ALBERTA BEEF, FORAGE & GRAZING CENTRE

2016 Annual Report

ALBERTA BEEF, FORAGE & GRAZING CENTRE

Executive Summary

The Alberta Beef Forage and Grazing Centre (ABFGC or the Centre), while a new initiative, has garnered a large amount of industry support, as well as engagement from key stakeholders including federal and provincial governments, academic institutions and applied research associations. While challenges remain on how best to integrate activities taking place outside of the main hub at the Lacombe Research and Development Centre under the umbrella of the ABFGC, many of these activities are captured through current collaborations by research scientists or funding awarded by the three signatory organizations.

A number of significant accomplishments occurred in 2016, with a key highlight being the first annual meeting of the Centre, which brought together the industry advisory committee for the first time, as well as hosted an enlightening open discussion with key external stakeholders from across western Canada.

It is important that the activities of the Centre reflect the strategic plan and goal development, recognizing the long-term nature of those goals. Granted, it can be difficult to assess progress against goals with a substantial time horizon (in this case 15-20 years), however; the research and extension activities both in progress and completed demonstrate the commitment of personnel and organizations involved with the Centre towards achieving those long-term goals.

The Centre has six strategic, long-term goals as follows:

1. Reduce winter feeding costs by 50%
    - Supported by fourteen research and extension projects, investigations into best management practices for low-cost extended grazing systems, higher energy forages, and variety evaluation will assist in decreasing winter feeding costs for producers. A success story in this area is the close collaboration between the breeding program at the Field Crop Development Centre, which regularly releases new varieties, and AAFC scientists who developed a forage variety evaluation spreadsheet, allowing the forage potential of varieties developed for malt or food purposes to be assessed.
2. Reduce the environmental footprint of the cowherd by 15%
    - Supported by eight research and extension projects, determining the factors related to decreased methane production and improving nutrient management practices will help beef producers decrease their environmental footprint. A success story in this area are the different methodologies developed to measure greenhouse gas emissions, further strengthening the data set that demonstrates that more efficient cattle produce fewer greenhouse gases.

3. Improve cow efficiency by 15%
    - Supported by six research and extension projects, elucidating the factors contributing to differences between animals in feed efficiency, the interactions between feed efficiency and feed stuffs, as well as ways to improve the feed efficiency of the mature cow herd will not only improve producers' bottom lines, but also contribute to reducing the environmental footprint of beef production. Success stories in this area include the release of EnVigour HX, a genomic tool that provides an estimation of hybrid vigour, as well as the ongoing improvement of the accuracy of genomically enhanced expected progeny differences for feed efficiency.
4. Reduce backgrounding costs by 50%
    - Supported by fourteen research and extension projects, incorporation of new or better adapted forage varieties, higher energy feedstuffs, and better grazing management will improve the performance of backgrounded cattle while decreasing costs. Many of these projects (that are not ongoing breeding programs) are in the early stages, however; the exploration of increased use of high energy forages in conventional feedlot production indicated that considerable variability in nutrient composition and digestibility exists in corn hybrids; however, inclusion of up to 90% corn silage in cattle diets during backgrounding did not compromise production performance during the finishing period.
5. Improve late summer/fall pasture productivity by 30%
    - Supported by nine research and extension projects, developing forage varieties and management practices to improve to mitigate the decline in forage yield and quality in late summer and fall will reduce overall cost of production and help to ensure the nutritional requirements of cows are met year-round. Similarly, outside of the ongoing breeding efforts, projects supporting this goal are still in initial stages, however; if successful, even partially breaking the link between fall dormancy and winter hardiness in alfalfa would have a major impact on grazing management and pasture productivity in Alberta.
6. Build and maintain research and extension capacity
    - Supported by all of the activities and projects of the Centre, this key goal underpins all of the other goals. Without adequate research and extension capacity, this entire initiative, the strategic goals, and the progress made to date is lost, and unlikely to be recovered. An exciting upcoming project is the Rancher Researcher Pilot, aiming to connect researchers directly with producers to determine what new technology or management practices make sense for adoption on individual operations.

Background

The concept for the Alberta Beef, Forage and Grazing Centre arose from concerns expressed to the Alberta Minister of Agriculture and Rural Development by individual beef producers and forage/beef interest groups about a lack of essential applied forage research and extension available to beef producers in Alberta. A research-extension group called the Western Forage Beef Group had operated as a federal-provincial organization out of the Lacombe Research Station, from 1995 to 2005, and had a focused approach to these issues. The concerns and inquiries expressed the necessity for a similar group to address current industry issues. Subsequently, focus groups were organized and carried out by a third party, which confirmed the interest and the need for a renewed research and extension effort in the forage-beef area. This led to the formation of a steering committee in the summer of 2011, with representatives from ARD, AAFC, University of Alberta (U of A), Alberta Beef Producers (ABP), Beef Cattle Research Council (BCRC), Agricultural Research and Extension Council of Alberta (ARECA), Alberta Forage Industry Network (AFIN) and the Canadian Forage and Grasslands Association (CFGA). Support for the concept was recognized throughout all levels of industry and government.

In April of 2015, The Alberta Beef, Forage and Grazing Centre became a reality, with a tripartite agreement between Alberta Beef Producers (ABP), Agriculture and Agri-Food Canada (AAFC), and Alberta Agriculture and Forestry (AF). It has the mission of developing and transferring knowledge, innovative processes and tools to improve the forage/beef industry.

The Centre utilizes existing AAFC and AF facilities and staff, with a small cash infusion from ABP to assist with core funding and extension initiatives.

General Centre Activities

- Press release announcing the formation of the Centre (December 2015)
- Governance structure formalized through the development of terms of reference for the Management Committee, the Research and Extension Advisory Committee, and the Industry Advisory Committee (Appendix 1)
- Appointment of the Industry Advisory Committee Members, 3 of whom are representatives of industry organizations, and the remaining six are independent cattle producers.
    - Industry Advisory Committee membership currently consists of:
        - Arno Doerksen, Gem, AB (cow/calf; finishing)
        - Sean McGrath, Vermilion, AB (cow/calf)
        - Ron Buchanan, Fort St. John, BC (cow/calf)
        - Matthew Gould, Consort, AB (cow/calf, backgrounding, finishing)
        - Stacey Meunier, Barrhead, AB (cow/calf, custom grazing)

- John Ruschkowski, Oyen, AB (cow/calf)
- Assar Grinde, Rimbey, AB (Alberta Beef Producers representative)
- Christine Fulkerth, Olds, AB (Alberta Forage Industry Network representative)
- Herman Wyering, Ponoka, AB (Agricultural Research and Extension Council of Alberta representative)

- The first annual meeting of the Centre was held on December 1 in Lacombe, with 36 attendees. The morning sessions included presentations on the background/formation of the Centre, what research is currently in progress that supports the strategic goals, and the planned extension and communications strategies for the Centre. The afternoon brought meetings of the Management Committee and Industry Advisory Committee, along with a discussion with external stakeholders from across Western Canada about the initiative (Appendix 2 summarizes the main points from the external stakeholder discussion).

Research Projects

- **Innovative Swath Grazing/ increasing forage research capacity (PI: Vern Baron); in progress**
  - The project supports Goal 1 by investigating management and variety choice options that may reduce the daily cost of overwintering beef cows. The project runs from 2013 to 2018 by the Beef Cluster (BCRC, ABP and AAFC). AAFC, AAF and Grey Wooded Forage Association are the major collaborators.
- **Identification of forage potential using a forage evaluation spreadsheet of current and recently registered cereal varieties selected for other purposes (PI Vern Baron and Co-PI Pat Juskiw); in progress**
  - The project supports Goals 1 and 4 by evaluating and ranking potential and new barley, oat and triticale varieties compared to older checks. Initial indications are that some varieties sold as forage types such as CDC Cowboy are inferior for forage quality attributes compared to cultivars such as Champion. Results from the agronomic trial and spreadsheet are verified in swath-grazing trials at Lacombe where cows swath grazing a genetically similar cultivar Maverick have consistently lost more weight than the food-type Canmore. The project runs from 2016 until 2019 and is funded by AF.
- **Two-row barley variety development (PI: Pat Juskiw); in progress**
  - The project supports Goals 1 and 4 by development of new forage varieties of two-row barley. The goals are high yields and good agronomic adaptation; good feed and malting quality characteristics desired by the market place and to enhance overall economic returns; good disease resistance to the diseases as set out in the overall FCDC breeding objectives; good tolerance to abiotic stresses such as low nitrogen, water stress, cold stress, and other environmental stresses. Core breeding project at FCDC.

- **Six-row barley variety development (PI: Joseph Nyachiro); in progress**
    - The project supports Goals 1 and 4 by development of six-row hulled feed and forage barley varieties. The objectives of the program are to develop strong strawed, lodging resistant, high performing feed and forage barley types over the whole maturity range, based on our high yielding, semi-dwarf cultivar Vivar, and early maturing cultivar Kasota, as well as other new sources of improved parental materials; higher forage yield and forage quality equal to or better than AC Ranger; feed and forage barley with higher levels of digestible energy and percent protein digestibility, with a uniform seed size and high percent plump kernels; cultivars, as close as possible to the leading edge of yield-maturity advance, improved stripe rust, scald and net blotch resistance, immunity to loose smut (*Run8* gene), resistance to the surface-borne smuts, excellent agronomic sprouting resistance and seed characteristics, and drought tolerance; and maturity as early as Kasota or earlier, and yield equal to or higher than Amisk, Vivar, Sundre, Chigwell and Manny. Core breeding project at FCDC.
- **The Development of Improved Spring Triticale Cultivars (PI: M. Aljarrah); in progress**
    - The project supports Goals 1 and 4 by developing new varieties of forage spring triticale. The objectives of the program are to develop spring triticale with improved sprouting resistance, lodging resistance, disease resistance, early maturity and seed development via a conventional modified bulk breeding system; with high silage yields; and with high yielding grain. Core breeding project at FCDC.
- **The Development of Improved Cultivars of Winter Triticale (PI: M. Aljarrah); in progress**
    - The project supports Goals 1, 4 and 5 by development of new varieties of forage winter triticale for fall pasture and silage. The objectives of the program are to develop cultivars with winter hardiness similar to Norstar; disease resistance genes (snow mold, powdery mildew and leaf diseases); short stature; enhanced sprouting resistance; reduced-awn trait; early maturity; and high forage yield. Core breeding project at FCDC.
- **Germplasm and variety development of barley and triticale for animal feed with a focus on feed quality, yield and disease resistance of both grain and annual forage production. (PI: Flavio Capettini); in progress**
    - The project supports Goals 1, 4 and 5 by development of new varieties of barley and triticale for annual forage production. Objectives of the project are to integrate research between variety development, germplasm development for new genes to address yield, disease resistance and nutritional value of grain and forage. This will be accomplished through the use of classical genetics and molecular marker technology using recently developed phenotyping technology in NIRS, nitrogen use efficiency and water use efficiency. Each of the collaborating institutions brings expertise and infrastructure to work toward common goals. The genetic resources available and the scientific expertise are

unique and unsurpassed in Canada. The project builds upon several research projects related to NIRS and feed quality, NDF digestibility in annual cereal forage, cereals in swath grazing, winter triticale for high production pasture, multiple disease resistance.

- **Comparing the impact of monocultures, rotational diversity, mixtures, and intercropping on disease and sustainable crop production (PI: Kelly Turkington and Neil Harker); Project completed in 2016.**
    - The project supports Goals 1 and 4 by investigating the effects of management systems on productivity of silage production. The objectives were to compare and contrast the effects of monocultures, mixtures, intercropping and rotational diversity on crop health, disease levels, productivity and quality in a cereal silage production system; and to assess the impact of disease accumulation and disease avoidance management strategies on the ensiling properties and feed value of barley silage using laboratory techniques and in experiments using small ruminants.
- **Methane emissions from beef cattle bred for low residual feed intake (PI=Basarab; March 2014 to December 2017).**
    - The project supports Goal 2. GreenFeed emissions monitoring (GEM) system is an effective tool for monitoring methane (CH4) and carbon dioxide (CO2) emissions from beef cattle under typical field conditions, and 20 to 30 spot breath samples taken over 14 days are needed to produce repeatable and reliable averaged CH4 and CO2 emissions (Published CJAS 2017, 97:118–126). Daily CH4 and CO2 emissions as recorded by GEM were 200.0 g CH4/day (SD=40.0) and 7100 g CO2/day (SD=1100), suggesting considerable variation in CH4 emission due to diet quality, animal type, feed efficiency group and individual animal. More feed efficient (low RFI) cattle emitted 1.9% to 9.7% less methane per day compared with less feed efficient (high RFI) cattle in 7 of 8 trials where forage diets (barley or triticale silage) were fed. More feed efficient (low RFI) cattle also emitted 0.6% to 5.1% less CO2 per day compared with less feed efficient (high RFI) cattle in 7 of 8 drylot trials and 5 of 5 grazing trials. Genetic selection for low RFI will result in cattle with lower feed intake at same level of production, and reduced daily CH4 and CO2 emissions compared with high RFI cattle. These data support the carbon offset protocol, “Selection for low residual feed intake” registered with Alberta Environment to reduce GHG emissions from beef production.
- **gGreenBeefCow: Identifying and evaluating genomic and fecal microbiome markers for low methane emissions in beef cattle (2016R033R; PI=Fitzsimmons and Basarab; April 2016 to March 2019).**
    - The research supports Goal 2. The overall objective is to evaluate genomic and microbiome markers for animals which produce lower methane emission (g/d) and/or methane yield (g methane/ kg DMI).

- **Assessment of greenhouse gas mitigation potential in western Canadian beef cow-calf production (J. Wilson and T. Flesch, PI, U. of A); finished in 2016.**
    - The project supports Goal 2. The research evaluated greenhouse gas emission for beef cow management practices in a pasture and winter pasture environment. The research was run in collaboration with Vern Baron and John Basarab at Lacombe using efficient and inefficient RFI heifers on summer pasture and on cows grazing corn and swath-grazed triticale in winter. Methane and nitrous oxide determinations were made on winter and summer pasture and comparisons made between swath-grazed fields and winter feeding site locations during spring thaw. Fourier transformed Near Infra-Red (FTNIR) instrumentation allowed continuous measurement of nitrous oxide and ammonia from, which provided 24-h patterns of emission. Studies have been published or are in progress.
- **Adaptation of Canadian forage production to CO_2 increase and climate change (PI A. Bertrand, AAFC Quebec); finished in 2016.**
    - This project supports Goal 2 by determining the impact of elevated air temperature and elevated atmospheric CO_2 concentration on alfalfa-timothy mixtures at AAFC Quebec City and Lacombe, AB. The study used open-topped chambers and continuous flow CO_2 outdoors in the two different environments. We found that alfalfa was highly responsive to increased CO_2 compared to timothy, resulting in timothy die-off in the mixture. The project was run from 2013 until 2016 and was funded by AAFC.
- **Measuring and assessing Canadian rangeland and other agricultural best management practices with the enhanced whole-farm model Holos (Whole-farm BMP evaluation using Holos) (Roland Kroebel, PI)**
    - This project supports Goal 2. Several modeling methods using Tier 2 IPCC methods are used to estimate greenhouse gas emission on a systems basis. Data from grazing systems is supplied from Swift Current and Lacombe. An LCA conducted by Dr. Baron showed swath grazing reduced the amount of energy used in the winter feeding process by 50% and reduced the greenhouse gas emission per kg of feed fed compared to a traditional feeding system. The carbon footprint for wintering beef cows was reduced by 18.3 kg C per cow grazed for 100 days. The project will run from 2016 to 2019 and is funded by AAFC.
- **Development and deployment of MBVs/gEPDs for feed efficiency and carcass traits that perform in commercial beef cattle (PI=Basarab, co-PI=Berry and Crowley; October 2015 to September 2019).**
    - The project supports Goal 3. It aims to develop and deploy genomic tools to commercial cow-calf producers and has three major deliverables: 1) 30 million variants screened for functional impact on traits of interest; 2) gEPDs for 10 traits with > 35% accuracy in crossbred cattle; and 3) two multi-trait value indices for commercial producers. Progress to-date are; a) foundation paper on genomic breed composition (gBC) published on-line 31 Jan 2017 in CJAS, b) gBC and genomic hybrid vigor (gHV) score deployed to ranchers for 2300 calves and their dams, c) EnVigour

HX product/service line launched 4 February 2017 at the Alberta Cattle Feeders Association. Conference and helps producers optimizes hybrid vigor, longevity, fertility and sustainable in breeding females worth $115-$188/heifer/year. Potential benefit for Canada's 4.7 million beef cows and replacement heifers estimated at $180-295 million annually. These results will assist cow-calf producers in making sire selections for different cow groups that maximize retained heterozygosity, increase profitability and sustainable beef production and will continue in 2017-2018.

- **Optimizing feed intake recording in beef cattle in order to increase the rate of improvement for feed efficiency (2015R039R; PI = Plastow and Basarab; May 2015 to April 2017).**
  - The project supports Goal 3. The objective is to optimize the use of feed intake recording equipment in Alberta in order to increase the number of animals measured each year. Results showed that reducing feed intake testing to 42 days (from 80 days) decreased cost of testing for feed efficiency by about 50% ($200/animal) and double the number of animals that could be tested, thus doubling genetic response for feed efficiency. Loss in accuracy would only be 5-7%; Published on-line 31 Jan 2017 in CJAS; Manafiazar et al.
- **Evaluating a new tool (GGP-F250) for improving accuracy of gEPDs for production efficiency in commercial beef cattle (2017R034R; Plastow and Basarab; April 2017 to March 2019).**
  - The project supports Goal 3. The project will run approximately 1200 genotypes of genetically diverse cattle using the GGP-F250K and impute approximately 4000 crossbreds genotyped with GGP-LD (~30K SNPs). The results will provide important information on utility and cost of different genotyping strategies to help increase adoption of genomic tools in commercial cattle.
- **Optimize heterozygosity in composite multi-breed and cross breed beef populations using genetic and genomic tools (2017F103R; Plastow and Basarab; March 2017 to February 2019).**
  - The project supports Goal 3. This project proposes to 1) determine how many SNPs are required for determining the optimum panel (cost/information content) to accurately predict genome-wide retained heterozygosity (RH); 2) test the relationship between genomic RH and cow reproductive (e.g., fertility, lifetime productivity) performance; 3) develop a strategy to monitor, maintain, and optimize RH in herds for improved performance and increased profitability.
- **Extending late season pasture with alfalfa for beef production. (A. Claessens, Quebec City PI.) in progress**
  - The project supports Goal 5. Winter hardy populations of alfalfa collected from Northern Alberta farmers and seed producers, falcata and standard alfalfa populations for a range of fall dormancies were genotyped. New populations with

reduced dormancy were developed (recurrent selection) from the cultivars Yellowhead and Peace by screening for growth under reduced day lengths in growth chambers. The less dormant populations grew significantly taller in the fall of 2016 than their normal counterparts at four locations. The project runs from 2015 to 2018 and is funded by the Beef Cluster (BCRC, ABP and AAFC).

- **"Evaluation of alfalfa lines and populations for reduced dormancy, higher yield and winter hardiness across Canada" (PI: Vern Baron); in progress**
  - This project supports Goals 4 and 5, by producing alfalfa that can last later in the growing season but still survive the winter. The project funds the evaluation of 23 populations in a standard dormancy vs. winter hardiness evaluation at AAFC Lacombe and Swift Current. The controls in the test range from fall dormancy rating (FD) = 6 to FD =1. The study includes the collected populations, falcate genotype, standard alfalfa cultivars and those selected for reduced dormancy from Yellowhead and Peace described above. In association, a demonstration is run in cooperation with Grey Wooded Forage Association at Caroline, AB. The study runs from 2016 until 2018 and is funded by ALMA and ABP.
- **"Selection of annual forage wheat lines for yield and quality"** (PI: Pierre Hucl); in progress
  - This project supports Goals 1 and 4 by exploring the potential of forage wheat in feeding programs, and is funded by ABP.
- **"Production of oil in vegetative tissues to increase the nutritive value of forage legumes" (PI: Surya Acharya); in progress**
  - This project supports Goals 1, 3, 4, and 5 by improving the energy content of legumes in order to improve animal performance, and is funded by ABP.
- **Increased Use of High Energy Forages in Conventional Feedlot Beef Production. (Karen Beauchemin, PI) completed in 2016.**
  - The project supports Goal 4. Corn varieties ranging from 2000 to 2700 corn heat units in maturity were grown at five locations from Ottawa, Ontario to Lacombe, Alberta over three years. Feeding potential based on whole plant yield and quality will be related to CHU accumulation, maturity and kernel hardness when harvested before and after frost. In vitro true digestibility did not vary substantially, but starch content ranged from 30% at high heat unit locations to 10% at Lacombe AB. By contrast fiber digestibility was higher at Lacombe than the Manitoba Location. Yield increased with heat unit accumulation. The study ran from 2013 until 2016 and was funded by the Beef Cluster (BCRC, ABP and AAFC). Publications are in process.
- **"Evaluating the potential interaction between efficiency types for backgrounding weaned cattle and silage varieties differing in feed quality" (PI: Hushton Block); in progress**
  - This project supports Goals 3 and 4 by evaluating interaction between cattle efficiency types and forage varieties differing in yield and quality characteristics

Proposals Written

- Yadeta Kabeta, PI. Improving yield and sustainability of feed and fodder barley through targeted research in nutrient and water use efficiency.
- John Basarab / Changxi Li, PI. Genetic analyses of feed intake, feed efficiency, female fertility, and cow lifetime productivity in beef cattle raised under two environments.
- Vern Baron PI. Increasing fall productivity in winter-hardy alfalfa by selecting for reduced fall dormancy.
- Vern Baron PI. Optimizing the order (sequence) of winter pasture types to increase pasture days, reduce cost and land requirement for wintering beef cows.
- Sharon Reedyk PI. Soil health and productivity responses to changing forage-beef management on black and grey-wooded soils.
- Hushton Block PI. Evaluation of management options to permit co-mingling and extended grazing of young cows.
- Pat Juskiw, PI. Integration of a Forage Spreadsheet for Ruminant Nutrition into Western Canadian Annual Cereal Forage Breeding Programs.
- Xing Hao, PI. Providing accurate nitrous oxide emission factors for beef cattle dung and urine in western Canada. (Collaborator: Darren Bruhjell)
- Xing Hao, PI. Reduce greenhouse gas emission from dung and urine patches and increase carbon sequestration credits for cow-calf production on pastures in Western Canada. (Collaborator: Darren Bruhjell)
- Surya Acharya, PI. Novel sainfoin cultivars for enhancing production efficiencies of pasture and beef cattle. (Collaborator: Darren Bruhjell)
- Michael Schellenberg, PI. Development of native and tame forage varieties and mixtures for improved forage and environmental productivity and resilience. (Collaborator: Darren Bruhjell)

General Extension Activities

- An extension plan was developed (Appendix 3)
- An extended grazing workshop was held in February 2016 with attendance and speakers from across Western Canada
- A two-part series in Canadian Cattlemen's magazine titled "Making your green cow your cash cow" illustrated the residual feed intake selection program at Lakeland College, and how phenotypic characteristics alone cannot predict feed efficiency. This series supports Goals 2,3, and 6.

Extension Projects

- **The Rancher Researcher pilot (PI: Alberta Beef Producers, supported by Susan Markus and Andrea Hanson (AF), Darren Bruhjell (AAFC), Dianne Westerlund (CARA); Kathy Larson (WBDC); awaiting contract**
  - This project is funded by AF's Industry and Market Development program. It is designed as a pilot extension project that will link researchers directly with producers to examine new management practices or innovations that are applicable to their production systems, and why or why not producers adopt certain technologies. This project supports all of the Strategic Goals of the Centre.
- **"Fall or spring management options for pastures: renovate or rejuvenate?" (PI: Akim Omokanye); in progress**
  - This project supports Goals 5 and 6 by demonstrating which methods of pasture rejuvenation are most effective and economical. This project is funded by ABP.
- **"Perennial forage variety evaluation and demonstration at multiple sites in Alberta" (PI: Dianne Westerlund); in progress**
  - This project supports Goals 4,5, and 6 by demonstrating the regional adaptability of various forage species and varieties alone and in mixed stands. This project is funded by ABP.
- **"Best management practices for the re-introduction of sainfoin into existing alfalfa and grass pastures for western Canada" (PI: Alan Iwassa); in progress**
  - This project supports Goals 4, 5, and 6 by determining cost-effective best management practices to rejuvenate existing alfalfa/sainfoin and crested wheatgrass stands. This project is funded by ABP.
- **Economic viability of increased field use frequency for in-field winter feeding (PI Darren Bruhjell); in progress**
  - This project supports Goal 1 by**:** determining the effect of a two-in-three year bale grazing rotation on nutrient loading, forage yield and forage quality of two 'on-farm" Alberta pastures. The project is run at Caroline and Vermillion, Alberta, and runs from 2015 until 2018, funded by AAFC.
- **Understanding risk of nutrient movement from winter bale grazing (PI Darren Bruhjell); in progress.**
  - The project supports Goals 1 and 2 by determining the long term nature of soil nutrient, moisture, and temperature dynamics on bale grazed sites; the effects of bale density on nutrient accumulation; carries out testing and developing technology/tools to manage bale grazed sites for nutrient and forage management. The project is being run from 2013 to 2017 in Alberta, funded by AAFC.
- **Nutrient patterns in swath grazed fields (Sharon Reedyk PI); in progress**
  - The project supports Goal 2. This work will lead to improved nutrient loading/loss estimates for the Nutrient Loading Calculator because the data can be used to

validate and modify the estimates in the AAFC calculator, which currently are based only on theoretical nutrient balances. The work will also lead to improved swath grazing management guidelines that will benefit producers because it will lead to better recommendations on the amount and formula of additional synthetic fertilizer required for the next year's forage crop growth

- **Managing runoff from confined livestock winter feeding sites (PI Sharon Reedyk); in progress.**
  - The project supports Goal 2. This development/technology transfer project will result in the development of new extension material on options for the management of wastewater from confined livestock wintering sites. It includes demonstration sites across Canada (Alberta, Manitoba, Quebec, New Brunswick and Nova Scotia). The project is run from 2013 to 2017.
- **AC Saltlander (PI Bill Houston); in progress.**
  - The project supports Goal 5. This development/technology transfer project will demonstrate the usefulness of AC Saltlander on saline areas. Darren Bruhjell is the collaborator.

Communications

- A press release was issued (December 9, 2015) announcing the formation of the Centre http://us5.campaign-archive1.com/?u=c1f6a7e3d460ed7f2ff6e92fc&id=e641160
- Updates were provided to the AFIN and ARECA annual meetings, as well as a written update to the Grey Wooded Forage Association
- A logo was developed for the Centre
- A communications plan was developed for the Centre (Appendix 4)
- Website development is currently underway

Appendix 1 – Alberta Beef, Forage and Grazing Centre Terms of Reference

Alberta Beef, Forage and Grazing Centre Mission
To develop and transfer knowledge, innovative processes, and tools to improve the forage/beef industry

Alberta Beef, Forage and Grazing Centre Strategic Goals

- Reduce winter feeding costs by 50%
- Reduce environmental footprint of the cowherd by 15%
- Improve cow efficiency by 15%
- Reduce backgrounding costs by 50%
- Improve late summer/fall pasture productivity by 30%
- Build and maintain research and extension capacity

Alberta Beef, Forage and Grazing Centre Guiding Principles

Science Based: Reliant upon scientific principles and the integrity of the scientific method.

Excellence in Leadership: Empowering forage and beef sectors through excellence in research, extension and innovation.

Trust: Fostering an environment of respect, professionalism, and integrity where everyone is valued and heard.

Continuous Learning: Actively pursuing collaborations, partnerships and networks.

Collaboration: Leverage networks to further increase knowledge and management practices that are adopted and meaningful for the sectors.

Alberta Beef, Forage and Grazing Centre Structure and Appointments
Management Committee
The Management Committee will be comprised of up to two (2) representatives appointed from each of the Agreement signatory organizations, for a two (2) year term. The Management Committee will appoint their own Chair for a two-year term, and upon conclusion of that term the Chair will be one of the members appointed by the organizations that did not hold the Chair position during the first term. The Chair shall rotate among organizations in subsequent terms.

Research and Extension Advisory Committee

The Management Committee will appoint the Research and Extension Advisory Committee based upon recommendations from the following organizations: Alberta Agriculture and Forestry (AF), Agriculture and Agri-Food Canada (AAFC), Alberta Beef Producers (ABP), and the Agricultural Research and Extension Council of Alberta (ARECA). Up to two (2) representatives may be appointed from each organization. The Management Committee may add other representatives to the Research and Extension Advisory Committee at their discretion. In addition, two (2) representatives from the Management Committee will also attend all Research and Extension Advisory Committee meetings. There are no defined

term lengths for the Research and Extension Advisory Committee, and the Chair is appointed by the members of the Research and Extension Advisory Committee.

Industry Advisory Committee

The Industry Advisory Committee will contain both industry group representation and individual producer representation. One (1) producer representative each from ABP, ARECA and the Alberta Forage Industry Network (AFIN) will be appointed from their respective organizations. Up to six (6) individual producer representatives who are not delegates or directors of the aforementioned industry groups will be appointed by the Management Committee upon recommendation from the Research and Extension Advisory Committee. The individual producer representatives will represent the demographics of the beef and forage industry (i.e. cow/calf, backgrounder, feedlot), and have a fairly even geographical distribution across the province. The Industry Advisory Committee may also include ex-officio (non-voting) producer members representing similar research and extension initiatives (e.g. Saskatchewan Livestock Centre of Excellence, Manitoba Beef and Forage Initiatives, etc.) in Saskatchewan, Manitoba and British Columbia, upon recommendation from the Research and Extension Advisory Committee and appointment by the Management Committee.

The Industry Advisory Committee will elect their own chair for a two-year term. Term lengths for all members will be on a two year staggered basis, excluding the first year of operations (i.e. half of the initial Industry Advisory Committee members will serve one year). Industry Advisory Committee member terms may be renewed upon expiry upon recommendation of the Research and Extension Advisory Committee and appointment by the Management Committee. In addition, representatives of the Research and Extension Advisory Committee and Working Groups will attend all Industry Advisory Committee meetings.

Research and Extension Working Groups

Are comprised of personnel (primary and secondary stakeholders within government, universities and industry) actively engaged in research or extension initiatives that contribute to the strategic goals of the Centre. These individuals have agreed their work falls under the vision and mission of the Centre and wish to participate in collaborative research and extension initiatives using the Centre as an umbrella organization to showcase their work.

Operations

Management Committee

The Management Committee will meet a minimum of once per year. Observers are only permitted if all members of the Management Committee consent. Quorum is achieved if at least one (1) representative from each organization is present. All decisions of the Management Committee shall be by consensus. Meeting minutes will be recorded by the Chair, or their representative, and circulated to all members.

Research and Extension Advisory Committee

The Research and Extension Advisory Committee will meet a minimum of four (4) times per year, and may meet more often if required. Quorum is achieved if two-thirds of the membership is present. All decisions of the Research and Extension Advisory Committee shall be by consensus. Meeting minutes will be taken by administrative support paid for by the ABP funding for the Centre. The Chair prepares the informal agenda for the next meeting.

Industry Advisory Committee

The Industry Advisory Committee will meet a minimum of once per year. If requested, this may be a joint meeting with the Management Committee and the Research and Extension Advisory Committee, but time must be set aside for the Industry Advisory Committee to meet as an independent body. Quorum is achieved if fifty percent of the eligible voting members are present. All decisions of the Industry Advisory Committee shall be decided by a simple majority of the eligible voters present at the meeting. Meeting minutes will be recorded by one of the representatives, or a designated appointee, of the Research and Extension Advisory Committee.

Research and Extension Working Groups

Meet as often as necessary with participation from personnel appropriate to the research and/or extension matters being discussed.

Meeting Minutes

A copy of meeting minutes from all meetings will be kept on file with each signatory organization.

Expenses

Expenses for the Management Committee and Research and Extension Advisory Committee will be paid for by the organization the member represents. Expenses (mileage, lodging, airfare) for Albertan members of the Industry Advisory Committee will be paid by the core funding provided to the Centre by ABP. Mileage rate will be $0.50/km. Expenses for out of province members are to be borne by the organization they represent.

Roles and Responsibilities

Management Committee

The responsibilities of the Management Committee include but are not necessarily limited to:

- Appointing the Research and Extension Advisory Committee

- Appointing the Industry Advisory Committee upon recommendation from the Research and Extension Advisory Committee
- Approving terms of reference for the Research and Extension Advisory Committee and Industry Advisory Committee
- Reviewing and approving the research and extension work plans (note: the term work plan in this context does not refer to individual projects, but rather the portfolio of projects with objectives that apply to the strategic goals of the Centre) annually or more frequently, if required
- Reviewing the Strategic Goals every 5 years (or prior to agreement renewal)
- Promoting communication between the management, Advisory Committee, advisory, and working levels of Centre
- Encouraging collaborative research and effective extension of research results
- Engaging in strategic thinking that extends to a five (5) to ten (10) year horizon
- Providing input to ABP about the best use of ABP's cash contribution to the Centre, upon ABP's request
- Making recommendations for amendments to the Centre Agreement
- Being the first point of resolution of any dispute arising between the signatory groups related to the Centre Agreement
- Ensuring that at expiration or termination of the Centre Agreement that the signatories agree on mechanisms to co-ordinate ongoing responsibilities set out in the Centre Agreement
- Provide strategic guidance to Centre operations
- Act as an advocate for Centre activities
- Empower Research and Extension Advisory Committee

Research and Extension Advisory Committee

The responsibilities of the Research and Extension Advisory Committee include but are not necessarily limited to:

- Preparing initial research and extension work plans (note: the term work plan in this context does not refer to individual projects, but rather the portfolio of projects with objectives that apply to the strategic goals of the Centre), with the understanding that these plans may be modified by the people performing this work on a day to day basis
- Identifying resources for the Centre, such as identifying research and extension personnel able to perform work which furthers the strategic goals of the Centre
- Determine deliverables and measurable to indicate progress on Centre research and extension activities
- Reporting on outcomes of the research and extension work plans (note: the term work plan in this context does not refer to individual projects, but rather the portfolio of projects with objectives that apply to the strategic goals of the Centre) on an annual basis, or more frequently, if requested by the Management Committee

- Fostering coordination and communication between the Management Committee, Industry Advisory Committee and the research and extension specialists doing work related to the strategic outcomes of the Centre
- Organizing Industry Advisory Committee meetings
- Identifying potential members of the Industry Advisory Committee

Industry Advisory Committee
The responsibilities of the Industry Advisory Committee include but are not necessarily limited to:

- Providing information and opinion to the Management Committee and Research and Extension Advisory Committee on achieving the strategic goals of the Centre
- Identifying areas of research and extension that would most benefit the beef and forage producers of Alberta
- Providing feedback on the effectiveness of particular extension techniques
- Ensuring projects undertaken by the Centre have practical relevance to industry needs

Research and Extension Working Groups
The responsibilities of the Research and Extension Working groups include but are not necessarily limited to:
- Performing research and extension activities related to the Strategic Goals of the Centre
- Ongoing communication with the Research and Extension Advisory Committee
- Facilitating information sharing on completed and in-progress research and extension initiatives related to the Strategic Goals of the Centre

Secondary Stakeholders
Secondary stakeholders to the Centre include organizations who are not directly involved with the operations of the Centre, but who are involved in work that furthers the strategic goals of the Centre. Examples include, but are not limited to:
- AAFC Lethbridge
- University of Alberta (Livestock Gentec and Rangeland Research Institute)
- AAFC Swift Current
- AAFC Saskatoon
- Saskatchewan Livestock and Forage Centre of Excellence
- Manitoba Beef and Forage Initiatives

Interactions with secondary stakeholders are detailed in the communications plan for the Centre.

This is intended as a living document, and as such, may be updated/renewed as often as deemed appropriate by the Management Committee, Research and Extension Advisory Committee, Research and Extension Working Groups, or Industry Advisory Committee.

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Appendix 2 – Summary of Key External Stakeholder Discussion

Attendees included: Susan Markus (AF), John Basarab (AF), Karin Schmid (ABP), Susan Novak (AF), Grant Lastiwka (AF), Graeme Finn (producer/Union Forage/Foothills Forage & Grazing Assoc), Bill Chapman (AF), Marianne Possberg (SK Cattlemen's Assoc.), Hushton Block (AAFC), Ian Murray (ARECA), Dave Kerr (SK Forage Council), Ed Bork (U of A/Rangeland Research Institute), Geoff Brown (Lakeland College), Janice Bruynooghe (SK Forage Network/SK Livestock Centre of Excellence), Flavio Capettini (AF, Field Crop Development Centre), Clinton Brons (U of A/Livestock Gentec), Barry Yaremcio (AF) and Sharon Reedyk (AAFC).

The intent of the discussion was to develop and enhance relationships and linkages with organizations and individuals working on projects or initiatives related to the strategic goals of the ABFGC. In addition, how we can collaborate and strengthen knowledge and technology transfer efforts was a key discussion point lead by Karin Schmid and later by Susan Markus.

A. What is needed that we did not discuss during the presentations from research, management, communications and extension committees and how can we leverage our existing capacity to strengthen these efforts?

1. We need to communicate with those not represented today. Consumer confidence in beef production needs to be considered. We need to inform on how grazing management systems are "care takers" of the soil and the importance of soil in the sustainability framework. We need to get our messages to the consumers and others outside our industry. We do a good job of talking to each other, but not a good job of informing other industries, retail and consumers with messages that relate to social license, food safety, health and environmental impact. Our resources are limited and we cannot be all things to all people, so we need to share our messages with more groups.

Action: Extension plan messages developed by themes will be shared with groups that deal directly with consumers as end users. Extension committee will populate a list of organizations that do this type of knowledge transfer (i.e.: Beef information Centre; Canadian Roundtable, Health organizations; Environmental Groups).

2. Public trust and respect is seen as good for farmers and scientists, but not necessarily for their organizations. The messages coming out of the centre need to be branded with the public good piece to carry work forward. We need more of a

story telling approach that warms up (speaks to the emotional intelligence side) of the typically colder scientific approach of sharing results. Special skills are required to communicate with different audiences. Messages need to be part of a self-catalyzing process that impacts and informs policy makers and moves up to higher government officials so agriculture is part of the solution when we discuss impact on trade, job development, investment, health and environment. Donna Lawrence in Public Lands is a contact for her involvement in a crop related project.

Action: Extension plan needs to develop and include a show and tell event for government officials.

3. An impactful, sustainable, Industry supported, long term project needs to be created so the center remains relevant and does not get caught up in piece meal type projects. Target larger collaborative group funding (i.e.: Genome Canada; Climate Change etc.). Consider relationships with the Manitoba and Saskatchewan Beef Forage initiatives to have a Prairie wide approach. Media must be involved.

Action: The extension and research committees will discuss proposals for an ABFG Centre project.

4. Value in the short term needs to be communicated. Accessibility of/to the Centre needs to be in the guiding principles. We understand that goals might be dynamic and may change over time. The Centre lacks short and medium term results even though we realize the goals are 20 year outcomes. Investments in research should be included as measurable for reporting.

Action: The ABFGC research and extension committees will list short and medium term results along with their long term goals/results where relevant in work plans and projects.

5. Engagement in projects is important. Research projects need to form their teams with extension staff from the beginning to ensure comfort levels within a team. You have to let people who best understand extension run with it – may take a different path somewhat separate from the science, but still based on the science. Economists need to be embedded in the work and not just doing cost accounting. Let the advisory Committee take the information out in their own way to ensure industry engagement. Make use of colleges and their student audiences.

6. Whose job depends on the success of the Centre? Efforts may wither if no one among the participants is accountable. Accountability will be in the research project

deliverables and to the funders/reporting, thus a Centre project will help bring all participants together to share in that accountability.

7. How do we ensure information doesn't get lost? What is the Centre's role in information management or documenting past research that is still relevant? Huge legacy of information exists that is buried. How do you access that over time? How do you ensure it doesn't get lost? Lit reviews are important – should this initiative add on priorities related to extension priorities rather than just research?

8. There is still a need for 101 stuff – we tend to focus on the innovators and forget about the folks who are trying to catch up or are new to the industry (e.g. immigrants purchasing land, hobby farmers). Often people don't know what questions to ask and so don't know how to find the information or are not aware that they need/could benefit from the information. We need to find a way to get that knowledge to them in simplified messages (what is the feature and what is the benefit). People don't have a lot of time to go through reams of information. People need to see the information more than 7 times to consider it. Interactive tools are important to sell the message.

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Appendix 3 – Extension Work Plan 2016

Mission/Purpose

To develop, interpret and transfer knowledge, innovative processes and tools to improve the beef and forage industry

Intent

Present research findings or industry issues to targeted audiences to acknowledge areas of concern (economic, resource limitations, etc.). Share possible solutions to accelerate adoption of appropriate technologies.

Strategic Goals:

Goal 1. Reduce winter feeding costs by 50%
Goal 2. Reduce environmental footprint of the cow herd by 15%
Goal 3. Improve cow efficiency by 15%
Goal 4. Reduce backgrounding costs by 50%
Goal 5. Improve late summer/fall pasture productivity by 30%
Goal 6. Build and maintain research and extension capacity

The education and outreach (knowledge dissemination, translation and extension) plan will view projects within the above listed goals by themes. These themes will form the basis of the extension plan and may change over time. Public benefit must be derived from the projects of the Centre. The target audience must feel the need to adopt ideas and put them into practice. Linking projects to producer needs will accelerate adoption of management change. Packaging information within theme areas/systems will also enhance utilization of new ideas.

Themes:

Genomics and Phenomics – improving traits of economic importance; forage varieties (plant yield and digestibility); beef genetics and performance (feed efficiency, growth, carcass and reproduction).
Environmental Sustainability – improving forage productivity, reducing the carbon footprint and striving for an economically and environmentally sustainable landscape.
Social License – the privilege of operating with minimal formalized restrictions (legislation, regulation or market requirements) based on maintaining public trust by doing what is right.
System Approaches – production practices generally do not stand alone, they are interconnected.

Deliverables:

A. Establish two way communications between the Centre and the industry by interacting with provincial organizations.
   - Key contacts have been established to update the following groups on Center activities:
     University of Alberta – Forages – Darren; Rangeland Research Institute - Karin
     Livestock Gentec – Susan
     Olds College - Susan
     Lakeland College – Susan
     Peace Country – Darren
     ARECA Forage Livestock Team – Dianne
     Lethbridge AAFC – Darren
     Alberta Forage Industry Network – Dianne
     Saskatchewan Livestock and Forage Centre of Excellence – Karin
     Manitoba Beef and Forage Initiatives - Karin

B. Develop a collaborative extension system
   - Partners would include universities, provincial government staff from Ontario, Manitoba, Saskatchewan and Alberta, Canadian Roundtable on Sustainable Beef, Canadian Cattlemen Association, provincial beef producer groups, breed associations, colleges and forage associations in addition to local/regional forage and research groups.
   - Leadership from science based coaches/consultants showing the value of both existing and new data focused on cow efficiency and winter feeding costs.
   - It is vital that the center delivers consistent, science-based, peer-reviewed messages to advisors (extension agents, veterinarians, nutritionists) and farmers/ranchers. This is a more complex system than the traditional top down (researcher to farmer) and transfer of technology orientation.
   - Adopt new configurations and organizational structures open to multiple people/groups/stakeholders.
   - Identify adoption rates of existing research and development projects and enhance measurement of future adoption levels where possible
   - Potential new model based on high quality farmer, rancher to scientist interaction with farmer led networking.
   - Rancher/Researcher pilot project (assessment of scientific innovation and adoption)
     - Connect ranchers with scientists
     - Measure impact of new technologies
     - Identify research gaps
   - Promote existing risk management tools
     - Swath grazing calculator

    - Bale grazing calculator
    - Wintering Site Assessment and Design Tool
    - Wintering Site Video Series
- Package new and existing research information for a 'systems' approach addressing the themes identified above
    - Utilize new sources of data e.g. BIXS, CCIA, McDonald's Verified Beef pilot and others will be referred to for data and indicators.
    - Capture good news stories
    - Deliver packaged information in 'Train the trainer' sessions
- Utilize existing extension avenues and partnerships:
    - Radio – Call of the Land
    - News Articles with popular press magazines and newspapers (Alberta Beef Magazine, Beef Illustrated, Canadian Cattlemen etc.).
    - Websites and links to other organizations (ABP, AF, AAFC, ARECA, ARA, FA and AFIN, Universities and Colleges, Livestock Gentec etc.).
    - Ropin' the Web
    - Beef Cattle Research Council
    - Alberta Agriculture and Forestry You Tube channel

C. Develop "Know your Cow Demographics" project
    - Explore different breed compositions and their measures of efficiency (defined by longevity, feed efficiency, etc.) as related to various environmental conditions, resource availability, winter feeding and grazing systems.
    - Potential partnership with Lacombe AAFC, Kinsella U of A, Olds and Lakeland Colleges.

D. Develop and conduct independent or collaborative field tours
    - A 2017 legume tour will be conducted in July or August 2017. This tour will highlight current and past legume research and demonstration plots.
    - A late season/ stockpiled grazing fall tour and or workshop will be conducted in either the fall of 2017 or 2018. This tour will past research projects.

E. Assemble, update or create comprehensive extension packages focused on various forage and grazing management topics to encourage desired adoption levels.

F. Establish benchmarks of key performance and/or key risk indicators pertaining to the adoption of new technologies
    - Producer surveys conducted by the local research associations in late 2016 and again in 2019 to assess adoption of management practices/resources/tools and technology that relate to the Centre goals and the Collaborative Extension System.

- Compile and interpret existing research data from Center projects to compliment producer adopted practices that will further increase awareness and improve industry adoption.

G. Identify areas/issues of concern, good news stories and/or resource gaps that would benefit from development of new extension tools.
   Examples:
   1. Beef cattle producers are slow to adopt genomics tools and technology because there is no immediate method to implement.
      - Benefits of genomic information (EPD's, indexes, genomically enhanced performance data etc.) presented along with traditional visuals for judging cattle in a magazine layout to show advantages of having data for difficult to measure traits of economic importance.
      - Photo contest in popular press magazine to stimulate feedback and market knowledge in an interactive presentation. First article will present the scenarios to be judged, second article will present the results of heifer placings based on both visual appraisal and genetics using RFI tested beef heifers from Lacombe Beef Unit (Angus), producer Garth Cutler (Simmental), Arno Doerkson (Hereford) and Lakeland College (Angus).
   2. Large scale cattlemen are typically reluctant to implement methods known to improve pasture productivity.
      - Apply cost benefit analysis to pasture rejuvenation practices under different production systems.
      - Share production and economic information in field demonstrations, pictorial layouts in popular press, electronic means, etc.
   3. A large amount of AAFC forage information from current and past research and demonstration projects exists.
      - Develop methods/tools to disseminate this information to interested parties.

H. Development of collaborative projects focused on identified areas of concerns/resource gaps to further address accelerating adoption of new technologies.

I. Increase awareness of relevant research and development activities to avoid duplication and identify opportunities for collaboration.

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Appendix 4 – Communications Plan

Summary:

The concept for the Alberta Beef, Forage and Grazing Centre (ABFGC) arose from concerns expressed to the Alberta Minister of Agriculture and Rural Development (now Alberta Agriculture and Forestry) by individual beef producers and forage/beef interest groups about a lack of essential applied forage research and extension available to beef producers in Alberta. A research-extension group called the Western Forage Beef Group had operated as a federal-provincial organization out of the Lacombe Research Station, from 1995 to 2005, and had a focused approach to these issues. The concerns and inquiries expressed the necessity for a similar group to address current industry issues. Subsequently, focus groups were organized and carried out by a third party, which confirmed the interest and the need for a renewed research and extension effort in the forage-beef area. The resulting agreement is a joint initiative between Alberta Agriculture and Forestry, Agriculture and Agri-Food Canada, and Alberta Beef Producers.

The overall plan focuses on building strong relationships with key stakeholders. As changes are considered every attempt will be made to properly assess the current state of forage beef research and extension and ensure there are ways to measure success.

This includes communicating our research and extension initiatives to a broad audience to build awareness of the Centre's efforts towards achieving the strategic goals that are the foundation of the initiative.

Key Objective:

To link together key stakeholders focused on applied beef and forage research and extension activities and deliver relevant information to producers, as well as foster open, two way communication between producers, industry, and research and extension entities and personnel.

Scope of the Plan:

The plan does not aim to create policy or inform the communications activities for individual projects but will include the following areas:

External communications – general population, producers, applied research associations, universities, government research stations, government and industry extension personnel, beef and forage associations

Internal communications – management committee, research and extension advisory committee, industry advisory committee, research and extension working groups

Meetings and events organized by the Centre

Within the scope of the plan should be contact with all members of ABFGC working groups to ensure their message and their work is getting the maximum exposure where warranted and approved.

Stakeholders:

- Alberta Agriculture and Forestry
- Agriculture and Agri-Food Canada
- Alberta Beef Producers
- ABFGC Management Committee
- ABFGC Research and Extension Advisory Committee
- ABFGC Industry Advisory Committee
- ABFGC research and extension working groups
- Partner associations such as the Agriculture Research and Extension Council of Alberta, Alberta Forage Industry Network, Beef Cattle Research Council, etc.
- Universities of Alberta, Calgary and Lethbridge
- Olds and Lakeland Colleges
- Out of province stakeholders such as the Livestock and Forage Centre of Excellence, Manitoba Beef and Forage Initiatives
- Beef and forage producers
- General Public
- Media – Call of the Land, Alberta Farmer Express, Alberta Beef, Western Producer, Canadian Cattlemen and others

Barriers to Success:

- Connectivity to producers
- Small budget
- Large number of stakeholders
- Limited research and extension capacity
- Large degree of communication fragmentation between stakeholders
- Communications activities not the sole responsibility of any one person or organization

Opportunities for Success:

- Existing capacity in research and extension consists of highly talented and motivated individuals
- Various vehicles already exist to help disseminate information to producers (websites, field days, etc.)
- High level of interest in the type of information generated by activities aimed at achieving the strategic goals of the Centre

Communications Environment

- ABFGC has an annual budget of $25,000. Funding allocations are determined by ABP in consultation with the ABFGC Management Committee and ABFGC Research and Extension Advisory Committee
- Extension activities are often performed as parts of individual projects
- Avenues such as www.foragebeef.ca and www.beefresearch.ca are already available to disseminate information
- ARECA groups and Alberta Agriculture field staff have excellent relationships with producers in their areas
- There is a need to 'package' results and information from similar research projects and develop key messages that relate back to the strategic objectives

Strategies

In general, the strategy is to rely on building strong relationships and two-way communication with producers and industry to create alliances and partnerships with other groups in order to strengthen coordination and communication between existing beef and forage research and extension initiatives and ABFGC initiatives. Key communication strategies are:

- Build awareness of ABFGC, and its goals and activities, with stakeholders
- Develop and execute an extension plan that is built around the strategic goals of the Centre
- Coordinate communications activities with other stakeholders in a combined effort to gain maximum value and effectiveness
- Monitor the effectiveness of the communications activities of the organization
- Anticipate ABFGC communications needs to ensure the organization is proactive

Tactics

Internal Tactics

- Regular meetings of the Research and Extension Advisory Committee
- Annual in-person meetings of the Management Committee
- Annual in-person meetings of the Industry Advisory Committee (will include a joint meeting with the Management and Research and Extension Advisory Committees)
- Regular communication between Management Committee members and Research and Extension Advisory Committee members
- Meeting minutes distributed in a timely manner
- Copy writing and editing

External Tactics

- Development of ABFGC backgrounder to be sent to all key stakeholders
- Regular communication (quarterly e-newsletter?) with key stakeholders
- Encourage two-way communication between ABFGC and key stakeholders to foster engagement
- Promotion of field days and demonstrations hosted by other organizations that support the strategic goals of the Centre, e.g. Livestock Gentec, ARECA groups
- Press releases as required
- Delivery of new material to key stakeholders as developed
- Website or landing page development and maintenance
- Social media account management

Projects

- Development of ABFGC backgrounder
- Logo development - complete
- Delivery of the extension plan by research themes instead of on a project by project basis
- Creation of communications materials (fact sheets, twitter/Facebook statements, articles, newsletter content, etc.)
    - Articles in Alberta Beef and Beef Illustrated magazines (2 per year for 3 years) alternating between beef and forage topics – in progress
- Website or landing page development and maintenance – quote received
- Build e-newsletter distribution list (to start with organizations and add individuals through self-subscribe or as deemed appropriate by the Research and Extension Advisory Committee)
- Rancher/Researcher Pilot program – initial project proposal to Accelerating Agricultural Innovation program declined, currently working on modifications to project that would allow for a small pilot to run on existing funds.

Primary Stakeholders

- Alberta Beef Producers
- Alberta Agriculture and Forestry (including the Field Crop Development Centre)
- Agriculture and Agri-Food Canada

- Agricultural Research and Extension Council of Alberta
- Applied Research Associations
- Alberta Forage Industry Network

Secondary Stakeholders

- University of Alberta, specifically the Rangeland Research Institute and Livestock Gentec
- Lethbridge Research Station
- Peace River Forage Association of British Columbia

Tertiary Stakeholders

- Olds College
- Lakeland College
- University of Calgary
- Beef Cattle Research Council
- Saskatchewan Livestock Centre of Excellence (including Western Beef Development Centre and the University of Saskatchewan)
- Saskatchewan Forage Network
- Saskatchewan Forage Council
- Saskatchewan Cattlemen's Association
- University of Manitoba
- Manitoba Beef and Forage Initiatives
- Manitoba Beef Producers
- Thompson River University
- B.C. Cattlemen's Association

Conclusion

The Alberta Beef, Forage and Grazing Centre's mission is to develop and transfer knowledge, innovative processes and tools to improve the forage/beef industry, focusing on six strategic goals. The strategies and tactics in our communications plan recognizes that there are many initiatives by a number of key stakeholders making progress towards these goals, and that they need to be involved and engaged to ensure the Centre's success.

The communications plan will provide greater visibility for the Centre. This, in turn, will create a higher profile for research and extension activities occurring in the province and help to coordinate approaches to transform research results into practical on-farm applications.