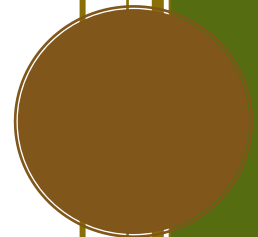




BEEF FARMERS OF ONTARIO

Research Priorities 2019



Research Priorities

The Beef Farmers of Ontario (BFO) research committee with facilitation from the Livestock Research Innovation Corporation (LRIC), and input from Dr. Reynold Bergen (Science Director with the Beef Cattle Research Council) reviewed research priorities, topics areas and identified sector area research. These priorities were used for the 2019 BFO research call. These priorities are evaluated yearly by LRIC and discussed with BFO for consideration in cross sector research documentation and priorities.

The top areas identified all show cross-commodity opportunities. Overarching all priorities is the need for economic viability of the sector, with any research projects contributing to a sustainable Ontario beef industry.

Top Priorities (Ranked)

- Environmental sustainability
- Animal health and welfare
- Food safety
- Antimicrobial use, resistance and alternatives (including growth hormones)
- Forages

Environment:

Identified Topic(s)	Opportunities
Methane	<ul style="list-style-type: none"> - Livestock blamed for climate change - Sustainability of beef production in reducing effect on climate change (ie. forage and carbon sequestration) - Forage sequestration (soil stabilization with cattle, land utilization) - Ways to increase and secure water quality - Systems that enhance soil health using beef - Effect livestock has on water quality - Livestock benefits from soil health - Systems approach to environmental stewardship (interaction between sectors, managing farm waste, looking at all inputs and outputs)

Welfare:

Identified Topic (s)	Opportunities
- Animal welfare	<ul style="list-style-type: none"> - Improved transport of animals - Evidence-based data on proper pain control for different methods of castration and age at which castration is done - Increase producer acceptance of pain control use or understand barriers to using pain control

Public Perception:

Identified Topics	Opportunities
<ul style="list-style-type: none"> - Cattle raised without antibiotics - Not enough research about animal vs. plant-based amino acids - Public perception of meat production and animal agriculture 	<ul style="list-style-type: none"> - Sustainable production systems to meet consumer demands - Address societal concerns of eating meat (in a way the involves industry and environment) - Integrate more forage into feeding systems but maintain rigour of corn-fed for quality, as well as collect data to deal with societal concerns - Implant-free beef production - Forage feeding and greenhouse gas emissions - Consumer preference - Explore the micronutrients and macronutrients beneficial in a balanced diet

Food Safety:

Identified Topics	Opportunities
<ul style="list-style-type: none"> - Drug residues, new testing, stringent limits - Tracking food safety concerns (ie. cases of food-borne illnesses, surveillance issues) - Food safety (e-coli testing and misdiagnosis) - Consumer confidence - Traceability and accountability issues 	<ul style="list-style-type: none"> - Food safety, leverage food science researchers - Standardized surveillance methods

Anti Microbial Usage/Resistance:

Identified Topics	Opportunities
<ul style="list-style-type: none"> - Animal health - Feeding/overwintering - Environment - AMR and antimicrobial use 	<ul style="list-style-type: none"> - Carbon projects - Consumer projects - Benchmarking medication use on Ontario cow-calf farms - Testing for AMR in cow-calf herds - Decreased use of antimicrobials by increasing use of preventative measures (ie. vaccination of cow-calf herds) - Ways to decrease reliance on antibiotics in feedlot production - Eliminating antibiotics - Ionophores - Tylan - High health genetics

Health:

Identified Topics	Opportunities
<ul style="list-style-type: none"> - Lameness in feedlot housed cattle - Feedlot diseases/reproductive diseases occurrence in vaccinated populations - Parasite control and anthelmintic resistance - Beef cow reproduction 	<ul style="list-style-type: none"> - Nutrition to improve gut health - Address high incidence of liver abscesses in feedlot cattle - Alternatives to antibiotic use - Optimizing cattle health and gain performance - Types of lameness and how to prevent - Animal welfare specific to Ontario issues - Newborn calf care/pre-weaning - Passive transfer rates in beef cattle - When/how to intervene around calving - Requirements for optimal newborn calf health (ie. navel dipping) - Vaccination and timing - Feedlot health – setting calves up for success for the feedlot (preconditioning); prevalence of respiratory and feet issues; benchmark prevalence (AMR) - Develop chute-side test for vaccination immunity - Deworming - Alternative management strategies - Evidence of resistance in Ontario cattle (feedlot and cow-calf) - Types of parasites seen in Ontario - Genomic markers, identify traits linked to breeding and cow reproduction

Forage:

Identified Topics	Opportunities
<ul style="list-style-type: none"> - Climate change 	<ul style="list-style-type: none"> - Forages in Ontario (new ideas/sources, drought/flooding solutions) - Forage utilization - Soil improvement - Nutrient stability - Types of plants providing greater ROI for grazing - How often to revamp pastures - Plant productivity and sustainability - Forage yield/management - Variety selection, mix, cattle management - Grasses for Ontario pastures - Cover crop/cash crop utilization - Tools to measure pasture growth

	<ul style="list-style-type: none"> - Benchmarking (utilization) - Effective management strategies (more lbs/acre)
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Data:

Identified Topics	Opportunities
<ul style="list-style-type: none"> - Data collection and movement - Working in silos - Plant-based perception 	<ul style="list-style-type: none"> - Functional traceability to enhance food safety, enhance information sharing in industry and build consumer confidence - Tags, sensors, Agbox - Cross-sector collaboration - Work with livestock and crop groups - 360-degree picture

Other:

Identified Topics	Opportunities
<ul style="list-style-type: none"> - Current grading system doesn't give a real indication of carcass retail yield 	<ul style="list-style-type: none"> - Dairy beef calf quality for Ontario feedlots - Local markets, specific end-markets - Comprehensive systems approach to pastures (sequester, soil health, plant and animal production) based on management systems on pastures and regenerating existing pastures