

INVESTING IN A **STRONG FUTURE** FOR CANADA'S BEEF INDUSTRY

CANADA'S

NATIONAL BEEF STRATEGY

STATUS UPDATE  2015-2018

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This National Strategy Status Update is brought to you by the Canadian Beef Advisors – Beef Cattle Research Council, Canadian Beef Breeds Council, Canada Beef, Canadian Cattlemen’s Association, Canadian Meat Council, Canadian Roundtable for Sustainable Beef and National Cattle Feeders Association.

THE NATIONAL BEEF STRATEGY IS ABOUT POSITIONING THE CANADIAN BEEF INDUSTRY FOR GREATER PROFITABILITY, GROWTH AND CONTINUED PRODUCTION OF A HIGH QUALITY BEEF PRODUCT OF CHOICE IN THE WORLD.

BACKGROUND

Canada’s National Beef Strategy was developed in 2014 by industry leaders representing five national beef sector organizations. The Strategy, published in January 2015, covers a five-year period 2015 to 2019.

Since 2014 when the Strategy was developed, the Canadian beef industry has witnessed both market and structural changes. The rapid cattle price increases in 2014 and 2015 saw cattle prices reach new highs. Normally the record high cattle prices would compel a strong and rapid expansion, as seen in the United States; however numerous factors including higher input costs and uncertainty prevented the expansion in Canada. Strong demand for high quality protein continues to grow in most developing nations along with new market access and trade agreements coming into effect. International competition is heating up as exporting countries increase production.

Industry changes to the Canadian beef industry since 2014 include:

- The establishment of the Canadian Roundtable for Sustainable Beef (CRSB)
- The development of the Public and Stakeholder Engagement program (PSEP)
- An increased focus on beef issues at the Canadian Meat Council (CMC)
- The Canadian Beef Cattle Check-Off increase to \$2.50 per head started in most provinces in 2018.

Canada’s National Beef Strategy is full of outcomes and can be found at www.beefstrategy.com

STATUS UPDATE

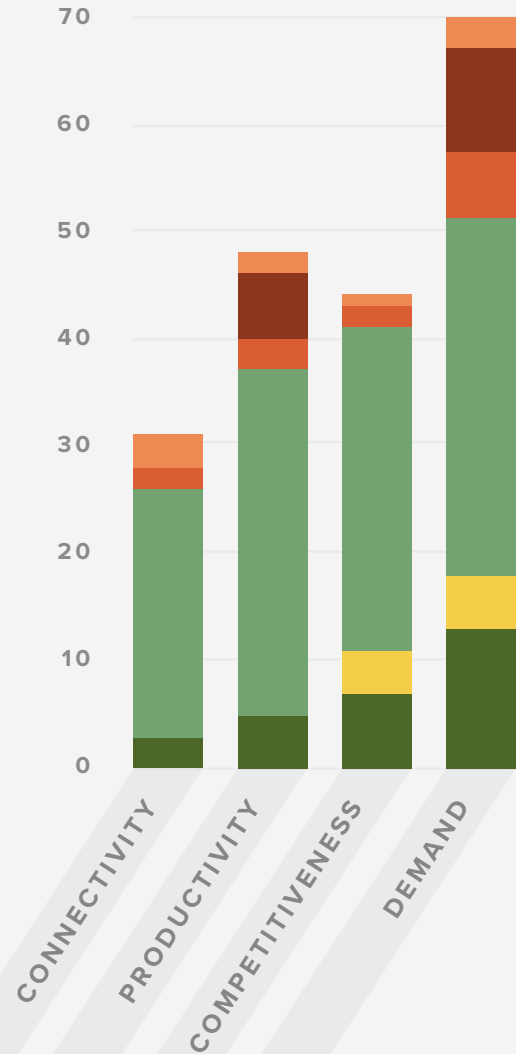
This report summarizes progress towards achieving the outcomes outlined in the Strategy since its launch in 2015.

As of June 2018, 15% of outcomes have been completed; 5% are in progress (have an end); 61% are ongoing (and expected to continue); 7% have not been started (primarily due to funding constraints); 8% need modification; and 5% have mixed status (due to multiple objectives at different stages).

NATIONAL STRATEGY OUTCOME STATUS

AS OF JUNE 2018

- MIXED
- NEEDS MODIFICATION
- NOT STARTED
- ONGOING
- IN PROGRESS
- COMPLETED

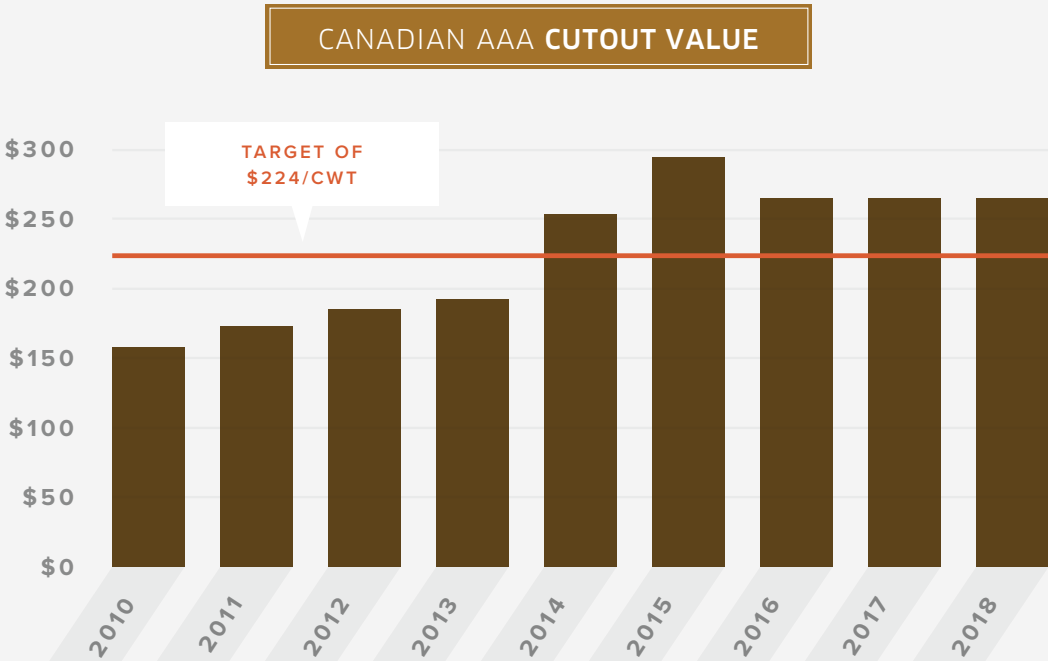
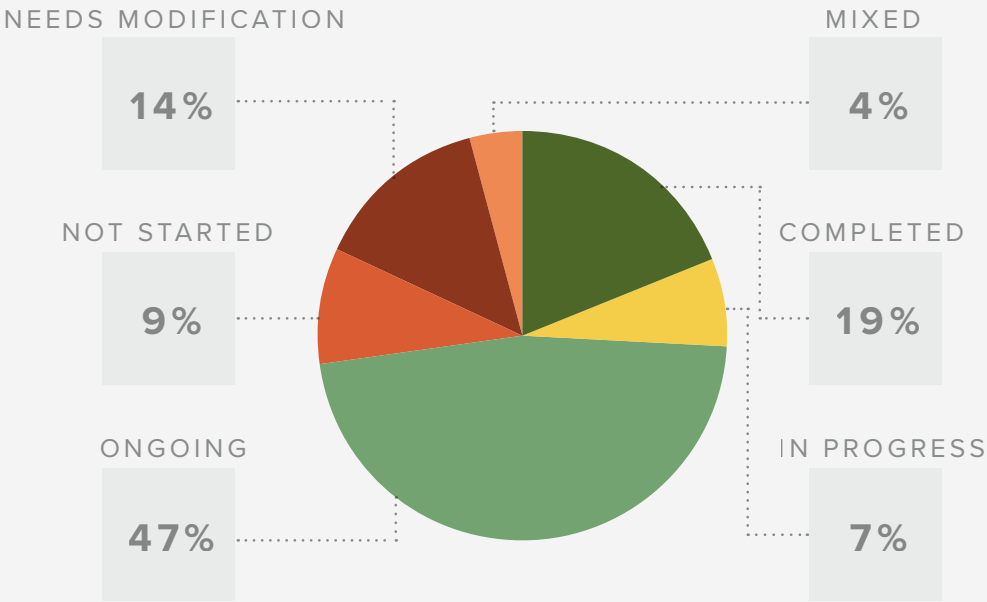


THE AAA CUTOOUT REMAINS 19.6% ABOVE THE TARGET OF \$224/CWT.

DOMESTIC & GLOBAL MARKETING

A number of industry activities supported beef demand over the last four years.

- Creation of the Canadian Beef Centre of Excellence as a state-of-the-art beef processing and training kitchen theatre. Top-notch chefs, butchers, home economists and industry professionals use the Centre to develop technical and training resources - working directly with industry partners, stakeholders and clients.
- A refined Canadian Beef Brand was launched combining the compelling technical and emotional attributes that differentiate Canadian Beef from its competitors.
- A growing number of domestic and international retail and foodservice customers committed to 100% Canadian supply.
- Establishment of the national beef import levy supporting generic beef marketing and public trust efforts in the areas of human health and nutrition, food safety and beef culinary extension.



MARKET ACCESS

Following the February 2015 BSE case born after the 2007 enhanced feed ban, market access was disrupted to six countries (South Korea, Indonesia, Peru, Belarus, Taiwan, China) before being restored. On December 18, 2015 mandatory Country of Origin Labeling was repealed effective immediately. Effective October 2016, Canada regained OTM access to Mexico. Normalized access with Mexico marked the removal of one of the few remaining BSE trade restrictions. In addition, changes were made to drop the requirement for Canadian cows to be born before March 1999 when exported live to the United States.

Canada has secured Japan/Asia Pacific market access via the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP). CPTPP is pending ratification in Parliament in fall 2018. The Canada-EU Comprehensive and Economic Trade Agreement (CETA) was implemented in September 2017 and work continues to address technical barriers to trade to that market. The Chinese market opened for chilled beef and efforts to secure the full UTM access, including full systems approval for Canadian beef processing plants continues.

CONSUMER CONFIDENCE & PUBLIC TRUST

The Public and Stakeholder Engagement program (PSEP) was created to coordinate industry efforts and respond to issues that erode consumer trust and confidence in the Canadian beef industry and its products.

A technical symposium and industry workshops on food safety best practices, new technologies, regulatory updates were provided. In addition, it has been shown how Canadian industry conforms to international standards around Codex Alimentarius (the Food Code central to the Joint FAO/WHO Food Standards Programme).

Consumer concerns about the environmental impact of beef were addressed through a 2011 study that found producing the same amount of beef as 1981 required 29% less breeding stock, 27% fewer slaughter cattle, 24% less land and 17% less water, and produced 15% fewer greenhouse gas emissions. These improvements came from productivity gains (i.e. carcass weights) that also support producer competitiveness.

The *Certified Sustainable Beef Framework* provides assurances to consumers about the sustainable practices used in beef production (see the Competitiveness pillar for details).



OUTCOMES	OBJECTIVE	STATUS	COMMENTS
FOCUS AREA A: DOMESTIC & GLOBAL MARKETING			
Establish the Canadian Beef Advantage (CBA) as the most recognized and loyalty-based beef program in the world	Ongoing development and communication of a differentiated brand position for Canadian beef leveraging the attributes of the CBA through technical resources, training platforms, advertising and trade media, and competitive benchmarking	Ongoing	Direction is correct and should be continued. Going forward, emphasis on CBA in these general areas should be expanded to include the Canadian beef brand as the combination of functional and emotional attributes.
	Enhance existing communication and distribution platforms ensuring impactful communication of CBA messaging to targeted trade clients	Ongoing	Direction is correct and should be continued. Trade communication efforts continue to evolve based on the capabilities/needs of the trade partner. The National Beef Quality Audit stakeholder survey shows that more needs to be done around trade communications.
	Collaborate with brand license holders to leverage brand marketing initiatives	Ongoing	Direction is correct and should be continued. We continue to see trade partners commit to 100% Canadian supply. Recent examples include national retailer Walmart who has committed to an 100% Canadian AAA program and foodservice chain Harvey's who has committed to 100% Canadian supply.
	Positively impact key consumer influencers in export markets with positive messages on Canadian beef	Ongoing	Direction is correct and should be continued. Continue to use high profile chefs, culinary schools and food writers to create positive impressions and awareness of Canadian beef.
Get the right product to the right customer every time	Enhance carcass utilization and value through new product development and the Centre of Excellence	Ongoing	Direction is correct and should be continued. Continue partner engagement at Centre of Excellence and with Centre staff on the road to explore merchandising options with customers. Recent examples include working with a national family restaurant chain to launch a brisket sandwich; working with a major foodservice distributor to launch a beef short rib product; and working with a regional retailer to offer a petit tender and tomahawk rib steak.
	Procure market intelligence and direct resources to markets and market segments that represent opportunities for incremental value and return on marketing investments	Ongoing	Direction is correct and should be continued. Continue to apply resources to both established and emerging export markets that are showing the most promise or opportunity.
	Engage targeted customers in priority markets/segments through retail, foodservice and influential industry events; support of trade partner programs; and trade missions with domestic and international clients	Ongoing	Direction is correct and should be continued. Continue to use both trade/customer missions into Canada and the Centre of Excellence and influential tradeshow to engage priority clients. Recent examples of key partners in export markets include: retailer City'Super in China, Hong Kong and Taiwan; online retailers in China such as Alibaba, Tmall and JDcom; retail and foodservice partners in Japan such as Abanse, FoodD and Kinsho; distributors such as Sigma Comnor and resorts such as Karisma in Mexico; and retailer Lotte Mart in South Korea; and hotel properties including the Hilton, Sheraton, Westin, Four Seasons, Fairmount and Hyatt throughout Asia. Individual cattle feeders are developing business partnerships in key international markets (e.g., China, Europe) to export beef under new beef brands.

OUTCOMES	OBJECTIVE	STATUS	COMMENTS
FOCUS AREA A: DOMESTIC & GLOBAL MARKETING (CONT'D)			
Get the right product to the right customer every time	Align with supply chain partners in target markets through the development of national programs, value-added beef products, and partnerships with packers and exporters, trade commissioners and other commodities	Ongoing	Direction is correct and should be continued. Continue close ties with Trade Commissioners, embassies, and Minister missions in conjunction with packers, exporters and distribution partners.
	Collaborate with industry and channel partners to implement targeted promotional brand initiatives in priority markets	Ongoing	Direction is correct and should be continued. Continue to support consumer outreach and marketing efforts with key retail and foodservice clients in priority markets.
FOCUS AREA B: MARKET ACCESS			
Reduce non-tariff and tariff barriers in export markets for beef, live cattle, and beef cattle genetics	Implement Canada-Korea Free Trade Agreement by early 2015 to keep pace with Korea-U.S. Free Trade Agreement and eventually eliminate Korea's 40% tariff on Canadian beef	Completed	
	Achieve either a Canada-Japan Free Trade Agreement or successful implementation of the Trans Pacific Partnership agreement to eliminate Japan's 38.5% tariff on Canadian beef	Completed	Pending approval in Parliament
	Eliminate discrimination of Canadian livestock in the United States market caused by mandatory Country of Origin Labelling (mCOOL)	Completed	
Gain equal or preferential access in key export markets for Canadian beef, live cattle, and beef cattle genetics	Implement CETA and achieve recognition of equivalency of Canadian and EU meat inspection systems	In Progress	CETA implemented – did not get equivalency. Work is underway to gain EU recognition of priority antimicrobial interventions through a submission to the European Food Safety Authority.
	Improve market access to Russia through addressing the ban on the use of ractopamine, approval of Canadian facilities and expansion of access for Canadian beef to include bone-in over 30 month product	Needs Modification	Banned from market due to Ukraine crisis
	Establish minimum residue limits (MRLs) for ractopamine in China and achieve the resolution of other technical issues including the definition of chilled/frozen product	In Progress	Partial Chilled access

OUTCOMES	OBJECTIVE	STATUS	COMMENTS
FOCUS AREA B: MARKET ACCESS (CONT'D)			
Eliminate remaining BSE market access restrictions inspection system.	Achieve access for OTM beef in Mexico	Completed	
	Achieve access for UTM bone-in product in China and obtain comprehensive approval of Canada's meat	Completed	Bone-in UTM Seeking to secure the same access to China that the U.S. recently negotiated, including full systems approval for Canadian beef processing plants.
FOCUS AREA C: VALIDATE & ENHANCE THE CBA			
Validate the Canadian Beef Advantage to determine if the attributes which are currently prioritized by the Canadian industry are those that are most likely to impact carcass value and beef demand in global markets.	Market research in domestic and global markets to validate the CBA in the trade sector (trade professionals in retail, foodservice and further processing sectors), consumers, and supply chain stakeholders	Ongoing	Direction is correct and should be continued. Continue to conduct proprietary and review public access research. Going forward, emphasis on CBA in these general areas should be expanded to include the Canadian beef brand as the combination of functional and emotional attributes.
	Completion of a review of existing published market research completed by academic researchers and competitors in Canada and key international markets to identify key opportunities for enhancing the CBA and marketing Canadian beef	Ongoing	Direction is correct and should be continued. Continue to conduct proprietary and review public market research. Going forward, emphasis on CBA in these general areas should be expanded to include the Canadian beef brand as the combination of technical and emotional attributes.
Verify the Canadian Beef Advantage to assess the effectiveness of efforts to improve the product attributes with the greatest impact on carcass value and beef demand	Verify Canadian beef quality through National Beef Quality Audit (NBQA) benchmarking of Canadian consumer satisfaction and laboratory measurements of tenderness and quality attributes at a retail level	Completed	BQU.07.13 - 2017/18 National Beef Quality Audit has been completed; BQU.10.17 - Canada's National Beef Quality Audit at Retail and Processing will commence in 2021. Details on both projects are available at http://www.beefresearch.ca/research/beef-quality.cfm For more information on individual research projects go to www.beefresearch.ca and search the project code
	Verify Canadian beef quality through NBQA benchmarking of carcass quality related attributes as measured at Canadian beef slaughter plants	Completed	BQU.07.13 - 2017/18 National Beef Quality Audit has been completed; BQU.10.17 - Canada's National Beef Quality Audit at Retail and Processing will commence in 2021. Details on both projects are available at http://www.beefresearch.ca/research/beef-quality.cfm
	Complete a NBQA imported beef benchmark study comparison of Canadian and imported beef quality and microbiological indicators as measured in the NBQA; focusing on existing and emerging import suppliers	Completed	BQU.07.13 - 2017/18 National Beef Quality Audit has been completed; Quality of Canadian Beef was compared to Mexican product. In Previous NBQA U.S. was compared to Canadian. Comparisons of domestic and imported beef are not planned for the upcoming audit (BQU.10.17 - 2021/22 Canada's National Beef Quality Audit at Retail and Processing). A continuation strategy needs to be developed if this work is deemed valuable and worthy of ongoing effort.

OUTCOMES	OBJECTIVE	STATUS	COMMENTS
FOCUS AREA C: VALIDATE & ENHANCE THE CBA (CONT'D)			
Verify the Canadian Beef Advantage to assess the effectiveness of efforts to improve the product attributes with the greatest impact on carcass value and beef demand	Complete a retail meat case audit to benchmark attributes related to value and merchandising of Canadian beef including carcass utilization, grade, specification, composition, production methods, packaging, production claims, origin, counter space allocation, protein market share, and other important attributes	Completed / Needs modification	<p>This work was completed under BQU.07.13 – The retail meat case component of the upcoming NBQA was deemed ineligible for AAFC funding. Efforts are underway to identify alternative sources of funding so that the results from 2016 can be used as a benchmark and further comparisons against the U.S. retail meat case study results.</p> <p>Future collection of beef merchandizing data will require clear prioritization and support from the marketing organization.</p>
	Measure and compare Canadian beef quality and specifications to other major beef exporters through the completion of a NBQA Export Beef Benchmark Study	Not started / Needs modification	The demand for work of this nature needs to be clearly defined; it was not identified as a clear priority research outcome for the beef industry in the 2018-23 Canadian Beef Research & Technology Transfer Strategy and it is not clear if this in line with current marketing strategy.
Develop of a National Total Quality Management System to enhance the Canadian Beef Advantage	Develop technological systems capable of assessing quality parameters in live animals and beef carcasses in real-time	In Progress	The development of the Carcass Information System (CIS) app and web portal is underway in collaboration with a major computer vision grading system supplier and will provide the technological foundation for a total quality management system. The CIS will enable sharing of photographs of carcass attributes and incorporation of future technological approaches.
	Develop national standards and methods related to quality verification and measurement to facilitate sharing and usage of information	In Progress	Work has been initiated on computer vision approaches to assessing beef tenderness, dark cutters, bruising, yellow fat and other quality attributes. Work is underway to harmonize the Canadian yield grading system with the U.S..
	Complete quality verification assessments at a supply chain level	Needs modification	The National Beef Quality Audit (NBQA) and National Beef Sustainability Assessment provide pieces of this. An evaluation to determine if there are any gaps is needed.
	Develop Total Quality Management System reporting systems and educational materials for supply chain stakeholders	In Progress	A pilot trial of the Carcass Information System has been planned to evaluate reporting formats and their suitability for both plant management and feedlot suppliers. Video footage to support the development of an educational resource on computer vision grading has been assembled.
	Complete a National Supply Chain Report on the Canadian Beef Advantage communicating and benchmarking national indicators related to core attributes including animal care and health, food safety, beef quality, and environmental sustainability	Needs Modification	<p>The 2018 NBQA Stakeholder Survey was completed and surveyed cow-calf, feedlot, retail, foodservice and packing plants around their perceptions of industry progress around core attributes including animal care, animal health, food safety, beef quality and environmental sustainability.</p> <p>The CRSB completed the National Beef Sustainability Assessment (NBSA) in 2016 with an environmental life cycle assessment, land use (carbon sequestration, water quality and biodiversity), social (animal welfare) and economic indicators.</p>

OUTCOMES	OBJECTIVE	STATUS	COMMENTS
FOCUS AREA C: VALIDATE & ENHANCE THE CBA (CONT'D)			
Develop of a National Total Quality Management System to enhance the Canadian Beef Advantage	Provision of support of industry stakeholders to develop nationally recognized and science based claims relating to live cattle or finished beef products	Needs modification	Work is underway to develop a Canadian beef tenderness standard similar to that used by USDA. Further work is required in this area. The 5-year update of the Animal Care Code was completed. Livestock transportation training continues through the Canadian Livestock Transportation program. A comparison between Certified Humane labelling requirements and VBP+ was completed. Canada Beef and PSEP developed fact sheets with Stakeholder engagement
	Development of financial tools for meat professionals to support the communication of the financial value of Canadian beef products	Needs modification	Not started due to funding constraints, waiting for the increased national check-off. Updating of the previously developed financial tools was initiated, but further resources are required to update manuals.
Develop new and enhanced tools to communicate the financial contribution of the quality and yield of Canadian beef cattle	Creation of resources to communicate developments in food safety to supply chain participants to support the Beef Safety Enhancement Program	Needs modification	It is unclear which group will continue this work moving forward given changes in Canada Beef marketing program and technical resources, and the focus of BCRC's tech transfer initiative on primary producers. The Canadian Meat Council (CMC) annually holds their Technical Symposium and Industry workshops presenting food safety best practices, new technologies, regulatory updates, among others, to help the meat industry to maintain the highest food safety standards. The CMC has also agreed with the North American Meat Institute to invite its members to all food safety educational events taking place in the U.S. (e.g.: Pathogen Control and Regulatory Compliance in Beef Processing Conference). Furthermore, the CMC has constant interaction with the CFIA and Health Canada in its Technical Committee meetings allow members to raise their preoccupations on food safety and, at the same time, be aware of the advance/amendments/initiatives in the regulatory context. The CMC supports the Canadian Government in their participation in Codex Alimentarius meetings providing feedback on how the Canadian industry is in conformity with international standards, and so, those standards are applied already during the meat production in Canada to avoid any trade disruption in the future. With these activities, the CMC aims to provide an internationally competitive regulatory framework enabling and encouraging the Canadian meat industry to continue to achieve the highest levels of food safety.
Further enhance the Canadian Beef Advantage through the development of a Supply Chain Strategy to Enhance the Canadian Beef Advantage	Conduct a bi-annual workshop providing information on developments in research and technology which can enhance the CBA as well as benchmarking information related to the CBA	Needs modification	A review is needed to ensure alignment with Canada Beef's marketing strategy and technical resources.

OUTCOMES	OBJECTIVE	STATUS	COMMENTS
FOCUS AREA C: VALIDATE & ENHANCE THE CBA (CONT'D)			
Research and development to improve consumer satisfaction with Canadian beef and validate the Canadian Beef Advantage	Validate the effectiveness and value of genetic markers for tenderness in commercial cattle	Not started	This priority research outcome was not addressed in research funded under the 2018-23 Beef Science Cluster and will be further explored in upcoming BCRC calls for proposals outside of the Cluster with increased check-off funding
	Reevaluate electrical stimulation recommendations to reflect increased carcass weights	Not started	This priority research outcome was not addressed in research funded under the 2018-23 Beef Science Cluster and will be further explored in upcoming BCRC calls for proposals outside of the Cluster with increased check-off funding
	Validate objective in-plant measures of tenderness	Not started	Research to develop a computer vision algorithm to predict beef tenderness in plants has been completed and work is ongoing to develop a tenderness standard.
	Identify potential interactions between tenderness genotype and animal management practices and develop appropriate breeding and management recommendations	Not started	<p>This priority research outcome was not addressed in research funded under the 2018-23 Beef Science Cluster and will be further explored in upcoming BCRC calls for proposals outside of the Cluster with increased check-off funding.</p> <p>Initial work was undertaken in collaboration with AAFC Lacombe Research Centre to examine predicted tenderness in relation to management practices using a sample of Alberta feedlots.</p>
	Packaging and other technologies to improve shelf life for export developed	Ongoing	<p>FOS.04.13 - Identification and validation of commercially practicable practices and procedures for improving the microbiological safety stability of beef achieved a shelf life of 120-140 days for chilled beef. Additional priority work has been identified but not initiated and will be explored in upcoming BCRC proposals.</p> <p>A research funding request has been developed to examine the impact of commonly used antimicrobial interventions on shelf life for export markets.</p>
	Canada's beef carcass quality and yield benchmarked relative to international competitors	Completed	Work is underway to harmonize the Canadian grade system for yield with that of the U.S.. This will allow ongoing benchmarking to be conducted.
	BIXS data integrated with research analysis in order to monitor changes in industry practices and identify emerging issues	Needs modification	<p>CCA, through the Value Creation and Competitiveness Committee, is researching opportunities for blockchain utilization in the beef value chain.</p> <p>Efforts are also being investigated to source possible data-mining solutions for a deep analysis of the Canfax database for possible production and/or marketing correlations that could be used to enhance industry profitability.</p>

OUTCOMES	OBJECTIVE	STATUS	COMMENTS
FOCUS AREA C: VALIDATE & ENHANCE THE CBA (CONT'D)			
Research and development to improve consumer satisfaction with Canadian beef and validate the Canadian Beef Advantage	Improved algorithms for prediction of lean meat yield and/or retail product percentage	Ongoing	<p>This work will continue through BQU.08.17 (results expected by 2023) - Development of yield prediction tools to optimize carcass cut-out value.</p> <p>A trial to develop improved approaches to assessing the yield of cows using the whole carcass camera has been completed at an Alberta packing plant.</p>
	Genomic and grading technologies that allow for market segmentation according to carcass quality implemented	Ongoing	<p>Work conducted under BQU.08.17 - Development of yield prediction tools to optimize carcass cut-out value will contribute to this effort.</p> <p>Research has been performed to enhance computer vision approaches under a AAFC AIP project initiated by CCA. Further work is ongoing with the development of the Carcass Information System.</p>
FOCUS AREA D: CONSUMER CONFIDENCE			
Enhance consumer confidence in Canadian beef across all markets through a focus on enabling industry advocates, leadership in issues management, and partnerships with influencers	Increase participation in the Beef Advocacy Canada program to ensure industry leaders are informed and prepared to communicate consistent key messaging, as identified in the Competitiveness Pillar under Industry Communications.	Ongoing / Needs Modification	The Beef Advocacy Canada project is being updated to better align with the public and stakeholder engagement program including new training modules for social media communications and development of a key message and resource repository for the industry.
	Establish an Issues Management Resource position, as identified in the Connectivity Pillar	Completed	An Issues Management program has been developed and is now called the “Public and Stakeholder Engagement” program. A full time “Public and Stakeholder Engagement Manager” has been hired to coordinate and direct collaborative industry activities and investment in this area.
	Increase the number of strategic partnerships and networking with food, media, and nutrition influencers on the nutritional and environmental benefits of beef consumption.	Ongoing	As part of the Public and Stakeholder Engagement program there has been increased collaboration between industry groups to engage with media on public trust issues. There has been increased focus on developing partnerships with academia, nutrition experts, and non-government agencies. The CRSB membership includes a wide range of stakeholder groups and provides information to assist with Corporate Social Responsibility statements.
Improve the effectiveness and reach of consumer communication	Provide global social media support for all Canada Beef led and partnered activities	Ongoing	Direction is correct and should be continued. The Public and Stakeholder Engagement function will help support cross-organizational cooperation.
	Produce a seasonal kit for provincial/national cattle associations and partner organizations to use for seasonal promotions, key consumer events and include coaching on the development of promotional assets.	Ongoing	Several initiatives have been accomplished (i.e. CFL national/provincial partnership), but limited funding has limited this activity.

OUTCOMES	OBJECTIVE	STATUS	COMMENTS
FOCUS AREA D: CONSUMER CONFIDENCE (CONT'D)			
Improve the effectiveness and reach of consumer communication	Conduct targeted promotional brand initiatives in priority markets through brand license partners, resource development, and brand mark promotion	Ongoing	Direction is correct and should be continued. Continue to support consumer outreach and marketing efforts with key retail and foodservice clients in priority markets.
	Lead the development of industry consumer campaigns focused on delivering the Canadian beef story, executed in collaboration with national and provincial stakeholders	Ongoing	Direction is correct and should be continued. Continue to promote the Canadian beef story with national and provincial partners utilizing opportunities such as Canada 150, or connecting trade partners with grassroots producers for campaigns.
	Conduct consumer research to understand purchase drivers/motivators	Ongoing	Direction is correct and should be continued. Continue to conduct proprietary and review public market research.
Promote the health and nutritional benefits of beef to consumers	Support communication of beef's premium quality by development of culinary and nutrition-related messaging and resources for inclusion in marketing campaigns	Ongoing	Direction is correct and should be continued. Continue research and development of culinary and nutritional resources.
	Produce nutrition communications promoting beef's nutrients to key demographics	Ongoing	Direction is correct and should be continued. Continue development and extension of nutritional resources and outreach.
	Communicate beef's premium quality and safety by engaging targeted health professionals via trade events / conferences/ seminars	Needs modification	Direct to health professional outreach was discontinued due to lack of funding. Significant and ongoing commitment is needed for this type of programming to be effective. Alternative outreach has been conducted through fitness and exercise partners.
	Provide nutrition communications to key health professionals including doctors and dieticians focused on heart health and diabetes and early childhood nutrition	Needs modification	Direct to health professional outreach was discontinued due to lack of funding. Significant and ongoing commitment is needed for this type of programming to be effective. Alternative outreach has been conducted through fitness and exercise partners.
	Participate and align with key industry networks (such as International Meat Secretariat, Nutrient Rich Alliance, etc) in order to connect and collaborate on key health and nutrition issues that impact beef	Ongoing	Direction is correct and should be continued. These alliances have been helpful and supportive of the Public and Stakeholder Engagement activities.
	Complete a systematic literature review on the nutritional attributes of beef to address consumer concerns, inform consumer education programs, and identify appropriate research directions and applications	Needs modification	Due to a lack of funding, no proprietary research has been conducted. Industry has relied on public access research and support from industry networks (such as IMS, Nutrient Rich Alliance, etc.).

OUTCOMES	OBJECTIVE	STATUS	COMMENTS
FOCUS AREA D: CONSUMER CONFIDENCE (CONT'D)			
Support consumer food safety education initiatives that demonstrate the effectiveness of our science-based food safety system.		Ongoing	Advanced thru participation in the ASFS (Agriculture Sub Committee on Food Safety) and the All-Chairs Meetings of the Value Chain Roundtables.
Research and extension to drive the reduction of food safety incidences and improve food safety along the beef supply chain	Technologies targeting multiple pathogens in cattle and beef production and processing facilities developed and implemented	Ongoing	Approval of irradiation for ground beef was obtained although additional approvals are required to enable suppliers to conduct food irradiation outside of a slaughter plant. Significant advances were achieved in FOS.01.13 - Prevalence, Persistence and Control of Non-O157 Shiga Toxin Producing Escherichia coli and FOS.04.13 - Identification and validation of commercially practicable practices and procedures for improving the microbiological safety stability of beef and will continue under FOS.01.17 - If E. coli shed by cattle is becoming resistant to antimicrobial interventions in abattoirs, how best to raise the hurdles? and FOS.07.17 - Identification of genetic and microbial markers for E. coli O157 super-shedders through longitudinal biopsy and monitoring
	Objective approaches for verifying the effectiveness of packing equipment cleaning processes developed and adopted for 85% of processed cattle	Ongoing	Findings from FOS.01.13 - Prevalence, Persistence and Control of Non-O157 Shiga Toxin Producing Escherichia coli are being implemented in commercial plants of varying size.
	Increased surveillance to detect, characterize and quantify the relative human health risk of (re) emerging pathogens	Ongoing	FOS.01.13 - Prevalence, Persistence and Control of Non-O157 Shiga Toxin Producing Escherichia coli (completed), FOS.01.17 - If E. coli shed by cattle is becoming resistant to antimicrobial interventions in abattoirs, how best to raise the hurdles? and FOS.07.17 - Identification of genetic and microbial markers for E. coli O157 super-shedders through longitudinal biopsy and monitoring are contributing to his effort. A strategy to ensure research findings are incorporated into ongoing surveillance conducted by the CFIA and PHAC is needed.
	Effective probiotic intervention to eliminate pathogens for beef developed	Not started	Probiotic work is being funded through the Beef Science Cluster program but is focused on animal health and production efficiency outcomes rather than food safety specifically.
	Enhanced processor education to encourage the consistent adoption of known best practices to minimize the risk of pathogen contamination in beef processing plants	Completed	Findings from FOS.01.13 - Prevalence, Persistence and Control of Non-O157 Shiga Toxin Producing Escherichia coli is being implemented in commercial plants of varying size

OUTCOMES	OBJECTIVE	STATUS	COMMENTS
FOCUS AREA E: PUBLIC TRUST			
Enhance the public image of the Canadian beef industry emphasizing the many positive benefits our industry contributes along with the continual improvement in environmental sustainability, animal health and welfare, and food safety practices.	Actively participate in the Canadian Roundtable for Sustainable Beef	Completed	The Public and Stakeholder Engagement program will actively participate in the CRSB including sharing intelligence and development of sustainability messaging and resources.
	Produce and launch consumer directed print/downloadable resources featuring factual insights around Canada's beef production systems and standards that convey transparency and confidence to global consumers	Ongoing	Communications tool-kits and resource materials are being developed for industry partners/ organizations in collaborations with groups such as BCRC, CRSB, Canada Beef, NCFA, CCA, and Provincial associations.
	Develop broad-based Canadian beef industry promotional videos (i.e. Through the Fence project)	Ongoing	A wide range of electronic resources are being developed such as: Environmental impacts of beef production videos; "Live" Facebook videos; Sustainable beef videos; as well as CRSB developing two promotion videos (organization and Framework focused). This will be an area of increased investment going forward with various organizations sharing video footage for use in promotion materials.
	Participate in strategic partnerships and networking opportunities to positively influence attitudes regarding beef's role in a healthy, sustainable diet	Ongoing	Partnerships are being developed with media, environmental NGOs, academia, nutrition experts, etc., along with active participation in several public forums.
	Encourage public figures to promote the image of Canadian beef producers and beef production systems and seek other publicity opportunities that promote the Canadian beef industry in a positive and proactive manner	Ongoing	The Public and Stakeholder Engagement program has shared all key messages and communication resources with beef lobby organizations to share with government officials.
	Support and enhance the Ag in the Classroom program and work towards influencing curriculum changes that accurately depict the methods of producing beef in Canada	Ongoing	Provincial beef organizations have been actively involved in curriculum and resource development. National resources such as the Communications tool kits are being developed to assist in curriculum development. Provincial organizations have been encouraged to meet with Education ministers and a partnership with Inside Education is in place to sponsor teacher and student feedlot tours.
Increase public recognition of the beef industry's direct and indirect contributions to the Canadian economy and society.		Ongoing/ Needs Modification	<p>Suggest changing Outcome to "Increase public recognition of beef industry's contributions to the well-being of Canadians and the environment"</p> <p>Significant participation in addressing Canada's Food Guide revisions and Health Canada's Healthy Eating strategy in collaboration with Canada Beef</p> <p>The social, economic and environmental contribution of the Canadian beef industry was assessed in the CRSB's National Beef Sustainability Assessment.</p>

OUTCOMES	OBJECTIVE	STATUS	COMMENTS
FOCUS AREA E: PUBLIC TRUST (CONT'D)			
Increase public recognition of the contribution of beef production to sustainability	Speak on the beef industry's contribution to sustainability in partnership with Canada Beef and other stakeholders; utilizing appropriate publications, video vignettes, social media, and other forums to reach end users, consumers, and the public	Ongoing / Not Started	This initiative will be starting with increased national check-off funding to this area. Videos and other resources are being developed with Canada Beef, BCRC, CRSB, etc. There has already been a significant increase in social media presence and sharing positive messaging through social media as well as a significant increase in media inquiries and interviews. A social media strategy is in development to provide training for beef industry representatives to use social media effectively to reach the right audiences, with more engagement in public forums. Science-based information about the contribution of beef production to sustainability can be found in the CRSB's National Beef Sustainability Assessment.
	Move forward with the implementation of the Canadian Roundtable for Sustainable Beef to grow awareness and promote sustainability to a broader audience	Completed	2014
Increase public understanding of beef industry animal husbandry practices and how they are held up by the Beef Code of Practice	Communicate the role of responsible antimicrobial stewardship in maintaining the effectiveness of human health products	Ongoing	Pan Canadian Partnership CRSB members contributed to the Global Roundtable for Sustainable Beef's Antimicrobial Stewardship Statement, which was finalized in 2018.
	Maintain public and other stakeholder support of beef cattle production practices through support of the National Farm Animal Care Council (NFACC) and regular review and renewal of the Code of Practice or the Care and Handling of Beef Cattle	Ongoing	NCFA's Canadian Feedlot Animal Care Assessment Program (CFAC) helps underscore for the public that cattle feeders are committed to animal care and welfare. Alberta Cattle Feeders Association's Position Statement on Animal Care underscores cattle feeder's commitment to animal care and husbandry. This Position Statement is available to beef organizations in other provinces and to the public via the ACFA website.





COMPETITIVENESS: IMPROVE COST ADVANTAGES COMPARED TO MAIN COMPETITORS BY 7% BY 2019

A STABLE FUNDING SOURCE HAS MEANT THAT MANY OF THE POLICY EFFORTS HAVE PROGRESSED, ALTHOUGH MANY OF THE POLICY ISSUES REQUIRE ONGOING EFFORT AND DILIGENCE. IN ADDITION, THE MOVE TOWARDS GREATER TAXATION ON AGRICULTURE TO ADDRESS LOCAL MUNICIPAL BUDGETS HAS CREATED CHALLENGES REGIONALLY THAT COULD SPREAD.

REGULATORY BURDEN & ACCESS TO COMPETITIVELY PRICED INPUTS

Associations addressed aspects of concern in Finance Canada’s Tax Planning Using Private Corporations proposal. The proposal included changes to income sprinkling, passive investments inside private corporations and converting income into capital gains, which was the costliest to the agriculture sector. If the original proposal was implemented, a report showed that the changes could have cost over \$1 million to a 200-head incorporated cow-calf operation. In addition, improvements to the Reference Margin Limit under 2018 AgriStability are intended to benefit lower eligible cost producers

such as the cow-calf sector.

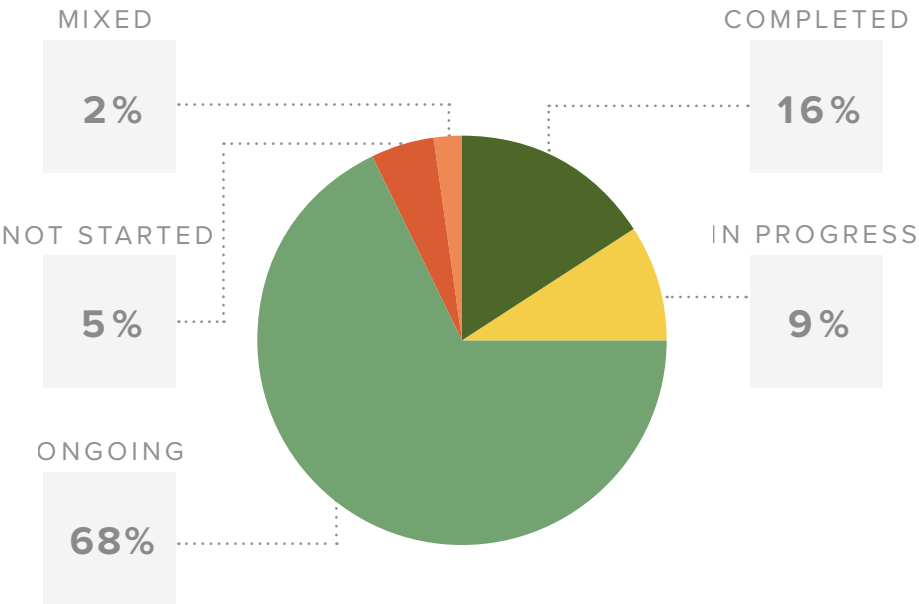
The Traceability file has progressed with a continued emphasis on ensuring the regulations follow the Cattle Implementation Plan with proposed regulations expected to be published in Canada Gazette 1 in Spring 2019. Work continues with supply chain partners such as auction marts and packers to ensure that enhanced traceability is made to work for industry stakeholders.

Industry engaged in proposed changes to

Canada’s Food Guide and Front of Package Labelling regulations. Food guide comments were submitted by industry partners.

Labour shortages were addressed through partnerships with other stakeholders to pursue reforms to the Temporary Foreign Worker Program (TFWP) and resulted in getting feedlots added to the list of primary agriculture, exemption from application fee, postponement of reduced cap on TFWs for processors, and elimination of the four-in-four-

out rule. Service Canada’s current review of the TFWP included primary agriculture (not just seasonal workers). More changes are needed to fully address the labour shortages in the Canadian beef sector and work continues in this area. CMC is lobbying for a federal Agri-Food immigration pilot to support a pathway to permanent residency.



RESEARCH CAPACITY

Research capacity was supported by having 12 scientists complete the Beef Researcher Mentorship program as of 2018, which helps align their research and extension interests with those that are practical and beneficial to Canada's beef industry.

A veterinary and producer network was established in Western Canada to gather information on the prevalence of production limiting diseases and identified opportunities for improvement.

To support recommendations to avoid anaplasmosis, researchers identified specific habitat characteristics for ticks which carry and spread the anaplasmosis-causing bacteria in cattle.

CMC participated in the North American Meat Institute (NAMI) meat and poultry research and education advisory committee. Together they set research and education priorities based on industry needs.

Progress has been made on the revitalization of the University of Guelph Elora Beef Research Centre and construction is nearing completion on the University of Saskatchewan Livestock & Forage Centre of Excellence.

SUSTAINABILITY

The development of the Canadian Roundtable for Sustainable Beef (CRSB) has been a leading force globally on sustainable beef conversations. Key highlights include:

- The first National Beef Sustainability Assessment released in October 2016
- The *Certified Sustainable Beef Framework*, including logos and claims to support sustainability messaging for industry and consumers.
- Efforts to improve communication and collaboration around projects that support continuous improvement

Ongoing communications with members have enabled CRSB to influence Corporate Social Responsibility statements.



OUTCOMES	OBJECTIVE	STATUS	COMMENTS
FOCUS AREA A: SUPPORTIVE REGULATORY BURDEN			
Advocate and uphold a scientific risk based regulatory system	Actively engage in consultations on the regulatory modernization framework that streamlines approvals of agriculture inputs, forage and grain varieties, and biotechnology to encourage investment in research and the development of new products that are accessible to the Canadian beef industry	Ongoing	Progress on reducing/eliminating backlog of Pharma approvals. A Regulatory Reform Study in 2016 highlighting the most problematic regulations affecting beef producers, the costs to industry, and improved regulatory options. Submissions were made to Canadian Food Inspection Agency (CFIA), Regulatory Cooperation Council (RCC), Agriculture and Agri-Food Canada (AAFC), Transport Canada, and Health Canada on a wide range of issues from transport times and new feed grains regulation, to the use of Electronic Logging Devices (ELDs), Canada-U.S. regulatory alignment, the new National Food Policy, and the new Food Guide.
	Support the government policy of one for one removing a policy/regulation for every new one introduced)	Completed	CCA policy
	Proactively address and influence domestic and global food production standards, codes of practices, potential regulations, and consumer and public communications. Maintaining an active presence in appropriate global and domestic forums focused on animal health, food safety and quality, sustainability, environment, and public and social welfare topics.	Ongoing	Participating in World Organization for Animal Health (OIE), World Trade Organization (WTO), North American Free Trade Agreement (NAFTA), International Meat Secretariat (IMS), Codex, International Beef Alliance (IBA), and Global Roundtable for Sustainable Beef (GRSB) meetings.
Pursue outcome based flexible alternatives to prescriptive tactic based regulations	Pursue the movement toward outcome-based food safety regulations that define the desired outcomes but allow for flexible approaches to achieving outcome rather than point by point prescriptive regulations	Ongoing	Involved in the Safe Food for Canadians Regulations, an outcome-based processes. CCA has initiated discussion at the BVCRT around a scientific advisory to CFIA to support outcome-based approaches in the Canadian regulatory system.
	Pursue the move to a short list SRM, in harmony with the U.S. and in accordance with scientific research on the effectiveness to eradicate BSE in Canada	In Progress	Discussions recommencing thru the Beef Value Chain Roundtable (BVCRT)
	Pursue the implementation of e-Certification for both exports and imports to streamline regulatory and management processes and facilitate the provision of real time information and speedy flow of goods.	Completed	E-Certification started being rolled out by CFIA in 2018
Pursue regulatory cooperation with major trading partners	Actively engage in discussions with the Regulatory Cooperation Council and other efforts to harmonize regulations that facilitate trade, reduce transaction costs, and improve data available to industry.	Ongoing	CCA and NCFA are active participants in all Regulatory Cooperation Council discussions, contributing to the development of RCC workplans, and advocating for regulatory reform and alignment with the U.S. on a range of issues.

OUTCOMES	OBJECTIVE	STATUS	COMMENTS
FOCUS AREA A: SUPPORTIVE REGULATORY BURDEN (CONT'D)			
Pursue regulatory cooperation with major trading partners	Actively participate through the Five Nations Beef Alliance and in partnership with the grains and oilseed sector to propose that the TPP could be a mechanism for interim adoption of regional standards in advance of full CODEX adoption of standards for new technologies.	Completed	
	Advocate adoption of provisions in the Trans Pacific Partnership (TPP) and other trade agreements for member countries to follow international guidelines such as CODEX for Maximum Residual Limits (MRL's) and Limited Liability Partnership's (LLP's) along with timely and effective remediation or disciplines to enforce compliance	Completed	
Advocate that traceability expand based upon real benefits and fairly allocated costs through a national industry-led cattle identification systems, with emphasis on three pillars that include animal identification, premise identification, and animal movement	Implement the use of electronic manifests for traceability	In Progress	Traceability regs to be out later 2018 based on the Cattle Implementation Plan. Work continues with supply chain partners (e.g., auction marts) to ensure that enhanced traceability is made to work for industry stakeholders.
FOCUS AREA B: ACCESS TO COMPETITIVELY PRICED INPUTS			
Improve access to skilled labor; most particularly improve processing times	Establish a clear and mutually agreed upon definition of skilled labour between industry and government, recognizing that jobs in agriculture do not fit the current definition of "skilled", nor are they unskilled and suitable for anyone without proper experience in the handling of livestock, equipment operation, and other areas.	In Progress	

OUTCOMES	OBJECTIVE	STATUS	COMMENTS
FOCUS AREA B: ACCESS TO COMPETITIVELY PRICED INPUTS (CONT'D)			
Improve access to skilled labor; most particularly improve processing times	Actively pursue improvements in the Labour Market Opinion process and Temporary Foreign Worker (TFW) program including a more streamlined process, improved coordination between foreign embassies, reduced processing time, and increased communication of the processing stages and any processing changes	Ongoing	Achievements include addition of feedlots to list of primary agriculture, exemption from application fee, postponement of a reduced cap on TFWs for processors, and elimination of the four-in-four-out rule. Industry joined others to ensure the current review of the TFWP at Service Canada included primary agriculture (not just seasonal workers). A consultation has been started on improving TFWP with focus not just on seasonal but on primary agriculture TFWP. Industry partners gave testimony to the HUMA committee.
	Pursue the amendment of immigration law to create a more streamlined process for current TFWs to reapply, facilitate longer stays, and allow more immigrant nominees from the pool of TFWs to facilitate the continued employment of suitable employees	In Progress	NCFA made the case for amending immigration policy to provide a stream of agriculture and agri-food workers at the Beef Value Chain Roundtable (BVCRT) with John McCallum in August 2016. NCFA has advocated for a revamp of immigration policy and creation of a new immigrant economic class to secure workers with the skills required in agriculture and agri-food. Efforts include participation in immigration roundtables, meetings with the opposition immigration critic, and regular meetings with the Parliamentary Secretary for Labour.
Improve access to competitively priced inputs including animal health products, feed grains and forages, new technologies, and other inputs	Advocate for faster approval times and more streamlined processes that are competitive with other countries	Ongoing	Completed with Bovine viral diarrhea (BVD) and ongoing with other departments
	Advocate for greater coordination of approvals between government agencies (i.e. Environment Canada, Health Canada, Agriculture and Agri-Food Canada, and the Canadian Food Inspection Agency) and acceptance of new biotechnology by all levels of government.	Ongoing	
	Advocate change of the current approval process to recognize other countries' regulatory regimes and approval processes as being equivalent. Facilitating faster approval times and greater availability of products for Canadian producer through a more cooperative synergistic approach to product approval with regulators of similar caliber around the world.	Ongoing	
	Advocate for the harmonizing of approvals for products already approved in the U.S..	Ongoing	

OUTCOMES	OBJECTIVE	STATUS	COMMENTS
FOCUS AREA B: ACCESS TO COMPETITIVELY PRICED INPUTS (CONT'D)			
Improve access to competitively priced inputs including animal health products, feed grains and forages, new technologies, and other inputs	Advocate for the harmonization of withdrawal periods and minimum residue levels for products between countries.	Ongoing	
	Advocate for price equivalency of products between countries.	Ongoing	
FOCUS AREA C: MAINTAIN & ENHANCE RESEARCH CAPACITY			
Establish an internship program to mentor new scientists with industry collaborators in partnership with the Cattlemen's Young Leaders program	Have 10 scientists complete the program by 2019	Completed	12 scientists have completed the Beef Researcher Mentorship program as of 2018, with another four selected to participate in 2018/19. The intent is to continue this program for the foreseeable future. The BCRC has also supported six Cattlemen Young Leaders participants with an expressed interest in beef research.
Increase research capacity and programming available to the Canadian industry to focus on beef quality, food safety, and related attributes of the Canadian Beef Advantage	Establish an industry meat science research chair to address issues facing the beef packing and processing sectors, and reinvigorate beef quality and food safety research program capacity	Not started / Needs modification	Strengthening the alignment of existing research capacity with the 2018-23 Canadian Beef Research & Technology Transfer strategy may be a more strategic use of industry funding resources as positions have been filled and other gaps in research capacity have emerged
	Initiate the development of a formal meat science program to facilitate the training of highly qualified personnel for the beef industry	Not started	This priority research outcome was not addressed in research funded under the 2018-23 Beef Science Cluster and will be further explored in upcoming BCRC calls for proposals outside of the Cluster
Increase research capacity and programming focused on the breeding and production of feed sources	Establish industry research chairs focused on tame grass and legume breeding and management/grazing to serve Central and Eastern Canada and in the Prairies and B.C. to address declines in forage productivity and improved marginal returns to forage production to be more competitive with annual crops	Not started	This priority research outcome was not addressed in research funded under the 2018-23 Beef Science Cluster and will be further explored in upcoming BCRC calls for proposals outside of the Cluster

OUTCOMES	OBJECTIVE	STATUS	COMMENTS
FOCUS AREA C: MAINTAIN & ENHANCE RESEARCH CAPACITY (CONT'D)			
Increase research capacity and programming focused on the breeding and production of feed sources	Strategic investments in technology transfer efforts to encourage increased commercialization of new varieties and adoption of production research results	Ongoing	TEC.01.13 - Improving Technology Transfer and Knowledge Dissemination in the Canadian Beef Industry and TEC.01.17 - Enhancing Technology Transfer in the Canadian Beef Industry are focused on encouraging awareness, investigation and adoption of new technologies and production practices with the potential to improve on-farm productivity and profitability.
	Advocate for enhanced public investment in forage and grassland productivity research to support the public interest in biodiversity, watershed health, wildlife habitat, soil conservation, and carbon sequestration	Ongoing	Greatly enhanced industry funding directed towards these areas have led to the hiring of nine new forage researchers in Canada since 2016. Information on specific forage and environmental sustainability research projects supported through the 2013-18 and 2018-23 Beef Science Clusters are available at http://www.beefresearch.ca/about/funding/canadas-beef-science-cluster.cfm
	Reinvigorate feed grain breeding expertise to enhance productivity per acre building through the enhancement of Alberta Agriculture and Rural Development feed barley breeding program and development of linkages with the University of Saskatchewan's Crop Development Center	Ongoing	Support for this program through FDE.04.13 - 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 ensured the transition of feed grain breeding research capacity within Alberta Agriculture. Efforts to strengthen its relationships with other barley breeding programs in Canada will be ongoing. Currently no investments are positioned by BCRC for 2018-23 but will be explored moving forward with increased funding outside of the Science Clusters
Maintain feed efficiency research capacity to continue to drive innovations in feed efficiency to support both cow-calf and feedlot production.	Advocate for the hiring of new researchers into existing vacant beef nutrition roles and transitional planning to fill roles where retirements are expected in the next five years	Ongoing	A vacant beef nutritionist research position has been filled at the University of Guelph with a past CYL candidate supported by the BCRC. The beef industry has been assured that an anticipated expected vacancy in beef cattle nutrition at the University of Saskatchewan will be filled with no significant change in research, teaching or extension focus or mandate.
National food safety, antimicrobial resistance and production limiting disease surveillance programs enhanced or developed, with research capacity and expertise in place	Strengthen the current proactive food safety and antimicrobial surveillance system to identify emerging public health issues	Ongoing	Research supported by the BCRC (www.beefresearch.ca/amr) has led to ongoing improvements in the Public Health Agency of Canada (PHAC) Canadian Integrated Program for Antimicrobial Resistance Surveillance (CIPARS)'s antimicrobial use and resistance surveillance programming, particularly with respect to on-farm data collection for beef cattle. Further strengthening of surveillance is a priority and actively being encouraged
	Establish an effective proactive surveillance system to identify (re)emerging animal disease issues before they pose a widespread risk to animal health and industry productivity	Ongoing	Research supported through ANH.23.13 - Implementation of a longitudinal disease surveillance network for cow-calf operations in Western Canada and ANH.21.17 - The Canadian Cow-Calf Surveillance Network are intended to contribute to the development and implementation of a formal beef cattle health and disease surveillance system.

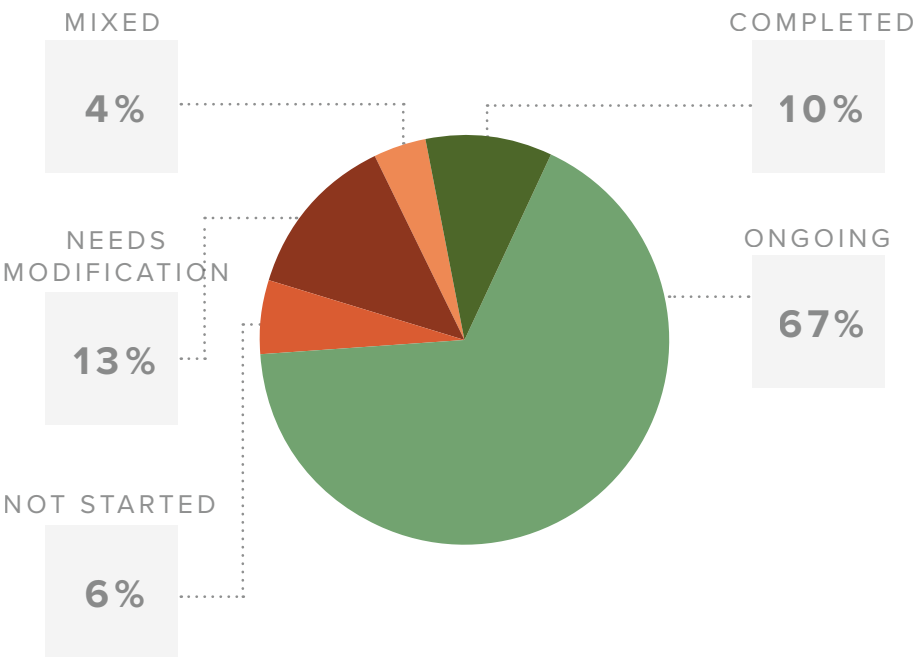
OUTCOMES	OBJECTIVE	STATUS	COMMENTS
FOCUS AREA D: SUSTAINABILITY			
Support the activities of the Global and Canadian Roundtables for Sustainable Beef	Engage industry stakeholders across the entire value chain and encourage their membership in the CRSB and/or support of and participation in its communication efforts and other initiatives	Completed	The CRSB currently has 107 members and observers and sits on the GRSB Board of Directors and a number of its sub-committees.
	Complete the “Assessment of the economic, environmental, and social sustainability of the Canadian beef industry” including a life cycle assessment, identification of key performance indicators and a comprehensive action plan.	Completed	The first National Beef Sustainability Assessment (NBSA) was published in October 2016. An interim report will be published in 2019 and the release of another assessment is planned for 2023.
	Support the development and implementation of VBP+, with the addition of new modules for animal care, environment and biosecurity to enable producers to effectively demonstrate responsible on-farm production practices to the marketplace.	Ongoing	Animal care, environment and biosecurity modules have been developed and incorporated into VBP+ and have been recognized as equivalent with sustainability indicators developed under the CRSB. Moving forward focus is on increasing the number of farms that are VBP+ trained and registered.
Economic – Improve return on investment and long-term profitability of the beef industry	Improve Business Risk Management programs for producers to reduce the exposure associated with market volatility, varying climatic conditions, and other unforeseen events	Ongoing	NCFA (through ACFA) establishing new agriculture business risk program at Lethbridge Community College. Working with various partners to improve and strengthen WLPIP through more robust price discovery.
	Attract young talent to the beef industry through the further development and implementation of initiatives such as the Young Cattlemen’s Council, Cattlemen’s Young Leaders, and Breed Association youth development programs.	Ongoing	
	Advocate for ongoing investment in Canadian processing sector, including ongoing plant modernization that ensures Canada’s competitiveness with international counterparts	Ongoing	Benchmarks have been established and select indicators are being tracked over time by the CRSB.
	Protect and enhance property rights by advocating on behalf of producers during the creation or amendment of government Acts and policies	Ongoing	

OUTCOMES	OBJECTIVE	STATUS	COMMENTS
FOCUS AREA D: SUSTAINABILITY (CONT'D)			
Continually improving environmental sustainability through improved natural resource use, validating the impacts of beef production and supporting verifiable supply chains.	Advocate for the continued and/or enhanced collection of important agriculture and environmental data to assist in establishing sustainability benchmarks and measure how agriculture is changing and improving over time	Ongoing	Changes were made to the 2016 Census of Agriculture questions and the 2018 Farm Management Survey to address industry questions. The Western, Ontario and Atlantic cow-calf surveys took place in 2016 and 2017 providing provincial production benchmarks. The next National Beef Sustainability Assessment will be completed in 2021, and will show progress compared with the first assessment.
	Actively participate through the International Meat Secretariat (IMS) in international environmental research and collaborative initiatives	Ongoing	A CCA representative is currently the Chair of Beef Committee and an Executive Member.
	Increase industry adoption of Best Management Practices supporting environmental sustainability and resource conservation through the support of existing technology transfer programs and advocating for the continued support of and participation in important stewardship programs.	Ongoing	NCFA supporting field-testing of new feed additives to reduce enteric methane emission. TEC.01.13 - Improving Technology Transfer and Knowledge Dissemination in the Canadian Beef Industry and TEC.01.17 - Enhancing Technology Transfer in the Canadian Beef Industry are focused on encouraging awareness, investigation and adoption of new technologies and production practices with the potential to improve on-farm productivity, profitability, animal care and environmental sustainability practices.
Continually improving environmental sustainability through improved natural resource use, validating the impacts of beef production and supporting verifiable supply chains.	Encourage the creation of Ecosystem Service Programs to conserve natural resources	Ongoing	
Maintain the Canadian beef industry's social license to operate through validating production practices and identifying opportunities for continuous improvement in areas of public concern	Validate impacts of beef production and support verifiable supply chains	Ongoing	Verified Beef Production plus (VBP+) has new modules on animal care, environment and biosecurity. The CRSB launched the National Beef Sustainability Assessment in 2016, which provides a benchmark of the impacts of beef production, as well as the <i>Certified Sustainable Beef Framework</i> in 2017 to support supply chains in their sustainable sourcing efforts. Work completed under ENV.02.13 - Environmental Footprint of the Canadian Beef Industry and FOS.10.13 - Surveillance of <i>E. coli</i> , enterococci, antimicrobial resistance (AMR) and Enterococcus species distribution in beef operation-associated environments and new work being conducted under ENV.07.17 - A regionalized life cycle impact assessment model for the quantification of Canadian Beef production impacts on biodiversity, ENV.09.17 - Assessment of occurrence of synthetic hormones (melengestrol acetate & trenbolone acetate) and beta-agonist (ractopamine) in cattle operations and associated environments, and ENV.15.17 - Economic and environmental impacts associated with removal of productivity-enhancing technologies in the Canadian beef cattle industry are filling recognized knowledge gaps and informing widespread producer and public communication about the environmental impacts of beef production in Canada.

OUTCOMES	OBJECTIVE	STATUS	COMMENTS
FOCUS AREA D: SUSTAINABILITY (CONT'D)			
Maintain the Canadian beef industry's social license to operate through validating production practices and identifying opportunities for continuous improvement in areas of public concern	Improve uptake and understanding of the Beef Code of Practice through the development and producer uptake of the Verified Beef Production Plus (VBP+) Program and National Cattle Feeders Feedlot Assessment Tool	Ongoing	<p>An animal care module based on the Beef Code of Practice has been incorporated into the VBP+ program. NCFA working with CCA to align industry programs, particularly embedding the Canadian Feedlot Animal Care Assessment Program (CFAC) program as a module within VBP+ and CRSB.</p> <p>Awareness and uptake is also being measured in the CRSB's National Beef Sustainability Assessment.</p>
	Initiate the five-year review of the Code of Practice for the Care and Handling of Beef Cattle with consideration for advances in science, production practices, availability of new technologies, and public expectations.	Ongoing	The five-year review of the Code of Practice is currently underway.
	Active participation in international forums (ISO, OIE) on animal care and handling to ensure Canadian beef production practices are appropriately represented and understood as new international standards are developed.	Ongoing	Participation in international forums is ongoing.



SUPPORTING GENETIC SELECTION THROUGH RESEARCH, DATA AND TOOLS IS PROGRESSING. GENOMIC TESTING WAS ENCOURAGED WITH BREED ASSOCIATIONS SO THAT DATA COULD BE INCORPORATED INTO EXPECTED PROGENY DIFFERENCES (EPDS). CBBC SIGNED A MEMORANDUM OF UNDERSTANDING WITH CHINA AGRICULTURE UNIVERSITY TO PURSUE MUTUALLY BENEFICIAL RESEARCH PROJECTS - SHARING TECHNICAL AND PRODUCTION INFORMATION SPECIFIC TO BEEF FOR A SIMILAR CLIMATE TO CANADA.



Research identified optimal combinations of annual crops, agronomic practices and regional variation that provide the most economical extended grazing practices to meet the cow herd’s nutritional requirements through the winter-feeding period. Breeding programs for native plant materials, legumes and grasses, produced several potential lines for commercialization. Progress was achieved in characterizing yield and agronomic attributes

of triticale and other annual forage crops. One new barley variety was released and commercialized in 2018; three new triticale varieties were released in 2018, two of which are commercially available. Knowledge dissemination and technology transfer programs focused on accelerating the uptake of research outcomes by industry. Various mechanisms were developed on BeefResearch.ca and used to communicate

research results with industry in useful and meaningful ways, including tools that support economical and science-based production decisions. Modules on biosecurity, animal welfare and environment were added to the Verified Beef Production Plus Program (VBP+). As well, work was done to embed the Canadian Feedlot Animal Care Assessment Program into VBP+. VBP+ has been approved as one of the first

Certification Bodies for CRSB’s *Certified Sustainable Beef Framework*. Enhancing information flow has occurred through the McDonald’s and Cargill pilots to verify production of sustainable beef. However, new technology that is available through blockchain requires this area to be further developed and modifications made to track cattle through the supply chain.

OUTCOMES	OBJECTIVE	STATUS	COMMENTS
FOCUS AREA A: GENETIC SELECTION			
Improve cattle performance for desired traits; transitioning research into information tools and technologies that can be applied within the seedstock sector	Work with seedstock organizations to identify areas of priority for improvement, ensure accurate data management, and support genetic improvement programs	Ongoing	The collaboration between seedstock organizations, academia and commercial industry on the CBIN initiative is underway. Once operational, the CBIN will collect phenotype data from purebred and commercial operations which along with genomic information and other sources, will be used for genetic improvement.
	Identify cattle genetics for efficient growth with minimal negative impacts on other economically important traits and develop methods to combine genetic markers and seedstock information to practically select for those traits	Ongoing /Needs modification	<p>Breed associations have established a feed efficiency EPD that can be used to genetically select for feed efficiency. There is still more opportunity to select for cattle with lower greenhouse gas emissions and are healthier while not compromising economically important traits such as milk production or growth.</p> <p>Research initiated under FDE.17.13 - Improvement of cow feed efficiency and the production of consistent quality beef using molecular breeding values for RFI and carcass traits is being continued under FDE.06.17 - Genetic analyses of feed intake, feed efficiency, female fertility, and cow lifetime productivity in beef cattle raised under two environments.</p>
	Identify cattle genetics that demonstrate favorable maternal traits and develop methods to combine genetic markers and seedstock information to practically select for those traits	Completed	The majority of breed associations have EPDs for maternal traits which generally revolve around milk production and calving ease. There are discussions on developing an EPD for fertility using first breeding heifer pregnancy data.
		Ongoing	FDE.13.17 - Identification of causal mutations located in distortion regions in beef cattle genome associated with bull and cow fertility and its links to feed efficiency will contribute to achieving this objective
	Identify cattle genetics with desired carcass yield and quality characteristics and develop methods to combine genetic markers and seedstock information to practically select for those traits	Ongoing	<p>Several breed associations have begun implementing carcass EPDs. This is challenging due to lack of connectivity between grading at the packing plants and linking animals genetically, so ultrasound information is used to develop EPDs. Seedstock producers also utilize ultrasound technology and have information available to commercial bull buyers at sale time to allow for selection of desired carcass traits.</p> <p>Markers identified under FDE.17.13 - Improvement of cow feed efficiency and the production of consistent quality beef using molecular breeding values for RFI and carcass traits will contribute to achieving this objective, once independently validated.</p>
	Facilitate the transfer of information between seedstock producers and packers to allow breeders access to carcass data to inform their genetic selection and commercial customer service programs	Needs modification	Efforts are underway with the development of the Canadian Beef Improvement Network (CBIN) and is partially accomplished through BIXS.

OUTCOMES	OBJECTIVE	STATUS	COMMENTS
FOCUS AREA A: GENETIC SELECTION (CONT'D)			
Improve cattle performance for desired traits; transitioning research into information tools and technologies that can be applied within the seedstock sector	Encourage greater technology adoption to facilitate genetic improvement	Ongoing	<p>The CBBC, breed associations, BCRC, academia and beef industry organizations are currently developing the Canadian Beef Improvement Network (CBIN) which will encourage further genetic improvement of Canadian beef cattle.</p> <p>CBBC, BCRC, provincial governments, service providers, and academic institutions have engaged producers on adopting new technology to improve a variety of farm operations including genetic selection and improvement.</p> <p>TEC.01.13 - Improving Technology Transfer and Knowledge Dissemination in the Canadian Beef Industry and</p> <p>TEC.01.17 - Enhancing Technology Transfer in the Canadian Beef Industry are focused on encouraging awareness, investigation and adoption of new technologies and production practices with the potential to improve on-farm productivity, profitability, animal care and environmental sustainability practices.</p>
	Increase producer knowledge regarding genetics and how to effectively apply that information in commercial operations	Ongoing	CBBC and breed associations have engaged with producers on multiple occasions on how to apply EPDs and genomic information into selecting cattle for commercial operations.
Improve genetic selection for non-traditional traits (structural soundness, udders, temperament, longevity)	Encourage the use of available tests to identify and eliminate undesirable genetic conditions from the breeding population	Completed	Breed associations have adopted policy and procedures to effectively remove known undesirable genetic conditions from their respective populations with minimal negative economic impact to producers.
	Encourage the development and adoption of genetic evaluations for additional economically relevant traits (e.g. structural soundness, conformation, udder structure, longevity)	Ongoing	There are continual improvements and additions along with new genetic evaluations systems as in the BOLT (Biometric Open Language Tools) system offered by IGS (American Simmental) or the Single Step system offered by AGI (Angus Genetics Inc.). Several breed associations have implemented or are in the process of implementing EPDs for tit and udder, feet and leg, longevity and sustainability, as well as feed efficiency.
Encourage adoption of superior genetics in commercial herds	Develop and deliver artificial insemination training / information programs for commercial producers	Ongoing	<p>Semen companies have extensive networks across Canada and globally to train and provide information on utilizing artificial insemination. Courses are offered on a regular basis from post-secondary institutions for AI training.</p> <p>Several producer-focused communication initiatives conducted under TEC.01.13 and TEC.01.17 have focused specifically on artificial insemination.</p>

OUTCOMES	OBJECTIVE	STATUS	COMMENTS
FOCUS AREA A: GENETIC SELECTION (CONT'D)			
Encourage adoption of superior genetics in commercial herds	Develop and deliver information sessions one evaluating cattle with EPDs and genomics	Ongoing	The CBBC and breed associations have hosted or presented at information sessions on multiple occasions across Canada to both domestic and international producers. There will be sessions specific to this topic held on a regular basis at the Canadian Beef Industry Conference (CBIC).
	Develop breeding program templates based on cross-breeding	Not Started	There are multiple models utilized by commercial farms that can be emulated by other producers. There is ongoing research being conducted and the development of the EnVigor HX breed composition test which will assist in selection practices for commercial cattle herds. However, recommended cross-breeding programs (templates) have not been developed by the industry and may not be necessary.
FOCUS AREA B: RESEARCH & DEVELOPMENT			
Improve forage and grassland productivity	Increase the yields and nutritional quality of tame and native annual and perennial pastures by 33% through improved pasture, hay and grazing management, plant breeding, and variety selection recommendations.	Ongoing	Numerous projects funded under the Forage & Grassland Productivity pillars of the 2013-18 and 2018-23 Beef Science Clusters have focused on improved forage quality and yields. For more information, see http://www.beefresearch.ca/about/funding/canadas-beef-science-cluster.cfm
	Quantify the ability of different grass, legume, and annual forage varieties and species to maintain nutritional quality throughout the grazing season and in extended stockpiled or swath grazing systems to help inform producers' seed selection decisions	Ongoing	Numerous projects funded under the Forage & Grassland Productivity pillars of the 2013-18 and 2018-23 Beef Science Clusters have focused on improved forage quality and yields. For more information, see http://www.beefresearch.ca/about/funding/canadas-beef-science-cluster.cfm
	Quantify the environmental footprint and socioeconomic impact of Canada's forage-beef sector, considering the effects of optimal environmental production practices	Ongoing	Work completed under ENV.02.13 - Environmental Footprint of the Canadian Beef Industry and being conducted under ENV.07.17 - A regionalized life cycle impact assessment model for the quantification of Canadian Beef production impacts on biodiversity, ENV.09.17 - Assessment of occurrence of synthetic hormones (melengestrol acetate & trenbolone acetate) and beta-agonist (ractopamine) in cattle operations and associated environments, and ENV.15.17 - Economic and environmental impacts associated with removal of productivity-enhancing technologies in the Canadian beef cattle industry are filling recognized knowledge gaps and informing widespread producer and public communication about the environmental impacts of beef production in Canada.
Improved feed grain productivity and feed efficiency	Genetic selection to improve the feed efficiency of commercial cattle, considering impacts on other economically relevant beef production traits and potential interactions between feed efficiency genotype and animal management	Ongoing	Research into this question was initiated under FDE.17.13 - Improvement of cow feed efficiency and the production of consistent quality beef using molecular breeding values for RFI and carcass traits and is continuing under FDE.06.17 - Genetic analyses of feed intake, feed efficiency, female fertility, and cow lifetime productivity in beef cattle raised under two environments. FDE.13.17 - Identification of causal mutations located in distortion regions in beef cattle genome associated with bull and cow fertility and its links to feed efficiency will also support this objective.

OUTCOMES	OBJECTIVE	STATUS	COMMENTS
FOCUS AREA B: RESEARCH & DEVELOPMENT (CONT'D)			
Improved feed grain productivity and feed efficiency	Improve feed supply and utilization through plant breeding, variety testing, improved agronomics, evaluating alternative feeds, and developing feeding and production systems that improve feed efficiency	Ongoing	Numerous projects funded under the Forage & Grassland Productivity and Feed Grains & Feed Efficiency pillars of the 2013-18 and 2018-23 Beef Science Clusters have focused on this objective. For more information, see http://www.beefresearch.ca/about/funding/canadas-beef-science-cluster.cfm
	Develop nutrient management decision tools that consider diet nutrient composition, manure handling and transport costs, value of manure nutrients and organic matter, management systems, soil types and nutrient uptake by crops	Not started	This priority research outcome was not addressed in research funded under the 2018-23 Beef Science Cluster and will be further explored in upcoming BCRC calls for proposals outside of the Cluster.
	Improve the surveillance of production limiting disease and welfare issues by developing improved diagnostic tests, conducting a nation-wide cattle health and welfare benchmarking survey, and developing a national production limiting disease surveillance program	Ongoing	Research supported through ANH.23.13 - Implementation of a longitudinal disease surveillance network for cow-calf operations in Western Canada and ANH.21.17 - The Canadian Cow-Calf Surveillance Network are intended to contribute to the development and implementation of a formal beef cattle health and disease surveillance system. Other projects aimed at developing diagnostic tests for specific diseases are also summarized at http://www.beefresearch.ca/about/funding/canadas-beef-science-cluster.cfm
Improved feed grain productivity and feed efficiency	Develop cost-effective methods to objectively quantify and mitigate pain and stress in beef cattle under production conditions, benchmarks to understand the additive effects of production practices on pain, stress, immunity and health, and a scientifically valid beef cattle welfare audit program	Ongoing	Work completed under ANH.21.13 - Effect of age and handling on pain assessment and mitigation of common painful routine management procedures and work being initiated under FDE.01.17 - Determining the minimum fibre requirement for feedlot cattle and improving the empirical prediction of ruminal pH, ANH.05.17 - Identification of treatment strategies for the most common causes of lameness in feedlot cattle, ANH.06.17 - Effect of rest stop duration and quality on the behaviour and welfare of cattle transported by road is contributing to this objective.
	Identify and develop strategies to improve the effectiveness of vaccination and parasite control programs and reduce the incidence of reproductive failure, neonatal loss, metabolic diseases in feedlot cattle and the need for antimicrobial drugs to prevent or treat disease.	Ongoing	Work completed under ANH.33.13 - Improving the barrier function of the gut: an approach to minimize production limiting disease and being conducted under ANH.04.17 - Assessing economic impacts and developing models for evidence-based decision support systems for sustainable parasitic roundworm control in Canadian beef cattle, ANH.30.17 - Investigating antimicrobial resistance (AMR) and virulence factors of Mycoplasma bovis and AMR.10.17 - Characterizing the microbiome of beef cattle to identify risk factors that affect respiratory health are contributing to this objective.

OUTCOMES	OBJECTIVE	STATUS	COMMENTS
FOCUS AREA C: TECHNOLOGY DEVELOPMENT & ADOPTION			
Engage academic and research organizations to encourage the development of new technologies that will benefit the beef cattle industry	Enable and encourage communication and collaboration between industry and research organizations to understand industry needs for innovation and translate it into research	Ongoing	<p>The CCA Value Creation and Competitiveness Committee is being reviewed with the intent to focus more on this area.</p> <p>TEC.01.13 - Improving Technology Transfer and Knowledge Dissemination in the Canadian Beef Industry and</p> <p>TEC.01.17 - Enhancing Technology Transfer in the Canadian Beef Industry are focused on encouraging awareness, investigation and adoption of new technologies and production practices with the potential to improve on-farm productivity, profitability, animal care and environmental sustainability practices.</p>
	Achieve industry-wide support for the National Beef Research Strategy ensuring industry's research priorities are adequately addressed and maximizing the value of research investments	Ongoing	Efforts to further encourage adoption of the 2018-23 Canadian Beef Research & Technology Transfer Strategy continue through the Beef Value Chain Roundtable's research committee
	Mentorship opportunities for young or new researchers with established, industry-respected researchers and other industry experts	Ongoing	12 scientists have completed the BCRC's Beef Researcher Mentorship program as of 2018, with another four selected to participate in 2018/19. The intent is to continue this program for the foreseeable future. The BCRC has also supported six CYL participants with an expressed interest in beef research.
Ongoing industry surveillance of international and domestic research and technology transfer activities, which are aligned with the National Beef Research Strategy, to identify potential technologies and innovations that could be adapted and/or adopted within the Canadian beef industry		Needs modification	After numerous discussions, it appears that facilitating the design and execution of trials designed to validate the applicability and cost-effectiveness, under Canadian conditions, of new practices and technologies developed elsewhere in the world may be a better approach. BCRC is considering funding options to align with this during its annual planning process
Increase the proportion of producers adopting new technology with reduced lag from development to adoption	Continually develop and widely distribute information with a variety of technical content, topic and format (e.g. fact sheets, blog articles, webinars, videos, cost of production tools, podcasts, radio, workshops, etc.)	Ongoing	<p>TEC.01.13 - Improving Technology Transfer and Knowledge Dissemination in the Canadian Beef Industry and</p> <p>TEC.01.17 - Enhancing Technology Transfer in the Canadian Beef Industry are focused on encouraging awareness, investigation and adoption of new technologies and production practices with the potential to improve on-farm productivity, profitability, animal care and environmental sustainability practices. For details, see www.beefresearch.ca</p>

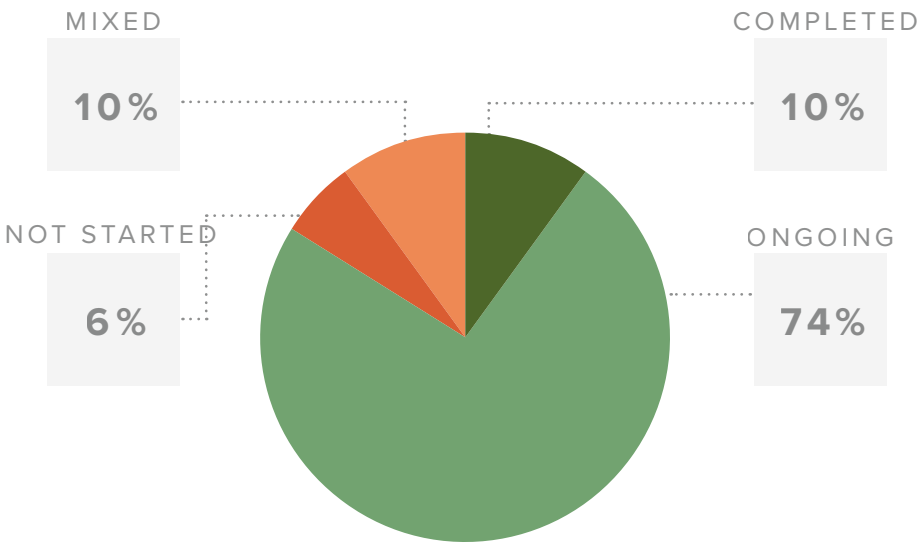
OUTCOMES	OBJECTIVE	STATUS	COMMENTS
FOCUS AREA C: TECHNOLOGY DEVELOPMENT & ADOPTION (CONT'D)			
Increase the proportion of producers adopting new technology with reduced lag from development to adoption	Develop BeefResearch.ca into a comprehensive resource for beef, cattle and forage research information and effective extension tools for easy access to industry stakeholders and increased collaboration among extension groups	Ongoing	See above
	Promotion of BeefResearch.ca and other extension resources to increase awareness of and motivation to understand and adopt innovation	Ongoing	See above
	Provide economic analyses regarding the benefits of adopting new technology	Ongoing	See above. For details, see http://www.beefresearch.ca/resources/decisiontools.cfm
	Communicate the benefits of increased focus on technology transfer to encourage funding and best practice	Ongoing	See above
	Require and review technology transfer plans and budgets in project proposals, with release of funds contingent on appropriate implementation of transfer efforts	Ongoing / Needs modification	Few research funding proposal forms require a clearly defined technology transfer plan. Consequently, we have developed our own, and this is a work in progress.
	Continually improve knowledge dissemination and technology transfer effectiveness	Ongoing	See above
	Achieve adoption of best technology transfer practices industry-wide; collaborating with other organizations and researchers to share resources and improve adoption	Ongoing	Under TEC.01.17 - Enhancing Technology Transfer in the Canadian Beef Industry the BCRC will endeavor to develop a cross-country network of technology transfer expertise, identify key priorities in terms of technologies or production practices with the potential to benefit the greatest number of Canadian beef producers, develop information resources and tools to address these opportunities, and facilitate the distribution of these resources to extension teams across the country to encourage their adoption.
Effectively communicate the market demands of end users and customers through the production chain utilizing information technology systems and verification programs	Continued development and implementation of the Beef InfoXchange System (BIXS), with a focus on continuing to increase industry participation at the producer and processor level	Needs modification	BIX Systems is now privatized and aiming towards an initial public offering (IPO). Fundraising plans include a modernization of the BIXS system including a potential prototyping of blockchain technology, and the expansion into both additional commodities and into other countries.

OUTCOMES	OBJECTIVE	STATUS	COMMENTS
FOCUS AREA D: ENHANCE INFORMATION FLOW			
Effectively communicate the market demands of end users and customers through the production chain utilizing information technology systems and verification programs	Develop and implement additional auditable Verified Beef Production modules in the areas of sustainability, biosecurity, while continuing to increase producer participation of the VBP on-farm food safety program	Completed	The CRSB has launched the <i>Certified Sustainable Beef Framework</i> , which is a voluntary, outcome-based certification program.
		Ongoing	The additional modules have been developed and incorporated into VBP+ and are recognized as equivalent with the CRSB's Sustainable Beef Production Standard. VBP+ audit requirements and schedules are aligned with the CRSB's certification framework. The Canadian Beef Sustainability Acceleration pilot is seeking to increase the supply of beef from certified sustainable operations in Canada.
Facilitate genetic improvement with the link to genetic, genomic and branded beef program information	Develop and implement the Beef Records Universal Translator (BRUT) software to facilitate the interfacing of a multitude of existing and emerging software programs with BIXS 2.0.	Needs modification	With the pending IPO of BIX Systems cost related activities like this may now be undertaken with the potential for additional funds.
	Enable phenotypic information to flow from commercial to seedstock producers so that it can be combined with genomic information, thereby enhancing the accuracy of genetic evaluations for feedlot and carcass traits and lifetime profitability indexes.	Not Started	This will be accomplished with the Canadian Beef Improvement Network initiative which is currently under development and awaiting funding. There is support from CBBC, Breed Associations, Industry and Academia.
	Based on industry feedback and available resources, continuously improve the BIXS 2.0 data fields to encompass value data of economic benefit across supply chain segments (e.g. ID, birthdate, breed/cross/gender, diet/ration, weights; move in/out; VBP, branded beef, breed program attributes; vaccination and health treatments and other specific management practices; genetic test results; weights) based on sound business logic to do so.	Completed	
BIXS 2.0 will be the industry's common repository database, and actions will be taken to ensure a minimum of 2 million calves per year are entered in the database	Focus design specification and development on quicker/easier registration, improved import/export functionality; and emphasize only data points of economic significance across segments to foster improved uptake of BIXS 2.0	Needs modification	With the pending IPO of BIXS and their expansion into additional services like the Financial Interest Notification System (FINS) and the growing producer engagement in the Canadian Beef Sustainability Acceleration Pilot, there is a sense momentum might be growing.

OUTCOMES	OBJECTIVE	STATUS	COMMENTS
FOCUS AREA D: ENHANCE INFORMATION FLOW (CONT'D)			
BIXS 2.0 will be the industry's common repository database, and actions will be taken to ensure a minimum of 2 million calves per year are entered in the database	Leverage BIXS data and target direct benefits for industry participants including: verification/validation services, aggregate data analysis, benchmarking, genomics data warehousing, real-time data for sales, and enabling downstream distributors (e.g. retail) access to animals with characteristics specific to a target market	Completed	Available
	Address key issues pertaining to Benefits Validation and Evolution; Financial Sustainability; BIXS 2.0/CCIA Relationship; Developer Relationships; and, Inter-Operability with current and emerging beef industry web applications	Needs modification	BIXS believes going public will provide them with the necessary funds to expand their service offering and improve the overall User Experience (UX) and User Interface (UI).
	Fully automate the initial version of the Source Utility (SU) functionality to enable users to query the BIXS 2.0 database and connect with suppliers	Needs modification	With the pending IPO of BIXS cost related activities like this may now be undertaken with the potential for additional funds.
Develop regular reporting mechanisms, improve collaboration and services provided	Starting in the fall/winter 2014 retailers and foodservice will be approached to determine the feasibility of developing a more formal, regular, and forward-looking retailer/consumer trend report	Not Started / Needs modification	Have not proceeded with this formal project due to budget constraints. There is some propriety research that has been completed by Canada Beef that would inform any process moving forward.
	Continued collaboration with associations, packers and retailers in the development and integration of value chain programs with BIXS. The primary focus initially will be on the potential for sourcing based on specific attributes.	Ongoing	The Canadian Beef Sustainability Acceleration Pilot is demonstrating the opportunities to integrate the beef value chain and the ability to capture additional value which is shared with industry participants.
	Help existing value chains (e.g. the BC Beef Quality Information System, and an Ontario packer's breed-based grid pricing program to direct premium paybacks to primary producers fully integrated with BIXS 2.0)	Ongoing	The Canadian Beef Sustainability Acceleration Pilot is demonstrating the opportunities to integrate the beef value chain and the learnings from this are transferrable to other alliance and attribute-based programs.
	Ensure detailed carcass data continues to move from major packing facilities across Canada into BIXS 2.0 linked to the CCIA Tag ID	Ongoing	Partial progress
Research technologies to enhance the ability to sort cattle, carcasses at line speed in packing plants, and product by quality		Ongoing	Research being conducted under BQU.08.17 - Development of yield prediction tools to optimize carcass cut-out value will contribute to this objective. Work has been completed under an AAFC AIP (Agriculture Innovation Program) project as well as other research funded by Alberta Agriculture.



THE CREATION OF THE NATIONAL BEEF STRATEGY GAVE UNIFIED DIRECTION AND ALIGNMENT FOR THE BROADER BEEF INDUSTRY TO DRIVE FUTURE SUCCESS AND COMPETITIVENESS. OVER THE LAST FOUR YEARS, INDUSTRY CONNECTIVITY HAS BEEN SUPPORTED THROUGH THE DEVELOPMENT OF THE CANADIAN BEEF INDUSTRY CONFERENCE (CBIC), THE PUBLIC AND STAKEHOLDER ENGAGEMENT PROGRAM AND THE ESTABLISHMENT OF THE BEEF ADVISORS AS A LEADERSHIP GROUP FOR MACRO INDUSTRY ISSUES AND INITIATIVES.



Industry synergies and coordination have been supported through weekly beef forum calls with CCA, CMC, and other stakeholders to discuss emerging issues to coordinate effective responses and work with other organizations' policy staff to align messaging prior to communicating with government.

Awareness of programs targeting youth and those interested in being advocates for the industry has been enhanced with the Cattlemen's

Young Leaders (CYL), Young Cattlemen's Council (YCC) and Beef Advocacy Canada.

Numerous industry events, technical forums, open houses and missions, for the purpose of connecting and engaging with producers, consumers, public, government, researchers and industry partners have taken place.

The CRSB has brought the beef industry into contact with a diverse group of conservation

groups interested in the beef industry.

Government relations are built through meetings in Ottawa, the picnic on the hill and reception at the CCA AGM. Greater investment by the CMC on beef related issues is welcomed in Ottawa. Global connections have been fostered through the International Beef Alliance, International Meat Secretariat, and the Global Roundtable for Sustainable Beef.

OUTCOMES	OBJECTIVE	STATUS	COMMENTS
FOCUS AREA A: INDUSTRY COMMUNICATION			
Timely concise, and effective delivery of crisis communications within industry	Ensure coordination of communication between national organizations (Canadian Cattlemen's Association, Canada Beef, Canadian Beef Breeds Council, Canadian Meat Council, National Cattle Feeders Association, other commodities, etc.)	Ongoing	Creation of Beef Advisors and Public and Stakeholder Engagement Program (PSEP) Crisis communication plans were updated Helped establish the Public Trust Steering Committee for all commodities
	Ensure the timely transfer of information to provincial associations and other industry organizations to ensure they are prepared to handle media inquiries	Ongoing	Well Advanced with PSEP Issue Response/Communication team developed with a rep from each national and provincial organization to share information and address consumer issues efficiently Regular updates and communications to be refined
Development of a Reputation Management Strategy including the creation of an Issues Management position (also mentioned under Demand Pillar – Consumer Confidence)	Proactive cross organization plan that facilitates the management of issues related to industry reputation through strategic response to issues	Completed Part 1/ Ongoing/ Not started	The Public and Stakeholder Engagement strategy has been written. Specific tactics for issues are in development; draft Issue response decision trees have been developed. There is a need to prioritize issues for proactive plans. The reputation management strategy has not been started yet.
	Ensure the continuous monitoring of polling data and issues, while developing appropriate resources and messages to enable industry to speak consistently.	Not Started/ Ongoing	Continuous monitoring not started. Resources and messages developed, in development, or updated.
	Make information easily understood and readily accessible to assist producers in being industry advocates.	Ongoing	Numerous (20+) key message documents developed. Key messaging communication materials were gathered from industry partners and distributed (i.e. Worried About).
Enhance industry's ability to speak with a common voice	As part of the Reputation Management Strategy develop messaging appropriate for each sector's territory to enable industry to speak with one voice	Ongoing	Most messaging developed for cross sector alignment. Specific sector messaging in development with organizations that represent that sector (i.e. Halal/Kosher messaging)
	Provide ongoing development of approved key messages for use on Twitter and social media for youth (CYL, YCC, BAC, etc.) and industry program alumni to utilize	Ongoing	Active on various social media platforms and on http://beefadvocacy.ca
	Successfully train through the Beef Advocacy Canada (BAC) program 1,000 in level one, 750 in level two, and reach 200 graduates with media training by 2019	Ongoing	Course 1: 470 Course 2: 164
	Encourage provincial associations and their members to engage in social media using approved messaging providing resources and social media policies for adaptation	Ongoing	Provincial associations participating in social media Social media strategy to be developed 2018-2019

OUTCOMES	OBJECTIVE	STATUS	COMMENTS
FOCUS AREA A: INDUSTRY COMMUNICATION (CONT'D)			
Increase the number of future leaders that are able to speak and advocate on behalf of Canada's beef and agricultural industry	Beef industry organizations increase coordination with the Young Cattlemen's Council (YCC) in the implementation of approved advocacy projects and social media efforts	Ongoing	Beef Advocacy Canada (BAC) has been in coordination with the Young Cattlemen's Council (YCC). YCC is partnering with BAC in a CAAP project.
Increase the number of future leaders that are able to speak and advocate on behalf of Canada's beef and agricultural industry	Empower the YCC and its members to provide input into CCA policy direction and actively work towards a more coordinated communication effort on key issues facing the Canadian beef industry	Ongoing	YCC recent put out a survey to its membership to identify key issues for youth. YCC also is working with CCA on coordinating efforts to participate in Lobby Fly-Ins.
	Establish international networks and relationships through participation in the Five Nations Beef Alliance Young Leaders program	Ongoing	Both CYL and YCC send representatives to the International Beef Alliance annually.
	Provide industry specific training and mentorship through the Cattlemen's Young Leaders (CYL) program to 88 beef enthusiasts by 2019, providing participants with a chance to explore a potential career choice or involvement in provincial/national producer groups, while gaining industry knowledge and contacts	Ongoing	To date, CYL has supplied mentorship to over 100 young producers. Many graduates are also coming back into industry, sitting on boards, and working within organizations.
	Development and implementation of the CYL Step 2 initiative to develop and deliver beef industry leadership training; including training to young beef leaders in governance, business skills development, succession and farm planning, and advocacy	Completed	Each year, the CYL group participates in Spring Forum, at which time they are offered training opportunities, including negotiations training and governance training. CYL's also work closely with BAC to advocate for the industry.
	Expanding young leader advocacy efforts through the creation of videos promoting industry and providing face to face experiences with beef producers (i.e. Ag More Than Ever campaign, Through the Fence, Behind the Beef, and CBI)	Ongoing	Live Facebook videos are available on http://beefadvocacy.ca/

OUTCOMES	OBJECTIVE	STATUS	COMMENTS
FOCUS AREA B: ENGAGE INDUSTRY PARTNERS			
Continue to engage the National Beef Strategic Planning Group (NBSPG), a broad group of representative stakeholders, to oversee the creation of a National Strategic plan for the beef and cattle industry	Gain consensus and buy-in from stakeholders regarding the Strategic Plan	Completed	See Beefstrategy.com Annual theme of the Canadian Beef Industry Conference on each of the pillars.
	Pursue alignment of the operational plans of industry's marketing, research, and policy organizations to ensure all outcomes are achieved	Ongoing	All key national industry groups (along with many others) were invited to participate in the renewal and development of the 2018-23 Canadian Beef Research & Technology Transfer Strategy. Open CCA meetings allow for contributions from the gallery.
	Facilitate ongoing discussions and engagement of the NBSPG on a formal and informal basis to identify industry priorities, determine the most appropriate allocation of resources, and encourage increased collaboration across organizations on an ongoing basis	Ongoing	The Canadian Beef Advisors meet twice a year and include representatives from seven national organizations (CBBC, CCA, Canada Beef, BCRC, CRSB, NCFA, CMC).
	Engage additional stakeholders in consultations for the Strategic Plan through the use of webinars, social media tools, and if appropriate an industry forum to gain feedback	Completed	Materials can be found at: Beefstrategy.com
Move towards the creation of an annual national industry event that sees multiple industry organizations conduct their annual or semi-annual meetings (i.e. CCA, NCFA, CBBC, CBI, and other willing groups).	Bring together a large audience of producers to engage in multiple meetings and place continued focus on the Strategic Plan, with annual performance reporting and priority discussions	Ongoing	CBIC with its various business meetings and sessions has proven to be a successful event where producers can see how each organization is contributing to the industry objectives.
	Facilitate formal and informal collaborations between industry leaders, staff, and stakeholders to encourage ongoing discussions and exchanges of information regarding issues and opportunities of priority	Ongoing	Formation and expansion to seven national groups in the Canadian Beef Advisors. Many discussions formal and informal held at the Canadian Beef Industry Conference (CBIC).
Expand cross organizational learning and stakeholder engagement opportunities through the expansion of current programs such as Town Halls, webinars, lunch and learns, Beef Advocacy Canada, and other opportunities.		Ongoing	The Public and Stakeholder Engagement program has participated in several townhalls across the country Beef Advocacy Canada is conducting live videos on Facebook National Communications Managers group established to discuss issues and share information across organizations

OUTCOMES	OBJECTIVE	STATUS	COMMENTS
FOCUS AREA B: ENGAGE INDUSTRY PARTNERS (CONT'D)			
Encourage greater stakeholder engagement in the Young Cattlemen's Council, Cattlemen's Young Leaders, and other programs including direct participation, being a mentor, or networking with participants		Ongoing	
FOCUS AREA C: ENGAGE GOV'T, INDUSTRY/GLOBAL PARTNERS			
Engage government and regulatory agencies to build and maintain long-term relationships	Continued investment in long-term relationships with government bureaucrats and elected officials to establish trust, transparency, and build credibility in order to encourage open dialogue and communication channels that are available in times of crisis and normalcy.	Ongoing	
Engage government and regulatory agencies to build and maintain long-term relationships	Encourage industry to speak with one voice when engaging government to ensure clarity of priority and direction.	Ongoing	Weekly "beef forum" calls with CCA, CMC, NCFA and other stakeholders to discuss issues as they emerge and coordinate an effective response. There have been a number of "trilateral" joint communications to government on a number of issues. Coordination of policy staff between organizations to align messaging prior to communicating with government.
	Active participation in government/forums such as the national Beef Value Chain Roundtable, Beef Cattle Trade Advisory Group, and others to ensure continued progress is made on files of priority to the industry.	Ongoing	
Participate in end user and consumer discussions and forums to obtain feedback and provide information regarding the Canadian beef industry	Producer participation in retail/end user marketing initiatives	Ongoing	Direction is correct and should be continued. Continue to act as a conduit to connect downstream partners to grassroots producers.
	Participation in end user consumer forums (i.e. McDonald's Mom's Quality program)	Ongoing	Direction is correct and should be continued.
	Conduct proactive communications to educate consumers and the public about the Canadian beef industry and work to create an ongoing relationship where they turn to industry for their information	Not Started	Starting in 2018 with the increased NCO funding, will use Canada Beef's social media outreach to communicate the Canadian beef story. Continue to use Canada Beef's social media outreach to communicate the Canadian beef story.

OUTCOMES	OBJECTIVE	STATUS	COMMENTS
FOCUS AREA C: ENGAGE GOV'T, INDUSTRY/GLOBAL PARTNERS (CONT'D)			
Invest in developing long-term relationships with other domestic and international organizations encouraging collaboration on priorities of mutual interest (i.e. trade agreements, animal health and care, government policy and programming, research, and marketing) and open discussion when differences arise		Ongoing	International Beef Alliance, International Meat Secretariat, GRSB, Canada/ United States/ Mexico Tri-lateral meetings, Pacific NorthWest Economic Region (PNWER), State Agriculture and Rural Legislators (SARL), World Organization for Animal Health (OIE), World Trade Organization, Food and Agricultural Organization of the United Nations (FAO)
		Not started	Initial opportunities to investigate whether practices and technologies developed elsewhere in the world have potential application to Canada's climate and production system will be pursued once a workable approach to do so has been formulated.



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