

## **SCA Call for Research Proposals**

**Status: Open**

**Deadline: Friday April 20, 2018**

The Saskatchewan Cattlemen's Association (SCA) is pleased to invite applications of research and development in areas that address targeted industry priorities.

This call does not note specific research priority areas. The research priorities noted below have been developed in part by the Beef Cattle Research Council, with additional Saskatchewan specific items. All research proposals should indicate how they will benefit Saskatchewan's cattle producers. The areas below have been established based on producer and expert analysis of significant knowledge and/or technology gaps that require additional research.

**1) Economic Sustainability** - Projects which seek to improve producers' efficiencies and lower the cost of production to ensure a sustainable beef industry, will be considered. Projects designed to shorten producers' adoption of technology, improve government programs, or develop industry programs are also encouraged. Further economic research priorities are noted within the research areas below.

- a) Understand proper incentivization of GHG mitigation strategies
- b) Note methods of market volatility protection, especially understanding mixed farms vs grain farms using government business risk management programs
- c) Provide a numerical ranking of the financial costs per tonne of carbon equivalent mitigation techniques
- d) Note the economic effect and the carbon footprint of converting from a conventional production program to grassfed/no hormone program

**2) Genomics**

- a) Investigate and supply tools to enable breeders to move faster towards breeding goals
- b) Determine characteristics which will lead to better control of animal diseases
- c) Provide knowledge needed to improve breeding strategies
- d) Improve upon markers available to note fleshing ability
- e) Investigate and develop cross breed trait selection ability for milk production, which also takes into account fertility and calving ability

**3) Animal Health**

- a) Develop and promote cost-effective vaccination and management strategies that can be widely adopted throughout the beef production system to improve health, reproductive and performance outcomes
- b) Re-invest in vaccine development, with a specific focus on pathogens associated with bovine respiratory disease in Canada (e.g. *Mycoplasma* spp, *Mannheimia haemolytica*, *Histophilus*

somni, Pasteurella multocida, bovine herpesvirus, bovine respiratory syncytial virus, bovine viral diarrhoea virus, bovine coronavirus), liver abscesses (e.g. Fusobacterium necrophorum, Trueperella pyogenes), footrot (e.g. F. necrophorum) and digital dermatitis (e.g. Treponema spp.)

- c) Conduct an evidence-based risk-assessment of the effectiveness of alternative production practices (e.g. preconditioning, methods of reducing stress in weaned calves).
- d) Investigate and develop simple, cost-effective alternative vaccine delivery methods to improve vaccination rates in the cow-calf sector.
- e) Develop rapid, accurate, cost-effective diagnostic tools to detect disease before symptoms become apparent.
- f) Evaluate the cost-effectiveness of pain control products and strategies for avoiding or mitigating acute and chronic pain.
- g) Develop cost-effective non-antimicrobial products to prevent, treat and control disease.
- h) Identify or develop management or treatment options that lead to improved control of internal and external parasites
- i) Develop revised feed mycotoxin levels to avoid adverse animal health and welfare impacts
- j) Evaluate the effectiveness of pain control products and strategies for avoiding or mitigating acute and chronic pain.
- k) Define appropriate feed, water and rest intervals that optimize transport outcomes for different classes of long-haul beef cattle transported across Canada. Identify potential trailer design modifications to minimize bruising and injury

#### **4) Animal Nutrition and Management**

- a) Develop a cost-effective method to easily and accurately quantify forage intake in grazing cattle
- b) Identify cost-effective agronomic strategies to increase feed grain energy yield per acre
- c) Develop new feed grain varieties with improved feed grain energy yield per acre, N and water use efficiency
- d) Identify, evaluate and calculate the cost-effectiveness of alternative / by-product energy feeds, considering impacts on animal performance, health, product quality, and nutrient management
- e) Develop cost-effective mitigation strategies for ergot and mycotoxins in pellets, hay, and grain.
- f) Identify long-term efficient and cost-effective solutions to treat water not otherwise suitable for cattle to drink.
- g) Interaction of mycotoxins and fusarium in blends, as well as how they interact with sulfates and nitrates in water.
- h) Improve upon rapid mycotoxin test results

#### **5) Environmental Stewardship**

- a) Investigate the role of forage management in maintaining a healthy environment, as it pertains to wildlife, soil health, economic viability, and animal condition.
- b) Quantify the impacts of native and tame pasture management on water use, cycles and watersheds across Canada
- c) Quantify N and P excretion rates in grazing animals, and P runoff and leaching impacts on water quality / eutrophication
- d) Quantify factors impacting the rate and extent of C sequestration in tame and native pastures within ecosystems and soils in Saskatchewan.

**Saskatchewan Cattlemen's Association**—to promote the well being of all production sectors of the Saskatchewan beef cattle industry through effective representation from all regions of the province.

## 6) Forage and By-products

- a) Expand communication and technology transfer programs which target producers
- b) Develop new annual and perennial grass and legume varieties with improved stand longevity, quality, yield, and adaptability (e.g. flood and drought resistance) through traditional and/or advanced plant breeding techniques
- c) Quantify varietal and species differences in the ability of grasses, legumes and annual forages to maintain nutritional quality throughout the grazing season and in extended stockpiled or swath grazing systems to help inform producers' seed selection decisions
- d) Investigate and refine regionally-appropriate methods of combining native, tame (annual and perennial) species and extended winter grazing practices to lengthen the grazing practices to lengthen the grazing season and reduce winter feeding costs, while meeting animal requirements.
- e) Quantify the economic and agronomic benefits of integrated annual crop, forage and beef production systems.
- f) Identify and develop methods to control noxious weeds throughout the province, including but not limited to leafy spurge, burdock, absinthe, and scentless camomile.
- g) Investigate methods to better utilize forages and forage by-products.

Projects may be between 1 and 3 years in duration. Most successful projects request a maximum of \$50,000 per project, regardless of project duration. However, projects can request more than this amount, provided they have also received funding from other funding groups.

**All proposals submitted must follow the guidelines outlined in the *Instructions & Guidelines for Submitting a Letter of Intent & Research Proposal* document, posted on the SCA website at [www.saskbeef.com/research--innovation.html](http://www.saskbeef.com/research--innovation.html)**