durability, biodegradability, and disposal challenges of enrichment materials in broiler environments.
- Evaluate effects of biodegradable platforms on production, health, behavior, and stress in large-scale broiler trials.
- Assess durability, production, health, and stress impacts of biodegradable platforms in a commercial farm setting.

Co-funded by: Canadian Poultry Research Council, Saskatchewan Chicken Industry Development Fund
ADF Funding: $40,000

Development of green surface microbial decontamination and egg washing processes (*20251185*)

Principal Investigator: Lifeng Zhang, University of Saskatchewan
Objectives:

- Investigate efficacy of plasma activated water (PAW) for egg surface decontamination.
- Develop a continuous operation of surface decontamination for the egg industry using PAW.

ADF Funding: $210,000

Development of a sheep model to investigate Cache Valley Virus disease, antiviral immune responses, and vaccine countermeasures (*20251265*)

Principal Investigator: Bryce Warner, University of Saskatchewan
Objectives:

- Develop pregnant ewe models for Cache Valley Virus infection and disease.
- Identify protective immune responses induced by Cache Valley Virus to inform vaccine design.
- Generate vaccine candidates for Cache Valley Virus and test their immunogenicity.
- Determine efficacy of potential vaccine candidates using lamb and pregnant sheep models.

Co-funded by: Results Driven Agriculture Research, Saskatchewan Sheep Development Board
ADF Funding: $175,000

Unpaid Labour on Saskatchewan Cow-Calf Operations (*20251295*)

Principal Investigator: Kathy Larson, University of Saskatchewan
Objectives:

- Generate accurate measures of the amount, seasonality and efficiency of family and paid labour on cow-calf operations.
- Increase the accuracy of the cost of production benchmarks for Saskatchewan.
- Generate unpaid labour benchmarks for cow-calf producers.

ADF Funding: $66,000

Cholera toxin as a mucosal immunomodulator to control Salmonella colonization in broiler chickens (*20251329*)

Principal Investigator: Susantha Gomis, University of Saskatchewan
Objectives:

- Demonstrate mucosal immunity induced by Cholera toxin (CT) with live Salmonella antigens against *S. Typhimurium* infections.
- Demonstrate mucosal immunity induced by CT with inactivated antigens of Salmonella against *S. Typhimurium* infections.

Co-funded by: Results Driven Agriculture Research
ADF Funding: $97,500

Plasma-activated water as a sustainable solution to control Campylobacter in poultry processing facilities (*20251346*)

Principal Investigator: Kaidi Wang, University of Saskatchewan
Objectives:

- Develop and optimize PAW treatment for Campylobacter inactivation.
- Investigate efficacy of PAW in a poultry processing environment through a pilot study.
- Assess PAW on simulated poultry processing surfaces and poultry carcass.

ADF Funding: $207,000

MSX-1 - a novel bovine tuberculosis vaccine (*20251359*)

Principal Investigator: Jeffrey Chen, University of Saskatchewan
Objectives:

- Determine if MSX-1 is protective against bovine tuberculosis (bTB) in cattle without compromising tuberculin dependent bTB diagnostic tests.
- Assess durability of the protection provided by MSX-1 in cattle.
- Assess and compare immune responses and gene expression changes induced by MSX-1 versus Bacille Calmette-Guérin in cattle.

ADF Funding: $450,000

One Test, One Result: Advancing Reproductive Loss Diagnostics for Small Ruminants Using the ReproSeq Panel (*20251364*)

Principal Investigator: Dinesh Dadarwal, University of Saskatchewan
Objectives:

- Modification and adaptation of the ReproSeq Panel for small ruminants.
- Optimization of panel performance and bioinformatics workflow customization.
- Clinical validation using field samples.

Co-funded by: Saskatchewan Sheep Development Board
ADF Funding: $222,000

Impact of annual forage species diversity on fermentation dynamics, digestibility, and nutrient utilization in rumen simulations (*20251396*)

Principal Investigator: Flavia de Oliveira Scarpino van Cleef, University of Saskatchewan
Objectives:

- Establish and assess forage mixtures from monocultures to multispecies blends to optimize productivity and quality.
- Quantify gas, methane, volatile fatty acids, ammonia-N, and in-situ degradability in forage mixtures from monocultures to complex blends.
- Assess in-vitro dry matter, organic matter, and fibre digestibility of forage mixtures from monocultures to complex multi species blends.
- Explore potential synergistic or antagonistic effects of plant functional groups on ruminal fermentation efficiency.

ADF Funding: $206,724

Advancing Sustainable Bison Production Through Grazing Management and Ecosystem Services Enhancement in Saskatchewan's Prairies (*20251401*)

Principal Investigator: Trever Crowe, University of Saskatchewan
Objectives:

- Determine botanical composition, nutritive value, and forage yield across different grazing systems.
- Assess bison performance, including growth rates, weight gain, and feeding behavior under different grazing systems.
- Evaluate soil health indicators and carbon sequestration potential under different grazing systems.
- Analyze the economic viability and cost effectiveness of different grazing systems and support the restoration of Indigenous relations.
- Support Indigenous-led conservation via grazing that aligns with traditions and sustains prairie ecosystem health.

ADF Funding: $257,301

Regional Vaccine Development for the Control of Influenza in Pigs (*20251403*)

Principal Investigator: Susan Detmer, University of Saskatchewan
Objectives:

- To examine the current efficacy of autogenous vaccinations on farms to control endemic influenza infections in pigs.
- To examine cross reactivity of antibodies from monovalent and polyvalent vaccine stimulation.
- To examine vaccine efficacy against live virus challenge in a controlled environment.
- To examine vaccine antibody transfer through colostrum and efficacy against live virus challenge in weaned pigs.

ADF Funding: $150,000

Development and use of novel testing strategies to understand and mitigate toxicity of ergot alkaloids in beef cattle (*20251497*)

Principal Investigator: Natacha Hogan, University of Saskatchewan
Objectives:

- Determine the metabolic biotransformation products of ergot alkaloids in bovine liver cells.
- Determine metabolites and signaling pathways driving ergot alkaloid toxicity in bovine liver cells.
- Determine the impact of feeding ergot contaminated diets on molecular and metabolic pathways in the liver of beef cattle.
- Determine the applicability of using bovine cell lines as an assessment tool to address ergot toxicity in beef cattle.

Co-funded by: Alberta Beef Producers, Saskatchewan Cattle Association
ADF Funding: $239,975

Fine-tuning dry-rolled barley grain processing for finishing beef cattle (*20251519*)

Principal Investigator: Gregory Penner, University of Saskatchewan
Objectives:

- Determine the optimal severity of barley grain processing on feed intake, growth efficiency, and carcass weight.
- Determine whether physically effective Neutral Detergent Fibre and water inclusion affect the response to optimal barley grain processing for finishing beef cattle.

Co-funded by: Results Driven Agriculture Research, Saskatchewan Barley Development Commission
ADF Funding: $139,007

Partnerships

Prairie Swine Centre - Applied Swine Research and Knowledge Transfer Program Supporting Saskatchewan Swine Producers (*20251243*)

Principal Investigator: Murray Pettitt, Prairie Swine Centre Inc.
Objectives:

- To continue to support the Saskatchewan pork value chain with targeted public research in swine nutrition, engineering and ethology focused on improved pig performance, health and overall sustainability sector (including environmental, fiscal, disease preparedness/management and public trust components).
- Improve direct engagement with producers to better understand the industry challenges.
- Translate complex research into easy-to-use materials (brochures, videos, conferences).

S-CAP Funding: $2,150,000

Turning Science into Solutions: Strengthening Communication and Knowledge Translation for Producers through VIDO Core Funding (*20251558*)

Principal Investigator: Volker Gerdts, University of Saskatchewan
Objectives:

- Improve direct engagement with producers to better understand disease challenges.
- Translate complex research into easy-to-use materials (brochures, videos, conferences).
- Support ongoing vaccine and technology development and move them closer to adoption.

S-CAP Funding: $1,797,313