MCDONALD'S SUSTAINABLE BEEF PILOT

Final Report | June 1, 2016

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WHY MCDONALD'S INVESTED

WHY DID MCDONALD'S INVEST IN THE PILOT?

McDonald's envisions a world in which all aspects of the beef value chain are environmentally sound, socially responsible and economically viable. Being synonymous with burgers and as one of the largest purchasers of beef globally, McDonald's has the responsibility to lead the industry toward better and more sustainable outcomes when it comes to beef.

In 2011, McDonald's was one of 12 founding members that helped create the Global Roundtable for Sustainable Beef (GRSB), a multi-stakeholder organization that brings together key players in the beef industry – from ranchers to retailers – to help identify opportunities for continuous improvements in sustainability throughout the global beef supply chain.
www.grsbeef.org

GLOBAL ROUNDTABLE FOR SUSTAINABLE BEEF

WHY DID MCDONALD'S INVEST IN THE PILOT?

In 2014, the GRSB finalized a global set of principles and criteria for sustainable beef which McDonald's fully supports. We believe that no matter where in the world beef is produced, it should be done in a way that delivers on the following GRSB principles:

- **Natural resources:** Managing this planet's natural resources in a way that is responsible and enhances the health of the ecosystem
- **People and the community:** Respecting the men and women most affected by the production of beef and recognizing the impact beef production can have on community, culture and health
- **Animal health and welfare:** Caring for the health and welfare of the animals in our supply chain
- **Food:** Working together to ensure the safety and quality of the beef they sell
- **Efficiency and innovation:** Encouraging innovation that helps optimize beef production, reduce waste and contribute to long-term economic viability

Also in 2014, McDonald's made a global commitment to begin sourcing sustainable beef by 2016. Launching a Sustainable Beef Pilot project was the next step in our long-term strategy towards our vision and enabled proactive and responsible engagement of our global beef value chain.

McDonald's intended for our Sustainable Beef Pilot project (Pilot) to accomplish the following three objectives:

1. Begin purchasing a portion of our beef from verified sustainable sources in 2016
2. Bring the GRSB's Principles and Criteria to life through a locally-relevant, outcomes-based initiative
3. Support and accelerate development of an industry-led beef sustainability framework in the host geography

WHY CANADA

WHY DID MCDONALD'S CHOOSE CANADA FOR THE PILOT?

In review of our beef supply chains around the world, McDonald's determined that Canada was well suited to host the Pilot for three primary reasons:

1. **Canadian Beef Industry Leadership –** Leaders throughout the Canadian beef community expressed not just willingness but a desire to work with McDonald's on its beef sustainability initiative. The Alberta Livestock & Meat Agency (ALMA) provided grant funding that enabled further resources to be put towards concept testing and process development. Additionally, the already-established Canadian Roundtable for Sustainable Beef (CRSB) served as a natural owner for a long-term, industry-led sustainability framework.
   www.crsb.ca

CRSB
CANADIAN ROUNDTABLE FOR SUSTAINABLE BEEF
TABLE RONDE CANADIENNE SUR LE BOEUF DURABLE

Canadian Beef Industry Leadership

CCA CANADIAN CATTLEMEN'S ASSOCIATION
National Voice Of Cattle Producers

ALMA Alberta Livestock and Meat Agency Ltd.

MANITOBA BEEF PRODUCERS

Alberta Beef Producers

WHY DID MCDONALD'S CHOOSE CANADA FOR THE PILOT?

2. **Existing Programs and Tools –** Canada was already home to a significant number of programs and tools that would be critical for the success of a Pilot, including but not limited to: the Code of Practice for the Care and Handling of Beef Cattle, Beef InfoXchange System (BIXS), Environmental Farm Plans and Verified Beef Production (VBP) program. Existing industry organizations like the Cattlemen's Young Leaders (CYL) and Canada Beef also offered resources that supported the Pilot's efforts.

Existing programs critical to our success

WHY DID MCDONALD'S CHOOSE CANADA FOR THE PILOT?

3. **Our Commitment to Canadian Beef –** McDonald's Canada had already developed strong relationships across the Canadian beef community given that our 100% Canadian beef patties are made at the Cargill patty plant in Spruce Grove, AB using beef supplied by the Cargill processing plant in High River, AB and the JBS processing plant in Brooks, AB.

Cargill | High River, AB

PILOT STRUCTURE

HOW DID MCDONALD'S STRUCTURE THE PILOT?

McDonald's relied on our **Pilot Project Management Team** (PMT) to engage genuinely, collaboratively and persistently with trusted leaders, organizations and institutions throughout Canada's beef community. The timeline on the next page outlines key activities throughout the Pilot.

Andrew Brazier
McDonald's Corporation

Jeffrey Fitzpatrick-Stilwell
McDonald's Canada

Michele Banik-Rake
McDonald's Corporation (retired)

Emily Murray
Cargill

Gurneesh Bhandal
Cargill

Tim Hardman
World Wildlife Fund

Leann Saunders
Where Food Comes From, Inc.

Karen Haugen-Kozyra
Viresco Solutions

Greg Gardner
Arche Advisors

Matt Sutton-Vermeulen
Prasino Group

MCDONALD'S SUSTAINABLE BEEF PILOT TIMELINE

2014

Jan 2014
- Public announcement of the Pilot

Feb 2014 – Aug 2015
- Indicator development
  - Stakeholder engagement
  - Advisory board
- Multiplier strategy
  - Ongoing enrollment

Nov 2014 – Mar 2015
- Verifications
  - On-site beta-testing
    - Indicators
    - Verification process

Dec 2014 – June 2016
- Multiplier strategy
  - Call for proposals
  - Field workshops
  - Presentations
  - Youth Beef Club Initiative
- Chain of custody
  - Monthly updates

2015

Apr 2015 – Aug 2015
- Stakeholder engagement
  - Ongoing enrollment
  - Social media launch
- Indicator development
  - Producer indicators finalized
- Verifications
  - Wave 1 verifications
  - Verifications fully engaged

Sep 2015 – Mar 2016
- Stakeholder engagement
  - Ongoing enrollment
- Verifications
  - Ongoing field verifications
  - Verification reports sent

Nov 2015 – Mar 2016
- Information Sharing Initiative

Dec 2015 – Mar 2016
- Youth Beef Club Initiative
- Responsible Dairy Beef Initiative

2016

Apr 2016 – May 2016
- On-line Self-Assessment Initiative
- Verifications
  - Verification reports sent
  - Benchmark reports sent

Jun 2016
- Indicator development
  - Processor indicators finalized
- Wrap-up meeting

HOW DID MCDONALD'S STRUCTURE THE PILOT?

Stakeholder engagement – From the outset, the PMT enlisted leaders across the Canadian beef community to serve as thought partners during the Pilot's development and to help educate their broader peer groups about both the Pilot and the value of a Canadian beef sustainability framework. Many of the more critical contributions came from leaders of industry organizations, who not only supported peer education but also helped recruit a diverse set of producer participants for the Pilot.

A few of our stakeholders...

Alberta Beef Producers

Canadian Junior Angus Association CJAA

Saskatchewan Stockgrowers Association

Saskatchewan Jr. Angus Association

Beef Booster

Manitoba Beef Producers

Cargill

Cattlemen's Young Leaders

West Central Forage Association

Foothills Forage and Grazing Association

4-H Beef Clubs:

- *Holden*
- *Longview*
- *Hussar*
- *Durness*

Dairy Farmers of Canada

BIXS Beef Infoexchange System

Canadian Angus

Bow Valley Veterinary Clinic Ltd.

CCA Canadian Cattlemen's Association

HOW DID MCDONALD'S STRUCTURE THE PILOT?

Communications – The PMT and our industry partners hosted 33 workshops and presentations, which reached approximately 3,200 curious beef community stakeholders directly. We also executed broader outreach and enrollment initiatives focused on educating the industry on the Pilot's objectives and progress. For example, profiles were created to highlight participants as community leaders, feature their definitions of sustainable beef and bring the pilot to life through their families and operations.

We also created six YouTube videos where participants shared their thoughts and opinions about why they participated, what their definition of sustainable beef is and how they felt about the verification process itself. We multiplied and amplified our communications efforts through Twitter and Facebook to the Canadian beef community with over 90,000 total impressions during the Pilot.

Results of communications outreach

Communications type	People reached
In-person* outreach	3,200 participants
Facebook	17,418 views
Twitter	68,015 impressions
YouTube	1,432 views

** 33 events*

HOW DID MCDONALD'S STRUCTURE THE PILOT?

Indicator development – It was important to McDonald's and the PMT that the Pilot's indicators be locally-relevant, outcome-based and aligned with the GRSB's Principles and Criteria. We also quickly recognized that these indicators would necessarily differ for the distinct key segments of the Canadian supply chain (ranchers / backgrounders, feedlot operators and processors). Keeping all these considerations in mind, the PMT went to work drafting indicators. This effort required enlisting the help of 11 respected advisors and gathering insights from dozens of discussions with Canadian ranchers, feedlot operators and processors as well as representatives from retail, foodservice, academia, non-governmental organizations, government and industry associations. A beta-test group of producers also supported early testing and refinements of drafted indicators. The final Pilot Indicator sets respective to each supply chain segment can be found in the Appendix.

Outcome-based indicators – "Describe not Prescribe"

McDonald's Pilot indicators are outcome-based, in keeping with the GRSB's intended means of verification (as described in the GRSB's "Principles and Criteria for Sustainable Beef" document). Outcome-based metrics allow each producer to describe how they deliver the positive outcomes associated with a given indicator, rather than requiring the producer to stick to a prescribed list of practices. The way cattle are raised in Canada varies across landscapes, enterprises and production stages, so basing performance on outcomes enables different production systems to achieve the same objectives without mandating exactly how they get there. An outcome-based approach also protects the autonomy of individual producers to make decisions that best suit their own unique resources and business interests.

Advisory Board

Jackie Wepruk
General Manager, National Farm Animal Care Council

William Burnidge
Director, Sustainable Grazing Lands Program, The Nature Conservancy

Fawn Jackson
Manager, Environment and Sustainability, Canadian Cattleman's Association; Executive Director, CRSB

Melinda German
Former General Manager, Manitoba Beef Producers

Jennifer Lambert
Sr. Manager, Sustainability, Loblaw Companies Limited

Bob Lowe
Alberta Beef Producers Board; Rancher

Lauren Stone
Manager, Corporate Affairs & Sustainability, Cargill

Julie Dawson
Sector Specialist – Beef, Agriculture & Agri-Food Canada

Page Stuart
Alberta Cattle Feeders Past Chair; Highway 21 Feeders

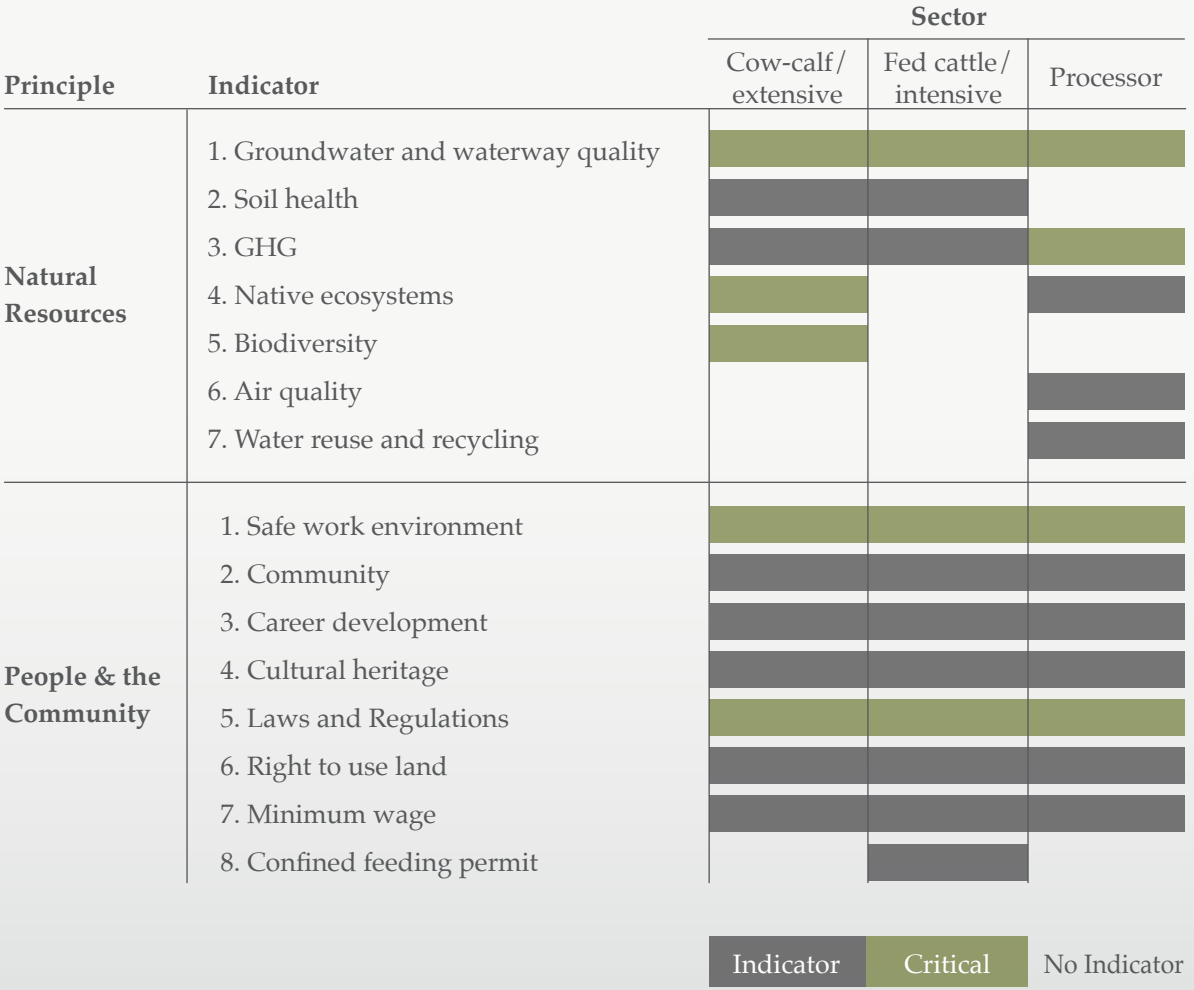
Nancy Labbe
Sr. Program Officer - Ranching and Conservation, World Wildlife Fund

John Basarab
Research Scientist, Alberta Ag & Rural Development and University of Alberta

Additional insights and support from:

Susan Church – Former General Manager, Alberta Farm Animal Care; Rancher, Alberta Chair Nature Conservancy Canada
Joe Stookey – University of Saskatchewan
Marty Matlock – University of Arkansas

PILOT INDICATOR MATRIX



PILOT INDICATOR MATRIX

Principle	Indicator	Cow-calf / extensive	Fed cattle / intensive	Processor
		Sector		
Animal Health & Welfare	1. Nutrition / Feed	Critical	Critical	
	2. Water	Critical	Critical	Indicator
	3. Animal health	Critical	Critical	
	4. Judicious use of animal health products	Critical	Critical	
	5. Pain management	Indicator	Indicator	
	6. Euthanasia	Critical	Critical	Critical
	7. Stocking density	Indicator	Indicator	
	8. Minimize environmental stress	Indicator	Indicator	Indicator
	9. Minimize handling stress	Indicator	Indicator	Indicator
	10. Minimize loading and transport stress	Indicator	Indicator	Indicator
	11. Body condition score	Critical		
	12. Antemortem inspection			Critical

Indicator | Critical | No Indicator

PILOT INDICATOR MATRIX

Principle	Indicator	Sector: Cow-calf / extensive	Sector: Fed cattle / intensive	Sector: Processor
Food	1. Food safety and Quality	Critical	Critical	Critical
	2. Information sharing	Critical	Critical	Critical
	3. Co-product quality			Indicator
	4. Food waste			Indicator
Efficiency & Innovation	1. Reuse and Recycle	Indicator	Indicator	Indicator
	2. Energy efficiency	Indicator	Indicator	Indicator
	3. Innovation and Technology	Indicator	Indicator	Indicator
	4. Chemical storage and use	Critical	Critical	Critical
	5. Engaging with experts	Indicator	Indicator	Indicator
	6. Engaging with stakeholders	Indicator	Indicator	Indicator

Indicator | Critical | No Indicator

HOW DID MCDONALD'S STRUCTURE THE PILOT?

Scoring Methodology

Once the indicators were drafted and McDonald's had confirmed the decision to verify based on outcomes, we needed to establish a consistent method of scoring individual performance across the indicator set. The following performance scale was developed and tested through significant feedback from our advisors and other Canadian beef industry subject matter experts. It was used by independent third-party verifiers to assign each participating operation with a performance score for each indicator using the three techniques of interview, observation and records-checking during on-site verifications. The outcome-based approach also protects the autonomy of individual producers to make decisions that best suit their own unique resources and business interests.

Verification Performance Scale

Score	Level	Description
5	Excellent	Processes are in place to measure, monitor, verify and report outcomes toward goals
4		
3	Achievement	Demonstrated performance toward goals related to the outcomes
2		
1	Entry	Awareness and commitment to the outcomes
Barrier to Entry		Negative outcomes: No awareness or plan for improvement specific to the outcomes

HOW DID MCDONALD'S STRUCTURE THE PILOT?

Project scope

With outcome-based indicators and the related scoring framework both ready to be tested, there was one more thing to do before we could begin Pilot verifications – clarify the verification scope (i.e., which segments of the beef supply chain would be verified in the Pilot). With critical input from our industry advisors and other partner organizations, McDonald's ultimately decided that the Pilot would only cover those key segments of the supply chain where the most resources and time went into raising and handling beef cattle. This scope focus enabled the Pilot to drive towards deeper insights in these critical areas.

In Pilot scope

Any portion of a participant's business dedicated to one of the following:

- Cow-calf operations
- Backgrounding operations
- Feedlot operations

The primary and further processing plants that supply beef for McDonald's Canada's beef patties

- Cargill primary processing plant in High River, AB
- JBS primary processing plant in Brooks, AB
- Cargill's McDonald's-dedicated patty plant in Spruce Grove, AB

HOW DID MCDONALD'S STRUCTURE THE PILOT?

Project scope

Out of Pilot scope

Any segment of the beef supply chain dedicated to one of the following:

- *Auction markets and transportation services*. Auction markets and third-party transportation services were excluded from the Pilot scope primarily because the amount of time cattle spend in these segments was insufficient to merit the significant resources that would be required with their inclusion; additionally, these entities currently do not enter data into any chain of custody tracking system.
- *Feed*. Even though it represents ~70% of the environmental and economic footprint associated with Canadian beef production, feed was excluded from the Pilot's indicator and verification scope out of respect for the work being done by the Canadian Round-table for Sustainable Crops (of which McDonald's is also a leading member) to develop metrics specific to crops used for feed. The two roundtables both have considerable tasks to accomplish independently, but they continue to engage with one another and will merge their efforts where and when appropriate.
- *McDonald's Canada's Restaurants*. McDonald's Canada's restaurants and third party distribution suppliers were out of the scope of this Pilot because they have ongoing sustainability projects.

The following aspects of a participant's business:

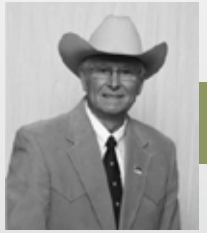
- *Individual economic performance*. Participants were not asked to share outcome-based information about their economic performance since GRSB Principles and Criteria did not require this.
- *Private chain of custody tracking systems*. Individual, private systems for tracking chain of custody were not accepted because of the complexity it would create.
- *Non-beef operations*. Any portion of a participant's operation dedicated to a business other than beef cattle (e.g., other animals, crops).

HOW DID MCDONALD'S STRUCTURE THE PILOT?

Verifications

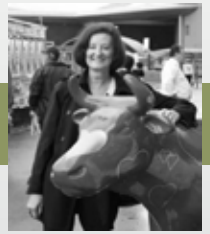
The PMT worked with Where Food Comes From, Inc. (WFCF) to develop a robust and credible verification process. WFCF recruited and trained three independent professionals with extensive knowledge of and experience in Canadian beef production systems to conduct all on-site verifications. WFCF then tested the verification process with a beta-test group of producers. Refinements were made to the on-site process based on the beta test results, and WFCF incorporated an independent second-level review process after each verifier's on-site verification to ensure consistency of results delivered across all three verifiers, all types of operations and all four seasons. Each pilot participant received a confidential Verification Report from WFCF that included high-level verifier comments tied to each indicator score. Each participant also received a Benchmark Report that compared their performance to that of their peers within the same value chain segment (i.e., rancher / backgrounder, feedlot, processor). WFCF also resourced a processing plant expert and a dairy verification expert to conduct verifications at three beef processing facilities and two dairy operations, respectively.
www.wherefoodcomesfrom.com

Verifiers



Gordon Stephenson

Neil Gillies



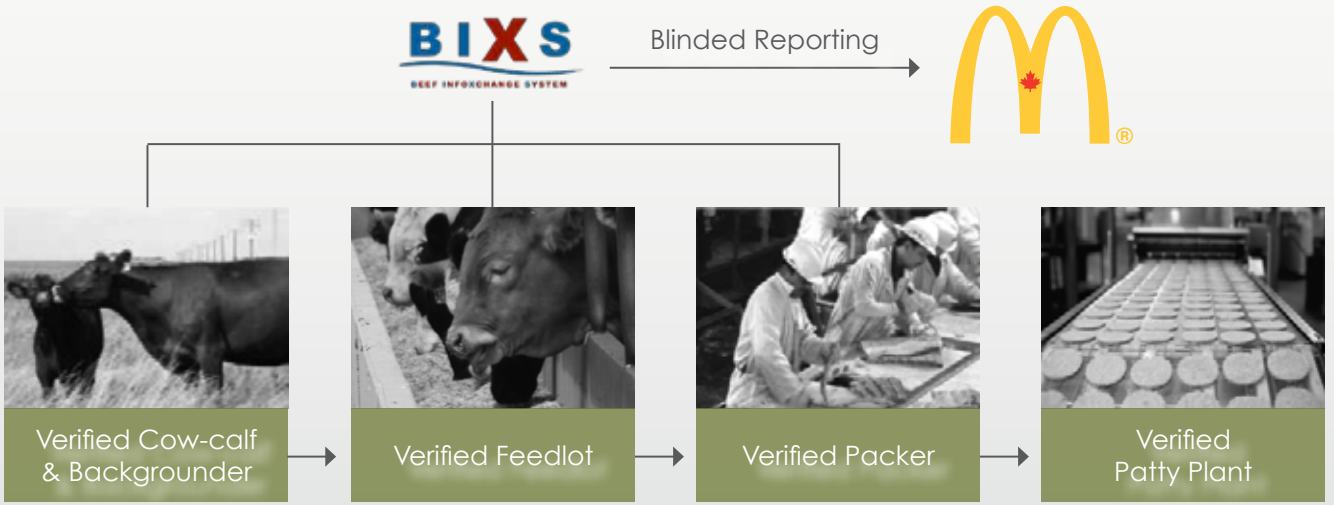
Peg Strankman

HOW DID MCDONALD'S STRUCTURE THE PILOT?

Chain of custody

Chain of custody refers to the process used to track cattle from the ranches where they are born through the beef supply chain to the processing plants where they are harvested. The PMT partnered with the new leaders at Beef InfoXchange System (BIXSco Inc.) to adapt its existing platform in a way that would allow BIXS to confidentially analyze the chain of custody of cattle from birth to harvest through only those operations verified sustainable under the Pilot. BIXS then generated monthly reports (with operation identification details blinded) that allowed the PMT to see how many cattle could be tracked through a fully-verified sustainable supply chain into the two verified packers (Cargill and JBS) that supply McDonald's verified Cargill patty plant.

www.BIXS.cattle.ca



HOW DID MCDONALD'S STRUCTURE THE PILOT?

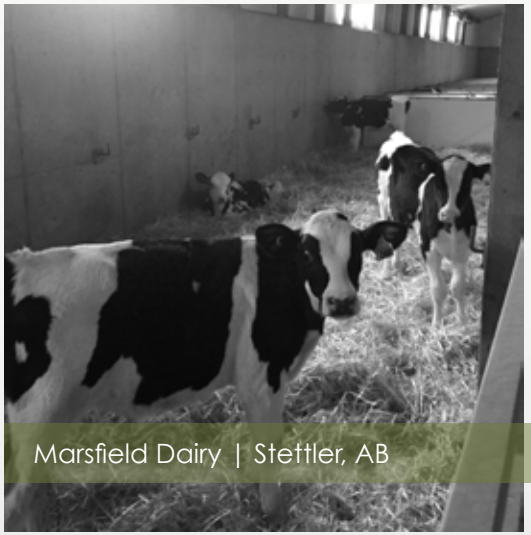
Synergistic initiatives

In addition to executing the Pilot's core work, the PMT found occasion to collaborate with several Canadian beef organizations on the following four initiatives. These initiatives were developed to better understand the opportunity for information sharing within our industry and to inform the CRSB in ways not addressed elsewhere in the scope of the Pilot's work. More information on all of these initiatives can be found in the appendix.

1. Responsible Dairy Beef Initiative
2. Information Sharing Initiative
3. Youth Beef Club Initiative
4. Online Self-Assessment Initiative

SYNERGISTIC INITIATIVES

1. Responsible Dairy Beef Initiative
   Collaboration with the Dairy Farmers of Canada to test how well the proAction™ modules align with the Pilot's indicators and verification process to sufficiently satisfy our beef customers' expectations for sustainable practices. This initiative considered both programs in their current and future states.



Marsfield Dairy | Stettler, AB

SYNERGISTIC INITIATIVES

2. Information Sharing Initiative
   Collaboration with BeefBoosters, BIXS and Livestock Gentec to evaluate the potential usefulness of sharing carcass data with various Canadian beef stakeholder groups to create value and inform their decision-making.

Thorlakson Feed Yard | Airdrie, AB

SYNERGISTIC INITIATIVES

3. Youth Beef Club Initiative

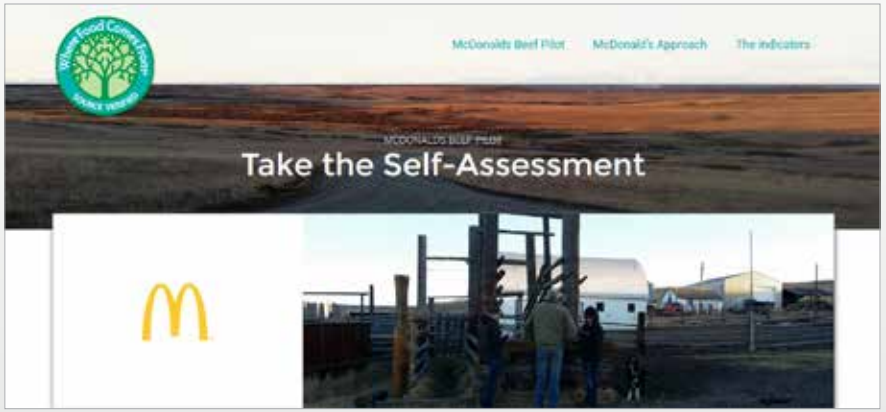
Collaboration with six youth beef clubs to educate the next generation of Canadian beef leadership on the value of beef sustainability. These beef clubs participated in community workshops and created opportunities for their families to participate directly in the Pilot itself. Five of the clubs participated in a contest where they produced short videos demonstrating why sustainable beef is important to their members and how they make continuous improvement a reality on their own ranches and feedlots.

Longview 4-H Club | Longview, AB

SYNERGISTIC INITIATIVES

4. Online Self-Assessment Initiative

Collaboration with individual producers to test and assess the benefits and risks of conducting self-assessments to evaluate a producer's ability to demonstrate adherence to sustainable indicators. This initiative helped inform the CRSB of how self-assessments and "desktop" audits might complement on-site verifications during a multi-year verification cycle.



PILOT ACHIEVEMENTS

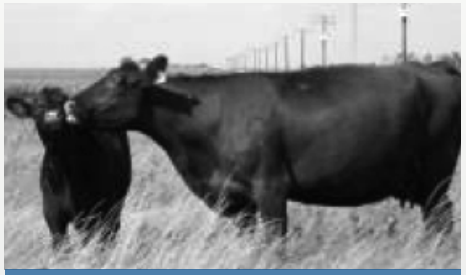
WHAT DID MCDONALD'S ACHIEVE THROUGH THE PILOT?

Through the Canadian Pilot, McDonald's accomplished all three objectives established at the outset of this journey.

1. **We began to purchase a portion of our beef from verified sustainable Canadian sources.**

   We created a beef sustainability system that verified Canadian operations as sustainable and then tracked cattle chain of custody through these sources into the two processors that supply us with our beef.

   a. Verified sustainable Canadian sources: WFCF conducted 183 on-site verifications of Canadian operations (178 beef cattle operations, 2 packers, 1 patty plant and 2 dairy farms).



154 Cow-calf & Backgrounders
Herd Size
Smallest: 12
Largest: >7,000

24 Feedlots
One-time Capacity
Smallest: 580
Largest: >65,000

Operations by segment that received independent, professional 3rd party verifications during the Pilot

WHAT DID MCDONALD'S ACHIEVE THROUGH THE PILOT?

b. Tracked cattle chain of custody through a verified sustainable supply chain: During the pilot timeframe of January 2014 through April 2016, BIXS tracked 8,967 head of cattle through an entirely verified sustainable supply chain (from ranches to backgrounders and/or feedlots through to processing plants).

- These 8,967 head traced back to:
  - 13 of the 20 verified feedlots (with 80% tracing back to 4 feedlots)
  - 86 of the 121 verified ranches (with 80% tracing back to 18 ranches)
- This translates to nearly 8 million lbs of Canadian hot carcass weight delivered by an entirely verified sustainable supply chain (based on average hot carcass weights reported by CanFax for the same time period).
- Using a mass balance calculation, McDonald's sourced just over 300,000 lbs of Canadian beef trim from entirely sustainable sources during the Pilot (see Appendix for definition of Mass Balance).

121 Verified
Cow-calf/Backgrounders
(127,219 calves born)

20 Verified
Feedlots
(366,970 head moved in)

2 Verified
Packers
(>4.2 million tags retired)

Operations by segment that achieved verified status and total head tracked by BIXS during the Pilot

WHAT DID MCDONALD'S ACHIEVE THROUGH THE PILOT?

2. **We brought the GRSB's Principles and Criteria to life through a locally-relevant, outcome-based initiative for sustainable beef production.**

The Pilot achieved an important milestone by being the first beef sustainability initiative in the world to:

- Engage multiple, diverse stakeholders in developing outcome-based indicators relevant to the Canadian industry that align with GRSB Principles and Criteria
- Develop an on-site verification process rigorous enough to withstand public scrutiny while still realistic enough to be scalable for broader Canadian industry adoption
- Perform independent 3rd party on-site verifications of those indicators on ranches, backgrounding operations, feedlot operations, dairy operations and at processing plants
- Track the chain of custody of cattle across those verified operations to enable reporting of verified beef supply

WHAT DID MCDONALD'S ACHIEVE THROUGH THE PILOT?

3. We supported and accelerated development of an industry-led beef sustainability framework in Canada.

McDonald's and our industry partners started a journey together that we will continue as active members of the Canadian Roundtable for Sustainable Beef.

To accelerate the industry's efforts, the Pilot:

- Created a practical sustainability verification model that the CRSB can build on as we develop a long-term, large-scale framework for the Canadian beef community
- Assessed the value and ease of leveraging existing programs and industry resources in meeting the Principles and Criteria of the GRSB
- Welcomed all participants regardless of their size, sector or geography, setting up the CRSB to represent the entire Canadian beef community moving forward
- Demonstrated the ability of on-site verifications to confirm desired outcomes are met and to identify opportunities for continuous improvement
- Provided additional insights and industry support thanks to the Responsible Dairy Beef, Information Sharing, Youth Beef Club and Verification Self-Assessment initiatives
- Generated significant momentum and interest throughout the industry – our 33 workshops and presentations reached approximately 3,000 curious beef community stakeholders directly, with countless industry media reports about our efforts reaching an even broader audience

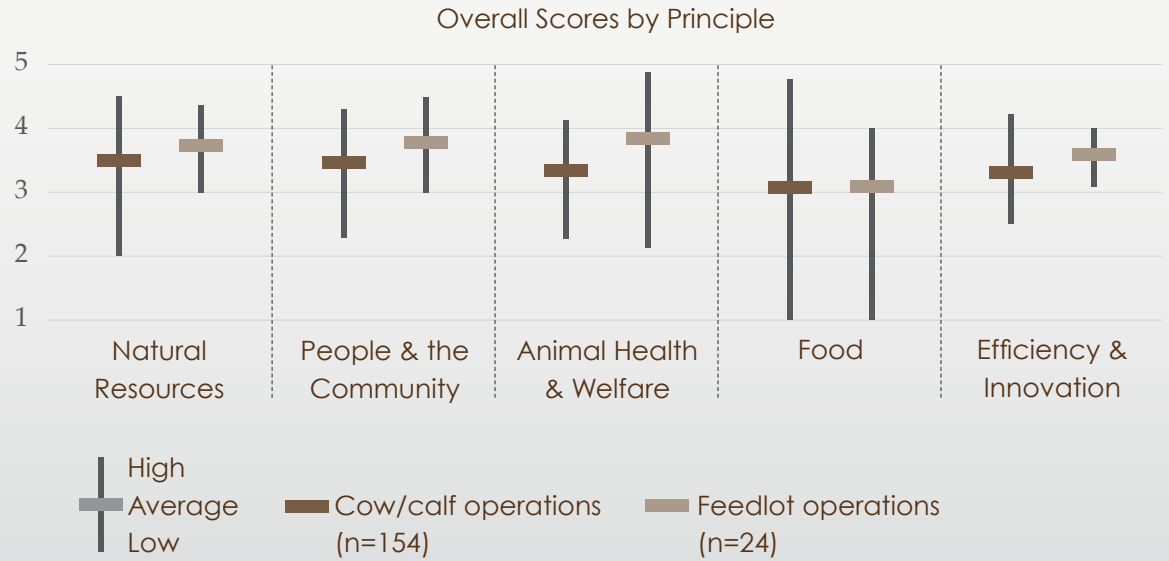
WHAT IT TOLD US

WHAT DID THE PILOT TELL US ABOUT TODAY'S CANADIAN BEEF INDUSTRY?

The Pilot outcomes confirmed that cattle are raised in Canada using diverse and innovative practices to deliver responsible and sustainable outcomes, with a widespread commitment to continuous improvement.

The majority of verified operations in the Pilot met or exceeded our scoring threshold.

- The verification scores across the participant base met McDonald's expectations, with scores averaging in the 3-4 range on the 5-point scale across all five principles.
- The processors also all achieved verified status, and the verifiers were impressed by the level of engagement and focus on quality, food safety and continuous improvement in all three plants. Processor verification details have been excluded from this report for reasons of confidentiality given the small sample size.



WHAT DID THE PILOT TELL US ABOUT TODAY'S CANADIAN BEEF INDUSTRY?

Some common practices that delivered on the Pilot's intended outcomes included:

- Maintaining well-managed grazing systems with documented cattle movement records and rotational grazing practices (including stockpiled grass and grazing of native grasslands at optimal times throughout the year)
- Demonstrating extensive management plans that protect creeks, rivers and riparian areas
- Putting great efforts towards nutrient management plans and storm water containment, particularly relevant at some of the more progressive feedlots
- Supporting local rural economies in a variety of ways including schools, school programs and 4-H clubs
- Prioritizing low-stress animal handling

WHAT DID THE PILOT TELL US ABOUT TODAY'S CANADIAN BEEF INDUSTRY?

Some of the more innovative and/or unique practices witnessed through the verifications included:

- Implementing an innovative carbon management plan for converting manure to compost
- Actively conducting rangeland assessments and/or working closely with the local government and other organizations to monitor and protect endangered species
- Participating in and assisting with extensive research studies in conjunction with universities and organizations like the Nature Conservancy
- Implementing documented safety procedures for everyday ranch activities like working cattle, and holding safety trainings for all family members and employees
- Supporting a local effort to re-open a community grocery store
- Donating beef for community events and/or heavy equipment for use during local rodeos and community events
- Analyzing product innovation through the improvement of genetics and the measurement of performance and efficiency further down the supply chain
- Creating an innovative facility design that focuses on low stress animal handling systems
- Committing to renewable resources with water re-use systems
- Possessing extensive recordkeeping systems to monitor and measure continuous improvement
- Unique renewable energy solutions

WHAT DID THE PILOT TELL US ABOUT TODAY'S CANADIAN BEEF INDUSTRY?

The biggest opportunities identified for improvement were:

- Increasing documentation and record keeping within the cow/calf producer segment of the industry
- Going beyond simply recording completion and developing more proactive documentation of how procedures and practices were completed
- Implementing more formalized safety programs, particularly at family-owned operations that do not have outside employees
- Scanning and logging RFID tags more consistently when cattle enter and leave operations across the supply chain, to improve end-to-end chain of custody tracking
- Encouraging further alignment between private systems and industry-wide tracking programs, particularly for feedlots, to allow for chain of custody tracking across all segments of the supply chain

WHAT WE LEARNED

WHAT DID MCDONALD'S LEARN ALONG THE WAY?

Lead and Listen

- Engage leaders from multiple industry organizations who share the same passion, vision and drive for success.
- Encourage participation from the skeptics as well as the supporters – the more we are challenged during the development process, the stronger the results.
- Take a disciplined approach to developing outcome-based indicators and enlist well-trained professionals who are good at listening to oversee this development.
- Encourage a framework that accommodates and respects different interpretations of sustainable beef based on different environmental, social and economic situations, with consideration for the guidance of the GRSB and CRSB.
- Anchor on one standardized method to track chain of custody so that all members of the Canadian beef community can participate on equal footing.
- Make tough decisions regarding the focused project scope early on so objectives are attainable.

Recommendations to CRSB

- Continue to encourage consumer trust and confidence in the Canadian Beef community through increased transparency. This means recognizing continuous improvement and making it known when outcomes do not meet the community's expectations.

- Recognize and respect existing programs, and trust-but-verify that they are being followed to deliver desired outcomes without dictating practices.

- Continue to maintain that sustainable beef should be a pre-competitive effort. Do not encourage an environment where individual organizations feel the need to compete on distinct sustainability attributes of Canadian beef. Together, we can compete globally by promoting the positive sustainability aspects of the Canadian beef industry as a whole.

WHAT DID MCDONALD'S LEARN ALONG THE WAY?

Build community

- Emphasize that sustainable beef sourcing is not about an individual end user's supply, but rather it is about the entire Canadian beef community.
  - Sustainable, responsible beef production should be an industry standard, not a competitive differentiator across producers.
  - We can improve the Canadian beef brand – and sell more – by demonstrating to consumers in Canada and around the world that we are a proactive, responsible and transparent industry.
- Embrace the programs that are already proven and in place – this applies to industry programs, federal programs, provincial programs, etc. Acknowledge the roles each of these programs serve for various segments of our industry and respect their impact on outcomes relevant to specific indicators. Trust but verify on-site performance related to these programs.
- Regardless of their likelihood to deliver cattle into a particular processor or end user supply chain, welcome participants from all provinces, all production types (e.g., conventional, organic, never-ever, no antibiotics, no hormones) and all sizes of operations.
- Align with the GRSB Principles and Criteria.
- Inform the GRSB, CRSB and other Canadian beef community leaders on Canada's insights and progress.

Recommendations to CRSB

- Welcome diverse participation and be cognizant of different participants' needs, but do not lower standards to try to keep everyone happy.
- Communicate. Communicate. Communicate.
- Help the GRSB recognize the great work being done in Canada.
- Engage and align the Canadian beef industry's efforts with related efforts (e.g., CRSB, GRSB, US Roundtable for Sustainable Beef, Brazilian Roundtable on Sustainable Livestock, Sustainable Agriculture Initiative in Europe)
- Continue to support research that lends credibility to your mission and vision.
- Make it easy for industry professionals to support this work (e.g. Veterinarians, Feed companies, Genetics, Forage associations, Animal health companies, Equipment suppliers).

WHAT DID MCDONALD'S LEARN ALONG THE WAY?

Make progress over perfection

- Make sure you "do" while you "plan." A flawless framework cannot be developed in a boardroom – trial and error is essential for long term success.
- Prioritize continuous improvement over a fully-fledged solution. Start the journey right away then actively seek ongoing improvements across all aspects of the work, including indicators, verifications, chain of custody tracking and communication. Be comfortable making changes at any point in the process when it makes sense to do so.
- Remain committed to an outcome-based approach despite the increased ambiguity that comes with it. An outcome-based approach is not easy; however, it allows for innovation that does not occur when a practice is prescribed. The GRSB sets the expectation of being outcome-based because it is possible for people to administer a prescribed practice and not achieve the intended outcomes.
- Accept that people will disagree with our process, decisions and the entire pilot – this is about creating a credible, scalable process, not earning unanimous approval from the outset.
- Celebrate failures as much if not more than successes, and take responsibility for actions and results. Be open-minded and proactively do what it takes to fix problems and learn from each experience.

Recommendations to CRSB

- Set clear expectations and enable the CRSB's working groups to make progress over perfection.
- Recognize mistakes quickly and be comfortable adjusting often in order to keep moving forward.
- Continue to evolve the CRSB indicators and verification process from lessons learned during field testing.
- Make it easy for participants to trial their involvement in the program without being required to do everything.
- Build a realistic business model that will ensure the CRSB remains economically viable for the long term.
- Be ready to adapt to outside influences. For example, recognize that mother nature will impact outcomes and will continue to challenge the continuous improvement model over time. (e.g., weather extremes)

THANK YOU

THANK YOU

McDonald's sincerely thanks all of the people who made this pilot project successful, and we look forward to increasing our purchases of beef from sustainable sources for generations to come.

Holden 4-H Beef Club | Holden, AB

APPENDIX

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CRSB
CANADIAN ROUNDTABLE FOR SUSTAINABLE BEEF
TABLE RONDE CANADIENNE SUR LE BOEUF DURABLE

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Calgary, Alberta T2E 7H7
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STATEMENT

CRSB recognizes McDonald's for leadership through Sustainable Beef Pilot Project

June 1, 2016

Calgary, AB – As the McDonald's Sustainable Beef Pilot Project (the Pilot) draws to a close, the Canadian Roundtable for Sustainable Beef (CRSB) would like to recognize McDonald's for their tremendous work and leadership in advancing sustainable beef initiatives in Canada, and for raising awareness about sustainable beef production by taking the conversation mainstream.

In 2014, McDonald's engaged with the newly-established CRSB on the possibility of establishing a sustainable beef pilot project in Canada. The CRSB and McDonald's agreed to collaborate on the project framework, with the goal being for McDonald's to source a portion of beef in Canada from verified sustainable operations and to share their practical implementation learnings with the CRSB.

Over the last two years, McDonald's has shown strong commitment to engaging with a multi-stakeholder audience, accepting feedback and working collaboratively to advance and recognize the sustainability of Canada's beef industry. "Without a doubt, this has been a very constructive exercise," notes CRSB Chair, Cherie Copithorne-Barnes. "We are excited to be in a position to carry this work forward."

The CRSB is currently developing a unique verification framework, building on the McDonald's Pilot, which should be finalized in late 2017. There will be a period of time between the conclusion of the Pilot (June 2016) and the time the CRSB's verification framework is finalized (Q4, 2017). During this interim period, the CRSB will be working with stakeholders to further develop the verification framework, incorporate learnings from the Pilot and trial the CRSB framework.

"The McDonald's pilot highlighted the value of testing the verification framework in an iterative manner," says Fawn Jackson, Executive Director of the CRSB. "The Pilot accelerated CRSB's progress in developing a beef sustainability framework by testing and sharing important learnings about framework management, participant enrollment, indicator development, scoring and performance levels, verification/assurance processes, chain of custody and information sharing."

With the conclusion of the Pilot, McDonald's will continue to be engaged with the CRSB and carry on their sustainable sourcing journey in Canada. Producers involved in the Pilot will be transitioned into the new CRSB verification program, with new producers being accepted into the verification trial on a limited basis (see the Frequently Asked Questions for Producers below).

For more information, please contact:
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Canadian Roundtable for Sustainable Beef
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Frequently Asked Questions for Producers

If I was a verified producer in the McDonald's Pilot Project, do I have to go through the verification process again?

No. Participants in the Pilot will be transitioned/grandfathered into the CRSB recognized verification framework, with the date they were verified under the Pilot serving as the starting date for the new assurance cycle. Over the next year, McDonald's will continue to work with producers who were verified under the Pilot to maintain verification status. Once the CRSB has developed its verification framework, they will work together with McDonald's and producers to fully integrate their verifications into the CRSB system.

I did not participate in the McDonald's Pilot Project, can I become verified sustainable?

Yes. Over the next year, the CRSB, in collaboration with CRSB membership, will be trialling the CRSB verification framework with a limited number of producers. New producers interested in participating can Contact Us to be involved in CRSB trials via the CRSB website.

If I am not involved in the McDonald's Pilot or the CRSB Project what should I do to prepare for 2017 when the CRSB verification framework will be released?

The CRSB has committed to utilizing, where appropriate, existing programs and tools across Canada in the development of the verification framework. By participating in existing programs or utilizing existing tools that address one or more of the five principles of sustainable beef (natural resources, people and the community, animal health and welfare, food, and efficiency and innovation) producers will be better prepared to join the verification journey once the framework is fully established.

If I am verified sustainable, can I make a label claim on my product?

Not today. There are many steps to developing a verified sustainable sourcing program that can then be communicated through methods such as product labelling. Over the coming months, the CRSB will be developing a claims guide, however until this is completed, the CRSB does not recommend making product claims.

McDonald's Sustainable Beef Pilot Project – Cow-calf/Extensive Indicators

Background

McDonald's intends for this Sustainable Beef Pilot project (Pilot) to accomplish the following three objectives:

1. Begin purchasing a portion of our beef from verified sustainable sources in 2016
2. Bring the GRSB's Principles and Criteria to life through a locally-relevant, outcomes-based initiative
3. Support and accelerate development of an industry-led beef sustainability framework in the host geography

To make these objectives possible, the following indicators have been developed for use in Canada with alignment to the GRSB Principles[1] and Criteria. When possible, the indicators were developed to provide specific, action-oriented, measurable, realistic outcomes. The 31 Cow-calf/Extensive indicators have been developed by McDonald's with significant input from diverse stakeholders including: Canadian Cattlemen's Association, Alberta Cattle Feeders Association, National Cattle Feeders Association, individual producers, academicians, subject matter experts, non-governmental organizations, and processors. Cereal grain/feed production-related indicators are not in the scope of this pilot. The Canadian Roundtable for Sustainable Crops (CRSC) is developing cereal grain/feed production-related indicators and McDonald's is prepared to integrate them into beef sustainability claims after they are fully vetted. The following indicators are provided to voluntary SB Pilot participants, so they can prepare to host an independent 3rd party professional verifier, from Where Food Comes From (www.wherefoodcomesfrom.com) with significant experience in beef cattle production, to perform an on-site verification, of the indicators, paid for by McDonald's.

Indicator scoring system used by the 3rd party verifiers

1 = Entry level = Participants have an awareness and commitment to accomplish the outcome. There are no observed, intentional, ongoing acts of abuse specific to this indicator.

2 = Participants in level 2 demonstrate outcomes with elements of both the Entry level and Achievement level.

3 = Achievement level = Demonstrated performance toward goals through interview and/or observation of achieving outcomes specific to the indicator.

- Relevant records
- No evidence of continuous improvement

4 = Participants in level 4 demonstrate outcomes with elements of both the Achievement level and Excellence level.

5 = Excellence level = Processes are in place to measure, monitor, verify and report outcomes toward goals specific to the indicator.

- Critical procedures and processes that are only known to one individual are documented to ensure outcomes can be achieved in their absence.
- Continuous improvement is evident.

[1] Natural resources, Community and People, Animal health and Welfare, Food, and Efficiency and Innovation

*Levels 2 and 4 are intentionally left blank to provide verifiers flexibility to address potential combinations. We expect to find outcomes with elements of 1 and 3 or 3 and 5 present. This system also provides us with the opportunity to learn from the pilot and inform the CRSB moving forward.

- **Barriers to entry** – Barriers to entry are defined as negative outcomes resulting from ongoing acts that are not being addressed by the participant with no awareness or plan for improvement. Example barriers to entry are provided for each indicator but not meant to be comprehensive. These are meant to ensure processes are in place to deliver minimum performance levels. Corrective actions to address barriers to entry must be made within 30 days of the verification report date to enable the operation to be designated SB Verified.
- **Indicator significance** – Critical indicators are defined as outcomes critical to maintain and enhance the social license of the Canadian beef community. Critical indicators are highlighted in yellow.
  In cases where a particular indicator does not apply to a participant, participants are expected to bring it to the attention of the verifier.
- **Verification status of an operation –** For the purpose of the SB Pilot, an operation will need to achieve the following performance for cattle they produce to be counted as contributing to McDonald's purchases of Sustainable Beef:
  - A score of 3 or higher for all critical indicators
  - An average score of 3 or higher for each of the 5 principles

Example:

Principle 3 – Animal health and Welfare

Indicator 2 – Cattle have at-will access to a palatable, quality water source. (Appendix 2, #2 and 10)

5 – Excellence: Processes are in place to measure, monitor, verify and report outcomes toward goals related to cattle having at-will access to a palatable, quality water source.

- Critical procedures and processes that are only known to one individual are documented to ensure outcomes can be achieved in their absence.
- Continuous improvement is evident.

4 – Demonstrated outcomes with elements of both the Achievement level (3) and Excellence level (5).

3 – Achievement: Demonstrated performance toward goals through interview and/or observation. Cattle have at-will access to a palatable, quality water source. Appropriate programming may include:

- Relevant records
- No evidence of continuous improvement

2 – Demonstrated outcomes with elements of both the Entry level (1) and Achievement level (3).

1 – Entry level: Awareness and commitment to provide cattle with at-will access to a palatable, quality water source.

Barriers to entry: Ongoing failure to provide cattle with at-will access to a palatable, quality water source.

Indicator sector significance – Critical

There are 14 critical indicators for Cow-calf/Extensive operations

*Levels 2 and 4 are intentionally left blank to provide verifiers flexibility to address potential combinations. We expect to find outcomes with elements of 1 and 3 or 3 and 5 present. This system also provides us with the opportunity to learn from the pilot and inform the CRSB moving forward.

McDonald's Sustainable Beef Pilot Project – Cow-calf/Extensive Indicators

1. Natural resources (See Appendix 1 for supporting program materials)

#	Indicator	Barriers to entry*	1 – Entry	2	3 – Achievement	4	5 – Excellence
1	Water quality, sediment, nutrient runoff, ground water and waterway health are responsibly managed. (Appendix 1, #9-12)	Failure to responsibly manage water quality, sediment, nutrient runoff, ground water. No awareness or plan for improvement.	Awareness and commitment to responsible management of waterway health, water quality sediment, nutrient runoff and ground water.	* See note below	Demonstrated performance toward goals through interview and/or observation of the water management program. Appropriate programming may include: • Farm Plans (EFP) in place and components related to water quality are being implemented • CFRM programs in place • GF2 BMPs or BMPs or AOPA Extension materials incorporated into a management plan	* See note below	Processes are in place to measure, monitor, verify and report outcomes toward goals related to the responsible and efficient management of water resources. • Critical procedures and processes that are only known to one individual are documented to ensure outcomes can be achieved in their absence. • Continuous improvement is evident.
2	Soil health is maintained or improved. (Appendix 3, #9 and 11)	Failure to maintain soil health. No awareness or plan for improvement.	Awareness and commitment to maintain or improve soil health.	* See note below	Demonstrated performance toward goals through interview and/or observation of soil health. Appropriate programming may include: • Farm Plans (EFP) in place and components related to soil health are being implemented • CFRM or other provincial programs in place • GF2 BMPs or BMPs or AOPA Extension materials incorporated into a management plan	* See note below	Processes are in place to measure, monitor, verify and report outcomes toward goals related to soil health. • Critical procedures and processes that are only known to one individual are documented to ensure outcomes can be achieved in their absence. • Continuous improvement is evident.
3	When a practical science-based tool is available, operation is willing to provide information to calculate Carbon sequestration and emissions. (Appendix 1, #13)	Unwilling to provide information to calculate Carbon sequestration and emissions when a practical, science-based tool is available.	Awareness and commitment to use a practical science-based tool to calculate Carbon sequestration and emissions when it is available. Recognizes importance of carbon footprint.	* See note below	Operation is already taking steps that are known to help sequester carbon and reduce emissions and when a practical, science-based tool is available is willing to provide information.	* See note below	Operation is already taking steps that are known to help sequester carbon and reduce emissions and using science-based methods to measure, monitor, manage, verify and report outcomes toward goals related to carbon. • Continuous improvement is evident.

*Levels 2 and 4 are intentionally left blank to provide verifiers flexibility to address potential combinations. We expect to find outcomes with elements of 1 and 3 or 3 and 5 present. This system also provides us with the opportunity to learn from the pilot and inform the CRSB moving forward.

#	Indicator	Barriers to entry	1 – Entry	2	3 – Achievement	4	5 – Excellence
4	Operation protects grasslands, tame pastures and native ecosystems including high conservation value areas (e.g. endangered species habitat). (Appendix 1, #5-6)	Failure to protect native grasslands, other native ecosystems and high conservation value areas from abuse and/or conversion. No awareness or plan for improvement.	Awareness and commitment to protect grasslands, tame pastures, native ecosystems and high conservation value areas.	* See note below	Demonstrated performance toward goals through interview and/or observation in protecting and enhancing grasslands, tame pastures, native ecosystems and high conservation value areas. Appropriate programming may include: • Farm Plans (EFP) in place and components related to grasslands, tame pastures and native ecosystems protection are being implemented • Relevant CFRM, GF2 BMPs or BMPs • COP, RHA extension materials incorporated into a grazing management plan	* See note below	Processes are in place to measure, monitor, verify and report outcomes toward goals related to grasslands, tame pastures, native ecosystems • Critical procedures and processes that are only known to one individual are documented to ensure outcomes can be achieved in their absence. • Continuous improvement is evident.
5	Well-managed native habitat provides for wildlife and plant biodiversity. (Appendix 1, #5-6)	Failure to provide wildlife habitat ecosystems and/or native plant health biodiversity. Example: Removal of native vegetation, wetlands, reduced riparian areas.	Awareness and commitment to manage wildlife habitat to provide for wildlife and plant biodiversity.	* See note below	Demonstrated performance toward goals through interview and/or observation that wildlife habitat ecosystems and/or native plant biodiversity is measured and in good condition. Appropriate programming may include: • Relevant records • No evidence of continuous improvement Range health assessments can provide this information through identifying structural niches available for wildlife habitat ecosystems and/or native plant health biodiversity.	* See note below	Processes are in place to measure, monitor, verify and report outcomes toward goals related to wildlife habitat ecosystems and/or native plant health biodiversity. • Critical procedures and processes that are only known to one individual are documented to ensure outcomes can be achieved in their absence. • Continuous improvement is evident.

2. Community and People

#	Indicator	Barriers to entry	1 – Entry	2	3 – Achievement	4	5 – Excellence
1	Operation ensures safe and healthy work environment.	Failure to ensure a safe and healthy work environment. No awareness or plan for improvement.	Awareness and commitment to create and maintain a safe and healthy work environment .	* See note below	Demonstrated performance toward goals through interview and/or observation. All employees are equipped and trained to reduce safety risks. Appropriate programming may include: • Relevant records • No evidence of continuous improvement	* See note below	Processes are in place to measure, monitor, verify and report outcomes toward goals related to a safe and healthy work environment. • Critical procedures and processes that are only known to one individual are documented to ensure outcomes can be achieved in their absence. • Continuous improvement is evident.

*Levels 2 and 4 are intentionally left blank to provide verifiers flexibility to address potential combinations. We expect to find outcomes with elements of 1 and 3 or 3 and 5 present. This system also provides us with the opportunity to learn from the pilot and inform the CRSB moving forward.

McDonald's Sustainable Beef Pilot Project – Cow-calf/Extensive Indicators

#	Indicator	Barriers to entry	1 – Entry	2	3 - Achievement	4	5 – Excellence
2	Operation supports local community. Local community is defined by each individual.	Failure to support local community. No awareness or plan for improvement.	Awareness and commitment to support local community.	* See note below	Demonstrated support of the local community through interview and/or observation. Appropriate programming may include: • Relevant records (plaques, certificates, images, etc.).	* See note below	Processes are in place to measure, monitor, verify and report outcomes specific to community support. • Critical procedures and processes that are only known to one individual are documented to ensure outcomes can be achieved in their absence.
3	Career development opportunities are provided.	Failure to provide career development opportunities. No awareness or plan for improvement.	Awareness and commitment to create career development opportunities .	* See note below	Demonstrated performance toward goals through interview and/or observation. Career development opportunities are provided. Appropriate programming may include: • Relevant records • No evidence of continuous improvement	* See note below	Processes are in place to measure, monitor, verify and report outcomes toward goals related to career development opportunities. • Critical procedures and processes that are only known to one individual are documented to ensure outcomes can be achieved in their absence. • Continuous improvement is evident.
4	Workers cultural heritage is recognized and treated with respect.	Failure to recognize and respect the cultural heritage of workers.	Awareness and commitment to recognize and respect workers cultural heritage.	* See note below	Demonstrated performance toward goals through interview and/or observation. Cultural heritage of community members are recognized and treated with respect. Appropriate programming may include: • Relevant records • No evidence of continuous improvement	* See note below	Processes are in place to measure, monitor, verify and report outcomes toward goals related to cultural heritage. • Critical procedures and processes that are only known to one individual are documented to ensure outcomes can be achieved in their absence. • Continuous improvement is evident.

5. Operation follows applicable labor laws and regulations: employment status, hours worked, child labor laws, hiring practices, grievance, etc. Yes or No
6. Operation has evidence of the right to use land for the purpose of beef production. Yes or No
7. Where applicable, legal minimum wage is met for all workers Yes or No

*Levels 2 and 4 are intentionally left blank to provide verifiers flexibility to address potential combinations. We expect to find outcomes with elements of 1 and 3 or 3 and 5 present. This system also provides us with the opportunity to learn from the pilot and inform the CRSB moving forward.

3. Animal Health and Welfare

#	Indicator	Barriers to entry	1 – Entry	2	3 - Achievement	4	5 – Excellence
1	The nutritional needs of cattle are met through forage and/or feed supplementation. (Appendix 2, #1-3)	Failure to meet the nutritional needs of cattle through forage and/or feed supplementation. No awareness or plan for improvement.	Awareness and commitment to meet the nutritional needs of cattle through forage and/or feed supplementation.	*See note below	Demonstrated performance toward goals through interview and/or observation. The nutritional needs of cattle are met through forage and/or feed supplementation. Appropriate programming may include: • Relevant records • No evidence of continuous improvement	*See note below	Processes are in place to measure, monitor, verify and report outcomes toward goals related to meeting the nutritional needs of cattle through forage and/or feed supplementation. • Critical procedures and processes that are only known to one individual are documented to ensure outcomes can be achieved in their absence. • Continuous improvement is evident.
2	Cattle have at-will access to a palatable, quality water source. (Appendix 2, #2 and 10)	Failure to provide cattle with at-will access to a palatable, quality water source. No awareness or plan for improvement.	Awareness and commitment to provide cattle with at-will access to a palatable, quality water source.	*See note below	Demonstrated performance toward goals through interview and/or observation. Cattle have at-will access to a palatable, quality water source. Appropriate programming may include: • Relevant records • No evidence of continuous improvement	*See note below	Processes are in place to measure, monitor, verify and report outcomes toward goals related to cattle having at-will access to a palatable, quality water source. • Critical procedures and processes that are only known to one individual are documented to ensure outcomes can be achieved in their absence. • Continuous improvement is evident.
3	Operation can demonstrate how it measures and monitors animal health. (Appendix 2, #4)	No evidence of a valid Veterinary Client/Patient Relationship (VCPR).	Operation has a valid VCPR.	*See note below	Operation has a valid VCPR, a herd health plan, and treatment records. Appropriate programming may include: • Relevant records • No evidence of continuous improvement	*See note below	Has a valid VCPR, a herd health plan, treatment records, and stated herd health goals for body condition score, conception rates, weaning rates, morbidity and mortality. • Critical procedures and processes that are only known to one individual are documented to ensure outcomes can be achieved in their absence. • Continuous improvement is evident.

*Levels 2 and 4 are intentionally left blank to provide verifiers flexibility to address potential combinations. We expect to find outcomes with elements of 1 and 3 or 3 and 5 present. This system also provides us with the opportunity to learn from the pilot and inform the CRSB moving forward.

McDonald's Sustainable Beef Pilot Project – Cow-calf/Extensive Indicators

#	Indicator	Barriers to entry	1 – Entry	2	3 – Achievement	4	5 – Excellence
4	Operation demonstrates judicious use of pharmaceuticals and/or vaccines in accordance with labeling and/or veterinary prescription. (See Appendix 2, No. 4 and Appendix 3)	Evidence of failure to use pharmaceuticals and/or vaccines in a judicious manner. No evidence of a valid VCPR.	Operation has a valid VCPR, case definitions, treatment protocols, and an antibiotic residue avoidance program.	* See note below	Operation has a valid VCPR, case definitions, treatment protocols, an antibiotic residue avoidance program, treatment records, and a preventative medicine program. Appropriate programming may include: • Relevant records • No evidence of continuous improvement	* See note below	Operation has a valid VCPR, case definitions, treatment protocols, an antibiotic residue avoidance program, treatment records, and a preventative medicine program. • Alignment with McDonald's Global Vision for Antimicrobial Stewardship (Appendix 3). • Critical procedures and processes that are only known to one individual are documented to ensure outcomes can be achieved in their absence. • Continuous improvement is evident.
5	Operation can demonstrate steps implemented to mitigate and minimize animal pain. (Appendix 2, #5)	Failure to mitigate and minimize pain. No awareness or plan for improvement.	Awareness and commitment to mitigate and minimize animal pain.	* See note below	Demonstrated performance toward goals through interview and/or observation. Operation takes steps to mitigate and minimize pain. Appropriate programming may include: • Relevant records • No evidence of continuous improvement	* See note below	Processes are in place to measure, monitor, verify and report outcomes toward goals related to pain mitigation and minimization. • Critical procedures and processes that are only known to one individual are documented to ensure outcomes can be achieved in their absence. • Continuous improvement is evident.
6	Operation can demonstrate that it uses clear decision points for euthanasia and it uses acceptable methods of euthanasia. (Appendix 2, #6)	Euthanasia practices are inconsistent with Beef Code of Practice. No awareness or plan for improvement.	Awareness and commitment to use clear decision points for euthanasia and the use of acceptable euthanasia methods.	* See note below	Demonstrated performance and steps toward goals through interview and/or observation to accomplish the outcomes described in the indicator. Appropriate programming may include: • Relevant records • No evidence of continuous improvement	* See note below	Processes are in place to measure, monitor, verify and report outcomes toward goals related to euthanasia methods. • Critical procedures and processes that are only known to one individual are documented to ensure outcomes can be achieved in their absence. • Continuous improvement is evident.

*Levels 2 and 4 are intentionally left blank to provide verifiers flexibility to address potential combinations. We expect to find outcomes with elements of 1 and 3 or 3 and 5 present. This system also provides us with the opportunity to learn from the pilot and inform the CRSB moving forward.

#	Indicator	Barriers to entry	1 – Entry	2	3 – Achievement	4	5 – Excellence
7	Stocking density in feeding pens allows all cattle to lie down at the same time. (Appendix 2, #8)	Failure to provide cattle with conditions where they are able to all lie down at the same time. No awareness or plan for improvement.	Awareness and commitment to stocking density in feeding pens allows all cattle to lie down at the same time.	* See note below	Demonstrated performance toward goals through interview and/or observation so cattle are able to all lay down at the same time. Appropriate programming may include: • Relevant records • No evidence of continuous improvement	* See note below	Processes are in place to measure, monitor, verify and report outcomes toward goals related to stocking density in feeding pens. • Critical procedures and processes that are only known to one individual are documented to ensure outcomes can be achieved in their absence. • Continuous improvement is evident.
8	Operation can demonstrate how it minimizes stress on cattle due to environmental conditions. (Appendix 2, #7-8)	Failure to minimize cattle stress due to environmental conditions. No awareness or plan for improvement.	Awareness and commitment to minimize stress on cattle due to environmental conditions.	* See note below	Demonstrated performance toward goals through interview and/or observation to minimize cattle stress due to environmental conditions. Appropriate programming may include: • Relevant records • No evidence of continuous improvement	* See note below	Processes are in place to measure, monitor, verify and report outcomes toward goals related to minimizing stress on cattle due to environmental conditions. • Critical procedures and processes that are only known to one individual are documented to ensure outcomes can be achieved in their absence. • Continuous improvement is evident.
9	Operation can demonstrate how its facilities and handling techniques minimize stress on cattle. (Appendix 2, #7-8)	Failure to appropriately handle and provide adequate cattle working facilities. No awareness or plan for improvement.	Awareness and commitment to ensure facilities and handling techniques minimize stress on cattle. .	* See note below	Demonstrated performance toward goals through interview and/or observation. Appropriate programming may include: • Relevant records • No evidence of continuous improvement	* See note below	Processes are in place to measure, monitor, verify and report outcomes toward goals related to minimizing stress on cattle. • Critical procedures and processes that are only known to one individual are documented to ensure outcomes can be achieved in their absence. • Continuous improvement is evident.
10	When in control of transport, operation takes action to ensure cattle are loaded and transported properly to minimize stress. (Appendix 2, #9)	Failure to ensure cattle are loaded and/or transported properly to minimize stress. No awareness or plan for improvement.	Awareness and commitment to ensure cattle are loaded and transported in an appropriate manner to minimize stress.	* See note below	Demonstrated performance toward goals through interview and/or observation. Appropriate programming may include: • Relevant records • No evidence of continuous improvement	* See note below	Processes are in place to measure, monitor, verify and report outcomes toward goals related to minimizing stress on cattle during animal transport. • Critical procedures and processes that are only known to one individual are documented to ensure outcomes can be achieved in their absence. • Continuous improvement is evident.

*Levels 2 and 4 are intentionally left blank to provide verifiers flexibility to address potential combinations. We expect to find outcomes with elements of 1 and 3 or 3 and 5 present. This system also provides us with the opportunity to learn from the pilot and inform the CRSB moving forward.

#	Indicator	Barriers to entry	1 – Entry	2	3 – Achievement	4	5 – Excellence
11	Cattle in the breeding herd maintain an ideal body condition score (BCS) based on their stage of production. (Appendix 2, #1)	Failure to maintain an ideal BCS score and not managing cattle to achieve and ideal BCS based on their stage of production. No awareness or plan for improvement.	Awareness and commitment to ensure all animals either have an ideal BCS or are being managed to achieve an ideal BCS based on their stage of production. No supporting records.	*See note below	Demonstrated performance toward goals through interview and/or observation. All animals either have an ideal BCS or are being managed to achieve an ideal BCS. Appropriate programming may include: • Relevant records • No evidence of continuous improvement	*See note below	Processes are in place to measure, monitor, verify and report outcomes toward goals related to BCS scores. • Critical procedures and processes that are only known to one individual are documented to ensure outcomes can be achieved in their absence. • Continuous improvement is evident.

4. Food

#	Indicator	Barriers to entry	1 – Entry	2	3 – Achievement	4	5 – Excellence
1	Operation can demonstrate how it ensures food safety and beef quality. (Appendix 3) (Prerequisite to be VBP trained or registered)	Failure to provide sanitary conditions or inappropriate activities are observed. No awareness or plan for improvement. Operation has not applied for VBP training.	Awareness and commitment to ensure food safety and beef quality. Operation has applied for VBP training.	*See note below	Demonstrated performance toward goals through interview and/or observation. VBP trained or registered. Appropriate programming may include: • Relevant records • No evidence of continuous improvement	*See note below	Processes are in place to measure, monitor, verify and report outcomes toward goals related to beef safety and quality and operation is VBP registered. • Critical procedures and processes that are only known to one individual are documented to ensure outcomes can be achieved in their absence. • Continuous improvement is evident.
2	Operation shares information up and down the value chain. (Prerequisite to be registered in BIXS 2.0)	Operation does not share information up and down the value chain. Is unwilling to register in BIXS 2.0. No awareness or plan for improvement.	Awareness and commitment to share information up and down the value chain. Operation is registered in BIXS 2.0.	*See note below	Demonstrated performance toward goals through interview and/or observation. Operation shares information through BIXS 2.0 (either directly or through their designated Third Party Provider) Appropriate programming may include: • Relevant records/observations • No evidence of continuous improvement	*See note below	Processes are in place to measure, monitor, verify and report outcomes toward goals related to information sharing throughout the value chain. • Critical procedures and processes that are only known to one individual are documented to ensure outcomes can be achieved in their absence. • Continuous improvement is evident.

*Levels 2 and 4 are intentionally left blank to provide verifiers flexibility to address potential combinations. We expect to find outcomes with elements of 1 and 3 or 3 and 5 present. This system also provides us with the opportunity to learn from the pilot and inform the CRSB moving forward.

5. Efficiency and Innovation

#	Indicator	Barriers to entry	1 – Entry	2	3 – Achievement	4	5 – Excellence
1	Operation reuses and recycles. (Appendix 1, #4,11)	Failure to reuse and recycle. No awareness or plan for improvement.	Awareness and commitment to reuse and recycle.	* See note below	Demonstrated performance toward goals through interview and/or observation of a reuse and recycling program. Appropriate programming may include: • Relevant records • No evidence of continuous improvement	* See note below	Processes are in place to measure, monitor, verify and report outcomes toward goals related to reusing and recycling. • Critical procedures and processes that are only known to one individual are documented to ensure outcomes can be achieved in their absence. • Continuous improvement is evident.
2	Operation improves energy efficiency.	Failure to improve energy efficiency. No awareness or plan for improvement.	Awareness and commitment to improve energy efficiency.	*See note below	Demonstrated performance toward goals through interview and/or observation. Evidence of efforts to optimize energy use to improve efficiency and productivity. Appropriate programming may include: • Relevant records • No evidence of continuous improvement	*See note below	Processes are in place to measure, monitor, verify and report outcomes toward goals related to energy efficiency. • Critical procedures and processes that are only known to one individual are documented to ensure outcomes can be achieved in their absence. • Continuous improvement is evident.
3	Operation responsibly optimizes efficiency and productivity through innovation and technology. (e.g. breeding, genetic selection, feeding technologies)	Failure to optimize efficiency and productivity through innovation and technology. No awareness or plan for improvement.	Awareness and commitment to optimize efficiency and productivity through innovation and technology.	* See note below	Demonstrated performance toward goals through interview and/or observation to optimize efficiency and productivity through innovation and technology. Appropriate programming may include: • Relevant records • No evidence of continuous improvement	* See note below	Processes are in place to measure, monitor, verify and report outcomes toward goals related to optimization of efficiency through innovation and technology. • Critical procedures and processes that are only known to one individual are documented to ensure outcomes can be achieved in their absence. • Continuous improvement is evident.
#	**Indicator**	**Barriers to entry**	**1 – Entry**	**2**	**3 – Achievement**	**4**	**5 – Excellence**

*Levels 2 and 4 are intentionally left blank to provide verifiers flexibility to address potential combinations. We expect to find outcomes with elements of 1 and 3 or 3 and 5 present. This system also provides us with the opportunity to learn from the pilot and inform the CRSB moving forward.

4	Operation demonstrates safe and responsible use of crop protection products and fertilizers (e.g. pesticides, herbicides, fungicides and N, P, K) associated with non-row crops (e.g. hay production) (Appendix 1, No.3-4 and 12) (Appendix 3)	Failure to safely and responsibly use crop protection products and fertilizers. No awareness or plan for improvement.	Awareness and commitment to responsible use of crop protection products and fertilizers associated with non-row crops.	* See note below	Demonstrated performance toward goals through interview and/or observation. Appropriate programming may include: • Relevant records • No evidence of continuous improvement	* See note below	Processes are in place to measure, monitor, verify and report outcomes toward goals related to responsible use of crop protection products and fertilizers. • Critical procedures and processes that are only known to one individual are documented to ensure outcomes can be achieved in their absence. • Continuous improvement is evident.
5	Operation engages with subject-matter experts to obtain information regarding critical issues related to sustainability in beef production.	Failure to engage with subject matter experts regarding issues related to sustainability in beef production. No awareness or plan for improvement.	Awareness and commitment to engage with subject matter experts regarding critical issues related to sustainability in beef production.	* See note below	Demonstrated performance toward goals through interview and/or observation. Engaging with subject matter experts regarding issues related to sustainability in beef production. Appropriate programming may include: • Relevant records • No evidence of continuous improvement	* See note below	Processes are in place to document subject matter expert contributions. • Critical procedures and processes that are only known to one individual are documented to ensure outcomes can be achieved in their absence. • Continuous improvement is evident.
6	Operation engages with upstream and downstream stakeholders to help them understand production issues related to sustainability in beef production.	Failure to engage with upstream and downstream stakeholders. No awareness or plan for improvement.	Awareness and commitment to engage with upstream and downstream stakeholders.	* See note below	Demonstrated performance toward goals through interview and/or observation. Appropriate programming may include: • Relevant records • No evidence of continuous improvement	* See note below	Processes are in place to document upstream and downstream stakeholder engagement and input. • Critical procedures and processes that are only known to one individual are documented to ensure outcomes can be achieved in their absence. • Continuous improvement is evident.

Please direct questions and comments regarding these indicators to mattsv@prasinogroup.com or call Matt Sutton-Vermeulen at 515-371-7914

*Levels 2 and 4 are intentionally left blank to provide verifiers flexibility to address potential combinations. We expect to find outcomes with elements of 1 and 3 or 3 and 5 present. This system also provides us with the opportunity to learn from the pilot and inform the CRSB moving forward.

Appendix 1 – Natural Resource Supporting Program Materials

1. **Environmental Farm Plan (EFP) -** Producer self-assessment of risks; development of a Farm Plan to address high priority risks over time. Worksheets that could be developed into Management Plans with conservation impacts: Soil Management/Crop Management, Pasture Management/Pest Management/Grazing Management/Trees, Shelterbelts, Woodlots and Bush/Water Bodies/Wintering Sites Livestock Yards; Manure Storage; Manure Use and Management; Nutrient Management for Crop Production; Livestock Wintering Sites; Soil Management; Water bodies (http://www.albertaefp.com)
2. **Cows and Fish Riparian Management (CFRM) -** Technical assistance programs to enhance and protect riparian zones (http://www.cowsandfish.org)
3. **Growing Forward 2 Programming (GF2)** – Once an EFP Plan is in place, BMP cost shared programs that have conservation indicators: Cow-Calf On-Farm Stewardship; Confined Feeding and Water Management (http://www.growingforward.alberta.ca/GF2Search/index.htm?interestedin=Environmental%20Stewardship)
4. **Sector-based BMP Manuals (BMP)** - Cow/Calf; Farmstead; Cropping and Confined Livestock (http://www1.agric.gov.ab.ca/$department/deptdocs.nsf/all/agdex13088)
5. **Grazing Lease Stewardship Code of Practice (COP) -** 4 Key principles to rangeland management; applies to those who are grazing cattle on public lands (stocking rates, timing, etc) (http://esrd.alberta.ca/lands-forests/grazing-range-management/range-plant-community-guides-stocking-rates.aspx)
6. **Rangeland Health Assessment Field Sheets (RHA)-** Visual, quantifiable assessment that determines ecological health classification of grassland, forest and tame pastures., Native plant community guides, stocking rates are available for sub-regions in Alberta **(**http://esrd.alberta.ca/lands-forests/grazing- range-management/range-health.aspx)
7. **Beneficial Grazing Management Practices for Sage grouse and Ecology of Silver Sagebrush in Southeastern Alberta** – (http://esrd.alberta.ca/lands- forests/grazing-range-management/documents/BeneficialGrazing-SageGrouseSagebrush-2004.pdf)
8. **Management Plans could include**: Sustainable Grazing Management Plan (tame/native/forests on public and private lands); Riparian Management Plan Rangeland Management Plan ()(public rangelands); Woodlot Management Plan; MULTISAR Plan – Grassland Natural Region, Alberta (http://esrd.alberta.ca/fish-wildlife/species-at-risk/species-at-risk-publications-web-resources/species-at-risk-general/documents/SAR148-MULTISAR- StrategyGrasslandRegion-2012-2013-Report-April2013.pdf)
9. **AOPA Confined Feeding Operations Extension Materials (AOPA)** - See http://www1.agric.gov.ab.ca/$department/deptdocs.nsf/all/epw9798/$file/brochure.pdf
10. **Cow-Calf On-Farm Stewardship; Confined Feeding and Water Management** - See **(http://www.growingforward.alberta.ca/GF2Search/index.htm?interestedin=Environmental%20Stewardship)**
11. **Sector-based BMP Manuals (BMP) - Cow/Calf; Farmstead; Cropping and Confined Livestock** - See **(http://www1.agric.gov.ab.ca/$department/deptdocs.nsf/all/agdex13088)**
12. **Management Plans could include: Nutrient Management Plans; Manure Management Plans; Sustainable Grazing Management Plans; Crop Management Plans**
13. **Cow-Calf Operations and Greenhouse Gases Workbook –** See http://www1.agric.gov.ab.ca/$department/deptdocs.nsf/all/cl9706/$FILE/cowcalf_final_complete.pdf
14. **Water Quality Resource Materials – see:** http://www.agriculture.alberta.ca/app21/infopage?cat1=Soil%2FWater%2FAir or http://www1.agric.gov.ab.ca/$department/deptdocs.nsf/all/wat3345

Appendix 2 – Animal Health and Welfare Program Materials

Source Document – Code of Practice for the Care and Handling of Beef Cattle (https://www.nfacc.ca/codes-of-practice/beef-cattle)

1. **Beef Code –** Nutrition and Feed Management (Section 2.1, Page 11 and Appendix A)
   Key Requirements:
   - Monitor cattle behaviour, performance, body condition score and health on an ongoing basis and adjust the ***feeding program*** accordingly.
   - Ensure cattle have access to feed of adequate quality and quantity to fulfill their nutritional needs at all times, and maintain proper body condition, taking into account factors such as: age, frame size, reproductive status, health status, level of production, competition and weather.
   - Take prompt corrective action to improve the body condition score of cattle with a score of 2 or less (out of 5).

   Additional Tools: http://www.beefresearch.ca/research/body-condition-scoring.cfm
2. **Beef Code –** Nutrition and Feed Management (Section 2.2, Page 12)
   Key Requirements:
   - Ensure that cattle have access to palatable water of adequate quality and quantity to fulfill their physiological needs.
   - Monitor water sources, feeding habits, behaviour, performance and health on an ongoing basis and be prepared to adjust the ***watering program*** accordingly[1].
3. **Beef Code –** Nutritional Disorders Associated with High Energy Feeding (Section 3.3.3, Page 16)
   Key Requirements:
   - Design, implement, evaluate and adjust your feeding program to reduce the risk of nutrition-induced disorders, and consult your veterinarian or a nutritionist when needed.
   - Transition cattle from high-forage to high-energy rations gradually to avoid abrupt dietary changes[2]
4. **Beef Code –** Herd Health Management (Section 3.1, Page 14)
   Key Requirements:
   - Establish an ongoing working relationship (VCPR) with a licensed practicing veterinarian and develop a strategy for disease prevention and herd health[3]
5. **Beef Code –** Animal Husbandry (Section 4.4, Page 22; Section 4.5, P.23; Section 4.8, P. 25)
   Key Requirements:
   De-horning and de-budding:
   - Dehorning must be performed only by competent personnel using proper, well-maintained tools and accepted techniques.
   - Seek guidance from your veterinarian on the availability and advisability of pain control for disbudding or dehorning beef cattle.
   - Disbud calves as early as practically possible, while horn development is still at the horn bud stage (typically 2-3 months).
   - EFFECTIVE JANUARY 1, 2016 - use pain control, in consultation with your veterinarian to mitigate pain associated with dehorning calves after horn bud attachment

   Castration
   - Castration must be performed by competent personnel using proper, clean, well-maintained instruments and accepted techniques.

[1] See the Code for requirements for feeding snow as the sole water source for cattle types.
[2] Consider: monitor feed bunks to assess prior consumption and adjust feeding accordingly; include forage of effective particle length in all diets to reduce sub-acute ruminal acidosis; consider adjusting rations to prevent digestive disorders when cattle feed intake is interrupted (due to storm, power outage, machinery breakdown, etc.)
[3] Recommended to maintain accurate animal management and health records

- Seek guidance from your veterinarian on the optimum method and timing of castration, as well as the availability and advisability of pain control for castrating beef cattle.
- Castrate calves young as possible
- EFFECTIVE JANUARY 1, 2016 - use pain control, in consultation with your veterinarian, when castrating bulls older than nine months of age.

Tail Docking

- Beef cattle must not be tail docked unless on the advice of a veterinarian.

6. **Beef Code –** On-Farm Euthanasia (Section 6.1 and 6.2, Page 29; Section 6.3, P. 32)

Key Requirements:

- Euthanize (or cull*) without delay cattle that:
  - Are unlikely to recover, fail to respond to treatment and convalescent protocols, have chronic, severe, or debilitating pain and distress, are unable to get to or consume feed and water, or show continuous weight loss or emaciation.
  - An acceptable method for euthanizing cattle must be used (see Table 6.1 in the Code).
    - Euthanasia must be performed by competent personnel (through training, experience, or mentorship).
    - Equipment used for euthanasia, such as guns or captive bolt devices, must be maintained according to manufacturers' instructions to ensure proper function.
    - Non-ambulatory cattle may not be dragged or forced to move prior to euthanasia

Confirmation of Insensibility or Death

- Evaluate the animal's consciousness immediately after the application of the appropriate euthanasia method by checking for a corneal reflex (see below).
  - Be prepared to immediately deliver a second application should the first attempt not render the animal immediately insensible.
  - Confirm death before moving or leaving the animal (see below). Confirm insensibility:
  - Touch the eyeball and note if the animal blinks (corneal reflex). An insensible animal will not blink.
  - Confirm death: A lack of heartbeat and respiration should be used to confirm death (50):
  - Evaluate heartbeat by physical palpation or by placing a stethoscope over the left lower chest area of the animal, just behind the elbow.
  - Evaluate respiration by observing the chest for any breathing movement. Note that breathing may be slow and erratic in an unconscious animal.

7. Beef Code – Animal Husbandry, Handling and Moving Cattle (Section 4.1, P. 19)

Key Requirements:

- Animal handlers must be familiar with cattle behaviour (through training, experience or mentorship) and use quiet handling techniques.
- Electric prods must only be used to assist movement of cattle when animal or human safety is at risk or as a last resort when all other humane alternatives have failed and only when cattle have a clear path to move.
  - Do not use electric prods repeatedly on the same animal; on the genitals, face, udder or anal areas; or, on calves less than three months of age that can be moved manually
- Willful mistreatment or intentional harm of cattle is unacceptable. This includes but is not limited to: beating an animal; slamming gates on animals; allowing herd dogs to continue pushing cattle with nowhere to move; dragging or pushing cattle with machinery (unless to protect animal or human safety).

8. **Beef Code – Animal Environment (Section 1, P. 7)**

   Key Requirements:

   - Cattle must have access to areas, either natural or man-made, that provide relief from weather that is likely to create a serious risk to their welfare.
   - Promptly assist individual cattle showing signs of not coping with adverse weather (see Sections 1.1.1 and 1.1.2 of the Code for lists of signs)
   - All beef operations must have access to equipment or facilities for the safe handling, restraint, treatment, segregation, loading, and unloading of cattle.
     - Design or manage indoor and outdoor cattle facilities to provide well-drained, comfortable resting areas.
     - Provide traction in handling areas to minimize cattle slips and falls.
     - All cattle in a group must have sufficient space to adopt normal resting postures at the same time.
     - Cattle kept in groups must be able to move freely around the pen and access feed and water.
     - Stocking density must be managed such that weight gain and duration of time spent lying is not adversely affected by crowding.
     - Maintain indoor air quality and ventilation at all times (ammonia levels < 25ppm).
     - Provide cattle housed indoors that do not have access to natural light with supplementary lighting to allow natural behaviour patterns and monitoring of the cattle

9. **Beef Code – Transportation (Section 5.1, P. 26)**

   Key Requirements:

   - Unfit cattle must not be transported unless for veterinary diagnosis or treatment under the advice of a veterinarian (refer to Appendix D for a list of conditions).
   - Compromised animals may only be transported with special provisions and directly to their final destination (refer to Appendix D for a list of conditions and special provisions).
   - Cattle must receive feed and water within five hours prior to loading if transport will exceed 24 hours.
   - Cows or heifers that are likely to give birth during the journey must not be transported, unless for veterinary diagnosis or treatment.
   - Ensure that any loading and unloading equipment, chutes or conveyances are free of hazards in order to minimize the risk of injury

   Source document – World Organization for Animal Health (OIE) - Terrestrial Animal Health Code - 20/07/2015 (http://www.oie.int/index.php?id=169&L=0&htmfile=chapitre_aw_beef_catthe.htm)

10. **Animal Welfare and Beef Cattle Production Systems (Article 7.9.5.2-Environment.e-Nutrition)**

    - All cattle need an adequate supply and access to palatable water that meets their physiological requirements and is free from contaminants hazardous to cattle health.

Appendix 3 – Additional Resource Materials

Verified Beef Production

1. Website for the Verified Beef Program; see - http://www.verifiedbeef.org/about_us.htm
2. Manual for the VBP Program; see - http://www.verifiedbeef.org/downloads/manual/vbp_producer_manual-checklist.pdf
3. Producer Checklist for the 55 Required Procedures; see - http://www.verifiedbeef.org/downloads/manual/checklist.pdf
4. VBP Site where the On-line Training can be accessed; templates and other resource materials; see, http://www.verifiedbeef.org/producer_resources.htm

McDonald's Global Vision for Antimicrobial Stewardship in Food Animals

Comprehensive document – http://www.aboutmcdonalds.com/content/dam/AboutMcDonalds/Sustainability/Antimicrobial_Stewardship_Vision.pdf

Four Guiding Criteria include:

1. Consider alternative strategies (e.g. husbandry, probiotics), before administering antimicrobials.
2. Do not use critically important antimicrobials (WHO definition) not presently approved for veterinary use.
3. Classes of antimicrobials approved for both human and veterinary medicine should…
   a. Only be used for treatment or prevention of animal disease in conjunction with a veterinary-developed animal health care program.
   b. Not be used for growth promotion purposes.
4. Do not use medically important antimicrobials (WHO definition) for growth promotion.

McDonald's Sustainable Beef Pilot Project – Fed Cattle/Intensive Indicators

Background

McDonald's intends for this Sustainable Beef Pilot project (Pilot) to accomplish the following three objectives:

1. Begin purchasing a portion of our beef from verified sustainable sources in 2016
2. Bring the GRSB's Principles and Criteria to life through a locally-relevant, outcomes-based initiative
3. Support and accelerate development of an industry-led beef sustainability framework in the host geography

To make these objectives possible, the following indicators have been developed for use in Canada with alignment to the GRSB Principles[1] and Criteria. When possible, the indicators were developed to provide specific, action-oriented, measurable, realistic outcomes. The 29 Fed cattle/Intensive indicators have been developed by McDonald's with significant input from diverse stakeholders including: Canadian Cattlemen's Association, Alberta Cattle Feeders Association, National Cattle Feeders Association, individual producers, academicians, subject matter experts, non-governmental organizations, and processors. Cereal grain/feed production-related indicators are not in the scope of this pilot. The Canadian Roundtable for Sustainable Crops (CRSC) is developing cereal grain/feed production-related indicators and McDonald's is prepared to integrate them into beef sustainability claims after they are fully vetted. The following indicators are provided to voluntary SB Pilot participants, so they can prepare to host an independent 3rd party professional verifier, from Where Food Comes From (www.wherefoodcomesfrom.com) with significant experience in beef cattle production, to perform an on-site verification, of the indicators, paid for by McDonald's.

Indicator scoring system used by the 3rd party verifiers

1 = Entry level = Participants have an awareness and commitment to accomplish the outcome. There are no observed, intentional, ongoing acts of abuse specific to this indicator.

2 = Participants in level 2 demonstrate outcomes with elements of both the Entry level and Achievement level.

3 = Achievement level = Demonstrated performance toward goals through interview and/or observation related to the specific indicator.

- Relevant records
- No evidence of continuous improvement

4 = Participants in level 4 demonstrate outcomes with elements of both the Achievement level and Excellence level.

5 = Excellence level = Processes are in place to measure, monitor, verify and report outcomes toward related goals specific to the indicator.

- Continuous improvement is evident.

[1] Natural resources, Community and People, Animal health and Welfare, Food, and Efficiency and Innovation

*Levels 2 and 4 are intentionally left blank to provide verifiers flexibility to address potential combinations. We expect to find outcomes with elements of 1 and 3 or 3 and 5 present. This system also provides us with the opportunity to learn from the pilot and inform the CRSB moving forward.

- **Barriers to entry** – Barriers to entry are defined as negative outcomes resulting from ongoing acts that are not being addressed by the participant with no awareness or plan for improvement. Example barriers to entry are provided for each indicator but not meant to be comprehensive. These are meant to ensure processes are in place to deliver minimum performance levels. Corrective actions to address barriers to entry must be made within 30 days of the verification report date to enable the operation to be designated SB.
- **Indicator Significance** – Critical indicators are defined as outcomes critical to maintain and enhance the social license of the Canadian beef community. Critical indicator numbers are highlighted in yellow.
  In cases where a particular indicator does not apply to a participant, participants are expected to bring it to the attention of the verifier.
- **Verification status of an operation –** For the purpose of the SB Pilot, an operation will need to achieve the following verification performance for cattle they produce to be counted as contributing to McDonald's purchases of Sustainable Beef:
  - A score of 3 or higher for all critical indicators
  - An average score of 3 or higher for each of the 5 principles

Example:

Principle 3 – Animal health and Welfare

Indicator 2 – Cattle have at-will access to a palatable, quality water source.

5 – Excellence: Processes are in place to measure, monitor, verify and report outcomes toward goals related to cattle having at-will access to a palatable, quality water source.

- Critical procedures and processes that are only known to one individual are documented to ensure outcomes can be achieved in their absence.
- Continuous improvement is evident.

3 – Demonstrated outcomes with elements of both the Achievement level (3) and Excellence level (5).

3 – Achievement: Demonstrated performance toward goals through interview and/or observation. Cattle have access to a palatable, quality water source. Appropriate programming may include:

- Relevant records (Appendix 2, #2 and 10)
- No evidence of continuous improvement

2 – Demonstrated outcomes with elements of both the Entry level (1) and Achievement level (3).

1 – Entry level: Awareness and commitment to provide cattle access to a palatable, quality water source.

Barriers to entry: Failure to provide cattle at-will access to a palatable, quality water source.

Indicator Sector Significance – Critical

There are 11 critical indicators for Fed Cattle/Intensive operations

*Levels 2 and 4 are intentionally left blank to provide verifiers flexibility to address potential combinations. We expect to find outcomes with elements of 1 and 3 or 3 and 5 present. This system also provides us with the opportunity to learn from the pilot and inform the CRSB moving forward.

McDonald's Sustainable Beef Pilot Project – Fed Cattle/Intensive Indicators

1. Natural resources (See Appendix 1 for supporting program materials)

#	Indicator	Barriers to entry*	1 – Entry	2	3 - Achievement	4	5 – Excellence
1	Water quality, sediment, nutrient runoff, ground water and waterway health are responsibly managed. (Appendix 1, #9-12)	Failure to responsibly manage water quality, sediment, nutrient runoff, ground water. No awareness or plan for improvement.	Awareness and commitment to responsible management of waterway health, water quality sediment, nutrient runoff and ground water.	* See note below	Demonstrated performance toward goals through interview and/or observation of a water management program. Appropriate programming may include: • Farm Plans (EFP) in place • CFRM programs in place • GF2 BMPs or BMPs or AOPA Extension materials incorporated into a management plan	* See note below	Processes are in place to measure, monitor, verify and report outcomes toward goals related to the responsible and efficient management of water resources. • Continuous improvement is evident.
2	Soil health is maintained or improved. (Appendix 1, # 3, 9, 11-12	Failure to manage soil health. No awareness or plan for improvement.	Awareness and commitment to maintain or improve soil health.	* See note below	Demonstrated performance toward goals through interview and/or observation of soil health with 1 of the following or similar programming. Appropriate programming may include: • Farm Plans (EFP) in place • CFRM or other provincial programs in place • GF2 BMPs or BMPs or AOPA Extension materials incorporated into a management plan)	* See note below	Processes are in place to measure, monitor, verify and report outcomes toward goals related to soil health. • Continuous improvement is evident.
3	When a practical science-based tool is available, operation is willing to provide information to calculate Carbon sequestration and emissions. (Appendix 1, #13)	Unwilling to provide information to calculate Carbon sequestration and emissions when a practical, science-based tool is available.	Awareness and commitment to use a practical science-based tool to calculate Carbon sequestration and emissions when it is available.	* See note below	Operation is already taking steps that are known to help sequester carbon and reduce emissions and when a practical, science-based tool is available is willing to provide information.	* See note below	Operation is already taking steps that are known to help sequester carbon and reduce emissions and using science-based methods to measure, monitor, manage, verify and report outcomes toward goals related to carbon. • Continuous improvement is evident.

*Levels 2 and 4 are intentionally left blank to provide verifiers flexibility to address potential combinations. We expect to find outcomes with elements of 1 and 3 or 3 and 5 present. This system also provides us with the opportunity to learn from the pilot and inform the CRSB moving forward.

2. Community and People

#	Indicator	Barriers to entry	1 – Entry	2	3 - Achievement	4	5 – Excellence
1	Operation ensures safe and healthy work environment.	Failure to ensure a safe and healthy work environment. No awareness or plan for improvement.	Awareness and commitment to create and maintain a safe and healthy work environment.	* See note below	Demonstrated performance toward goals through interview and/or observation. All employees are equipped and trained to reduce safety risks. Appropriate programming may include: • Relevant records • No evidence of continuous improvement	* See note below	Processes are in place to measure, monitor, verify and report outcomes toward goals related to training of workers and provision of safe working conditions. • Continuous improvement is evident.
2	Operation supports local community. Local community is defined by each individual	Failure to support local community. No awareness or plan for improvement.	Awareness and commitment to support local community.	* See note below	Demonstrated support of the local community through interview and/or observation. Appropriate programming may include: • Relevant records • No evidence of continuous improvement	* See note below	Processes are in place to measure, monitor, verify and report outcomes toward goals related to community support. • Continuous improvement is evident.
3	Career development opportunities are provided.	Failure to provide career development opportunities. No awareness or plan for improvement.	Awareness and commitment to create career development opportunities.	* See note below	Demonstrated performance toward goals through interview and/or observation. Career development opportunities are provided. Appropriate programming may include: • Relevant records • No evidence of continuous improvement	* See note below	Processes are in place to measure, monitor, verify and report outcomes toward goals related to career development opportunities provided. • Continuous improvement is evident.
4	Workers cultural heritage is recognized and treated with respect.	Failure to recognize and respect workers cultural heritage. No awareness or plan for improvement.	Awareness and commitment to recognize and respect workers cultural heritage.	* See note below	Demonstrated performance toward goals through interview and/or observation. Cultural heritage of community members is recognized and treated with respect. Appropriate programming may include: • Relevant records • No evidence of continuous improvement	* See note below	Processes are in place to measure, monitor, verify and report outcomes toward goals related to cultural heritage. • Continuous improvement is evident.

*Levels 2 and 4 are intentionally left blank to provide verifiers flexibility to address potential combinations. We expect to find outcomes with elements of 1 and 3 or 3 and 5 present. This system also provides us with the opportunity to learn from the pilot and inform the CRSB moving forward.

5. Operation follows applicable labor laws and regulations: employment status, hours worked, child labor laws, hiring practices, grievance, etc. Yes or No
6. Operation has evidence of the right to use land for the purpose of beef production. Yes or No
7. Where applicable, legal minimum wage is met for all workers. Yes or No
8. Operation has proof of permit for Confined Feeding Operation if applicable. Yes or No

3. Animal Health and Welfare

#	Indicator	Barriers to entry	1 – Entry	2	3 - Achievement	4	5 – Excellence
1	Diet composition for confined animals is balanced to promote good health. (Appendix 2, #1-3)	Failure to balance diet composition for confined animals to promote good health. No awareness or plan for improvement.	Awareness and commitment to provide appropriate diet composition for confined animals is balanced to promote good health.	*See note below	Demonstrated performance toward goals through interview and/or observation. Feeding programs are well defined to meet specific nutritional requirements of the animals. Appropriate programming may include: • Relevant records • No evidence of continuous improvement	*See note below	Processes are in place to measure, monitor, verify and report outcomes toward goals related to the diet composition for confined animals. • Continuous improvement is evident.
2	Cattle have at-will access to a palatable, quality water source. (Appendix 2, # 2 and 10)	Failure to provide cattle at-will access to a palatable, quality water source. No awareness or plan for improvement.	Awareness and commitment to provide cattle at-will access to a palatable, quality water source.	*See note below	Demonstrated performance toward goals through interview and/or observation. Cattle have access to a palatable, quality water source. Appropriate programming may include: • Relevant records • No evidence of continuous improvement	*See note below	Processes are in place to measure, monitor, verify and report outcomes toward goals related to palatable, quality and quantity of water. • Continuous improvement is evident.
3	Operation can demonstrate how it measures and monitors animal health. (Appendix 2, # 4)	Failure to demonstrate how the operation measures and monitors animal health. No evidence of a valid vet-client/patient relationship	Awareness and commitment to measure and monitor animal health. Operation has a valid VCPR.	* See note below	Operation has a valid VCPR, a health plan, and treatment records. Appropriate programming may include: • Relevant records • No evidence of continuous improvement	* See note below	Operation has a valid VCPR, animal health plan, treatment records, tracking of both morbidity and mortality. • Continuous improvement is evident.

*Levels 2 and 4 are intentionally left blank to provide verifiers flexibility to address potential combinations. We expect to find outcomes with elements of 1 and 3 or 3 and 5 present. This system also provides us with the opportunity to learn from the pilot and inform the CRSB moving forward.

McDonald's Sustainable Beef Pilot Project – Fed Cattle/Intensive Indicators

#	Indicator	Barriers to entry	1 – Entry	2	3 - Achievement	4	5 – Excellence
4	Operation demonstrates judicious use of pharmaceuticals and/or vaccines in accordance with labeling and/or veterinary prescription. (Appendix 2, #4 and Verified Beef Production Appendix 3)	Evidence of failure to use pharmaceuticals and/or vaccines in a judicious manner. No evidence of a valid VCPR.	Operation has a valid VCPR, case definitions, treatment protocols, and an antibiotic residue avoidance program.	* See note below	Operation has a valid VCPR, case definitions, treatment protocols, an antibiotic residue avoidance program, treatment records, and a preventative medicine program. Appropriate programming may include: • Relevant processing and treatment protocols and records including veterinary training records available. • No evidence of continuous improvement	* See note below	Operation has a valid VCPR, case definitions, treatment protocols, an antibiotic residue avoidance program, treatment records, and a preventative medicine program. • Continuous improvement is evident. • Alignment with McDonald's Global Vision for Antimicrobial Stewardship (Appendix 3)
5	Operation can demonstrate steps implemented to mitigate and minimize animal pain. (Appendix 2 #5)	Failure to mitigate and minimize animal pain. No awareness or plan for improvement.	Awareness and commitment to mitigate and minimize animal stress and pain.	* See note below	Demonstrated performance toward goals through interview and/or observation of steps to mitigate and minimize animal pain. Appropriate programming may include: • Relevant records • No evidence of continuous improvement	* See note below	Processes are in place to measure, monitor, verify and report outcomes toward goals related to the mitigation and minimization of animal pain. • Continuous improvement is evident.
6	Operation can demonstrate that it uses clear decision points for euthanasia and it uses acceptable methods of euthanasia. (Appendix 2, #6)	Failure to demonstrate use of clear decision points for euthanasia and acceptable methods for euthanasia. No awareness or plan for improvement.	Awareness and commitment to use clear decision points for euthanasia and the use of acceptable euthanasia methods.	* See note below	Demonstrated performance toward goals through interview and/or observation. Appropriate programming may include: • Relevant records • No evidence of continuous improvement	* See note below	Processes are in place to measure, monitor, verify and report outcomes toward goals related to euthanasia. • Continuous improvement is evident.
7	Stocking density in feeding pens is appropriate so that cattle can all lie down at the same time. (Appendix 2, #8)	Failure to provide cattle in feeding pens with room to all lie down at the same time. No awareness or plan for improvement.	Awareness and commitment to appropriate stocking density in feeding pens.	* See note below	Demonstrated performance toward goals through interview and/or observation so cattle in feeding pens are able to all lie down at the same time. Appropriate programming may include: • Relevant records • No evidence of continuous improvement	* See note below	Processes are in place to measure, monitor, verify and report outcomes toward goals related to stocking density in feeding pens. • Continuous improvement is evident.

*Levels 2 and 4 are intentionally left blank to provide verifiers flexibility to address potential combinations. We expect to find outcomes with elements of 1 and 3 or 3 and 5 present. This system also provides us with the opportunity to learn from the pilot and inform the CRSB moving forward.

#	Indicator	Barriers to entry	1 – Entry	2	3 - Achievement	4	5 – Excellence
8	Operation can demonstrate how it minimizes stress on cattle due to environmental conditions. (Appendix 2, #7-8)	Failure to minimize cattle stress due to environmental conditions. No awareness or plan for improvement.	Awareness and commitment to minimize stress on cattle due to environmental conditions.	* See note below	Demonstrated performance toward goals through interview and/or observation to minimize cattle stress due to environmental conditions. Appropriate programming may include: • Relevant records • No evidence of continuous improvement	* See note below	Processes are in place to measure, monitor, verify and report outcomes toward goals related to cattle stress caused by environmental conditions. • Continuous improvement is evident.
9	Operation can demonstrate how its facilities and handling techniques minimize stress on cattle. (Appendix 2, #7-8)	Failure to provide adequate cattle working facilities and handling techniques to minimize cattle stress. No awareness or plan for improvement.	Awareness and commitment to ensure facilities and handling techniques minimize stress on cattle.	* See note below	Demonstrated performance toward goals through interview and/or observation that facilities and handling techniques minimize stress on cattle. Appropriate programming may include: • Relevant records • No evidence of continuous improvement	* See note below	Processes are in place to measure, monitor, verify and report outcomes toward goals related to mitigating cattle stress caused by facilities. • Continuous improvement is evident.
10	When in control of transport, operation takes action to ensure cattle are loaded and transported to minimize stress on cattle. (Appendix 2, # 9)	Failure to ensure cattle are loaded and/or transported properly to minimize stress. No awareness or plan for improvement.	Awareness and commitment to ensure cattle are loaded and transported in an appropriate manner to minimize stress.	* See note below	Demonstrated performance toward goals through interview and/or observation regarding cattle loading and transport to minimize stress. Appropriate programming may include: • Relevant records • No evidence of continuous improvement	* See note below	Processes are in place to measure, monitor, verify and report outcomes toward goals related to minimizing stress on cattle during loading and transport. • Continuous improvement is evident.

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4. Food

#	Indicator	Barriers to entry	1 – Entry	2	3 - Achievement	4	5 – Excellence
1	Operation can demonstrate how it ensures food safety and beef quality. (Prerequisite for operations to be VBP trained or registered) (Appendix 3)	Failure to ensure food safety and beef quality. No awareness or plan for improvement. Operation has not applied for VBP training.	Awareness and commitment to ensure food safety and beef quality. Operation has applied for VBP training.	*See note below	Demonstrated performance toward goals through interview and/or observation. VBP trained or registered. Appropriate programming may include: • Relevant records • No evidence of continuous improvement	*See note below	Processes are in place to measure, monitor, verify and report outcomes toward goals related to food safety and beef quality and operation is VBP registered. • Continuous improvement is evident.
2	Operation shares information up and down the value chain. (Prerequisite is to be registered in BIXS 2.0)	Failure to share information up and down the value chain. Unwilling to register in BIXS 2.0. No awareness or plan for improvement.	Awareness and commitment to share information up and down the value chain. Operation is registered in BIXS 2.0.	*See note below	Demonstrated performance toward goals through interview and/or observation. Operation shares information through BIXS 2.0 (either directly or through their designated Third Party Provider). Appropriate programming may include: • Relevant records/observations • No evidence of continuous improvement	*See note below	Processes are in place to measure, monitor, verify and report outcomes toward goals related to information sharing throughout the value chain. • Continuous improvement is evident.

5. Efficiency and Innovation

#	Indicator	Barriers to entry	1 – Entry	2	3 - Achievement	4	5 – Excellence
1	Operation reuses and recycles. (Appendix 1, #4,11)	Failure to reuse and recycle. No awareness or plan for improvement.	Awareness and commitment to reuse and recycle.	* See note below	Demonstrated performance toward goals through interview and/or observation of a reuse and recycling program. Appropriate programming may include: • Relevant records • No evidence of continuous improvement	* See note below	Processes are in place to measure, monitor, verify and report outcomes toward goals related to reusing and recycling. • Continuous improvement is evident.

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#	Indicator	Barriers to entry	1 – Entry	2	3 - Achievement	4	5 – Excellence
2	Operation improves energy efficiency.	Failure to improve energy efficiency. No awareness or plan for improvement.	Awareness and commitment to improve energy efficiency.	*See note below	Demonstrated performance toward goals through interview and/or observation. Evidence of efforts to optimize energy use to improve efficiency and productivity. Appropriate programming may include: • Relevant records • No evidence of continuous improvement	*See note below	Processes are in place to measure, monitor, verify and report outcomes toward goals related to energy efficiency. • Continuous improvement is evident.
3	Operation responsibly optimizes efficiency and productivity through innovation and technology. (e.g. Feeding strategies, performance enhancement technologies)	Failure to optimize efficiency and productivity through innovation and technology. No awareness or plan for improvement.	Awareness and commitment to optimize efficiency and productivity through innovation and technology.	* See note below	Demonstrated performance toward goals through interview and/or observation to optimize efficiency and productivity through innovation and technology. Appropriate programming may include: • Relevant records • No evidence of continuous improvement	* See note below	Processes are in place to measure, monitor, verify and report outcomes toward goals related to innovation and technology to optimize efficiency and productivity. • Continuous improvement is evident.
4	Operation demonstrates safe and responsible use of crop protection products and fertilizers (e.g. pesticides, herbicides, fungicides and N, P, K) associated with non-row crops (e.g. hay production) (Appendix 1, #3-4 and 12) (Appendix 3)	Failure to safely and responsibly use crop protection products and fertilizers. No awareness or plan for improvement.	Awareness and commitment to responsible use of crop protection products and fertilizers associated with non-row crops.	* See note below	Demonstrated performance toward goals through interview and/or observation. Appropriate programming may include: • Relevant records • No evidence of continuous improvement	* See note below	Processes are in place to measure, monitor, verify and report outcomes toward goals related to crop protection products and fertilizers. • Continuous improvement is evident.

*Levels 2 and 4 are intentionally left blank to provide verifiers flexibility to address potential combinations. We expect to find outcomes with elements of 1 and 3 or 3 and 5 present. This system also provides us with the opportunity to learn from the pilot and inform the CRSB moving forward.

#	Indicator	Barriers to entry	1 – Entry	2	3 - Achievement	4	5 – Excellence
5	Operation engages with subject-matter experts to obtain information regarding critical issues related to sustainability in beef production.	Failure to engage with subject matter experts regarding critical issues related to sustainability in beef production. No awareness or plan for improvement.	Awareness and commitment to engage with subject matter experts regarding critical issues related to sustainability in beef production.	* See note below	Demonstrated performance toward goals through interview and/or observation. Engages with subject matter experts regarding issues related to sustainability in beef production. Appropriate programming may include: • Relevant records • No evidence of continuous improvement	* See note below	Processes are in place to document subject matter expert engagement and contributions regarding critical issues related to sustainability in beef production. • Continuous improvement is evident.
6	Operation engages with upstream and downstream stakeholders to help them understand production issues related to sustainability in beef production.	Failure to engage with upstream or downstream stakeholders to help them understand issues related to sustainability in beef production. No awareness or plan for improvement.	Awareness and commitment to engage with upstream and downstream stakeholders.	* See note below	Demonstrated performance toward goals through interview and/or observation. Engages with upstream and downstream stakeholders to help them understand production issues related to sustainability in beef production. Appropriate programming may include: • Relevant records • No evidence of continuous improvement	* See note below	Processes are in place to document engagement with stakeholders in the value chain. • Continuous improvement is evident.

Please direct questions and comments regarding these insight to mattsv@prasinogroup.com or call Matt Sutton-Vermeulen at 515-371-7914

*Levels 2 and 4 are intentionally left blank to provide verifiers flexibility to address potential combinations. We expect to find outcomes with elements of 1 and 3 or 3 and 5 present. This system also provides us with the opportunity to learn from the pilot and inform the CRSB moving forward.

Appendix 1 – Natural Resource Supporting Program Materials

1. **Environmental Farm Plan (EFP) -** Producer self-assessment of risks; development of a Farm Plan to address high priority risks over time. Worksheets that could be developed into Management Plans with conservation impacts: Soil Management/Crop Management, Pasture Management/Pest Management/Grazing Management/Trees, Shelterbelts, Woodlots and Bush/Water Bodies/Wintering Sites Livestock Yards; Manure Storage; Manure Use and Management; Nutrient Management for Crop Production; Livestock Wintering Sites; Soil Management; Water bodies (http://www.albertaefp.com)
2. **Cows and Fish Riparian Management (CFRM) -** Technical assistance programs to enhance and protect riparian zones (http://www.cowsandfish.org)
3. **Growing Forward 2 Programming (GF2)** – Once an EFP Plan is in place, BMP cost shared programs that have conservation indicators: Cow-Calf On-Farm Stewardship; Confined Feeding and Water Management (http://www.growingforward.alberta.ca/GF2Search/index.htm?interestedin=Environmental%20Stewardship)
4. **Sector-based BMP Manuals (BMP)** - Cow/Calf; Farmstead; Cropping and Confined Livestock (http://www1.agric.gov.ab.ca/$department/deptdocs.nsf/all/agdex13088)
5. **Grazing Lease Stewardship Code of Practice (COP) -** 4 Key principles to rangeland management; applies to those who are grazing cattle on public lands (stocking rates, timing, etc) (http://esrd.alberta.ca/lands-forests/grazing-range-management/range-plant-community-guides-stocking-rates.aspx)
6. **Rangeland Health Assessment Field Sheets (RHA)-** Visual, quantifiable assessment that determines ecological health classification of grassland, forest and tame pastures., Native plant community guides, stocking rates are available for sub-regions in Alberta **(**http://esrd.alberta.ca/lands-forests/grazing-range-management/range-health.aspx)
7. **Beneficial Grazing Management Practices for Sage grouse and Ecology of Silver Sagebrush in Southeastern Alberta** – (http://esrd.alberta.ca/lands-forests/grazing-range-management/documents/BeneficialGrazing-SageGrouseSagebrush-2004.pdf)
8. **Management Plans could include**: Sustainable Grazing Management Plan (tame/native/forests on public and private lands); Riparian Management Plan Rangeland Management Plan ()(public rangelands); Woodlot Management Plan; MULTISAR Plan – Grassland Natural Region, Alberta (http://esrd.alberta.ca/fish-wildlife/species-at-risk/species-at-risk-publications-web-resources/species-at-risk-general/documents/SAR148-MULTISAR-StrategyGrasslandRegion-2012-2013-Report-April2013.pdf)
9. **AOPA Confined Feeding Operations Extension Materials (AOPA)** - See http://www1.agric.gov.ab.ca/$department/deptdocs.nsf/all/epw9798/$file/brochure.pdf
10. **Cow-Calf On-Farm Stewardship; Confined Feeding and Water Management (http://www.growingforward.alberta.ca/GF2Search/index.htm?interestedin=Environmental%20Stewardship)**
11. **Sector-based BMP Manuals (BMP) - Cow/Calf; Farmstead; Cropping and Confined Livestock (http://www1.agric.gov.ab.ca/$department/deptdocs.nsf/all/agdex13088)**
12. **Management Plans could include: Nutrient Management Plans; Manure Management Plans; Sustainable Grazing Management Plans; Crop Management Plans**
13. **Cow-Calf Operations and Greenhouse Gases Workbook – see:** http://www1.agric.gov.ab.ca/$department/deptdocs.nsf/all/cl9706/$FILE/cowcalf_final_complete.pdf
14. **Water Quality Resource Materials – see: http://www.agriculture.alberta.ca/app21/infopage?cat1=Soil%2FWater%2FAir or** http://www1.agric.gov.ab.ca/$department/deptdocs.nsf/all/wat3345

Appendix 2 – Animal Health and Welfare Program Materials

Source Document – Code of Practice for the Care and Handling of Beef Cattle (https://www.nfacc.ca/codes-of-practice/beef-cattle)

1. **Beef Code –** Nutrition and Feed Management (Section 2.1, Page 11 and Appendix A)
   Key Requirements:
   - Monitor cattle behaviour, performance, body condition score and health on an ongoing basis and adjust the ***feeding program*** accordingly.
   - Ensure cattle have access to feed of adequate quality and quantity to fulfill their nutritional needs at all times, and maintain proper body condition, taking into account factors such as: age, frame size, reproductive status, health status, level of production, competition and weather.
   - Take prompt corrective action to improve the body condition score of cattle with a score of 2 or less (out of 5).

   Additional Tools: http://www.beefresearch.ca/research/body-condition-scoring.cfm
2. **Beef Code –** Nutrition and Feed Management (Section 2.2, Page 12)
   Key Requirements:
   - Ensure that cattle have access to palatable water of adequate quality and quantity to fulfill their physiological needs.
   - Monitor water sources, feeding habits, behaviour, performance and health on an ongoing basis and be prepared to adjust the ***watering program*** accordingly[1].
3. **Beef Code –** Nutritional Disorders Associated with High Energy Feeding (Section 3.3.3, Page 16)
   Key Requirements:
   - Design, implement, evaluate and adjust your feeding program to reduce the risk of nutrition-induced disorders, and consult your veterinarian or a nutritionist when needed.
   - Transition cattle from high-forage to high-energy rations gradually to avoid abrupt dietary changes[2]
4. **Beef Code –** Herd Health Management (Section 3.1, Page 14)
   Key Requirements:
   - Establish an ongoing working relationship (VCPR) with a licensed practicing veterinarian and develop a strategy for disease prevention and herd health[3]
5. **Beef Code –** Animal Husbandry (Section 4.4, Page 22; Section 4.5, P.23; Section 4.8, P. 25)
   Key Requirements:

   De-horning and de-budding:
   - Dehorning must be performed only by competent personnel using proper, well-maintained tools and accepted techniques.
   - Seek guidance from your veterinarian on the availability and advisability of pain control for disbudding or dehorning beef cattle.
   - Disbud calves as early as practically possible, while horn development is still at the horn bud stage (typically 2-3 months).
   - EFFECTIVE JANUARY 1, 2016 - use pain control, in consultation with your veterinarian to mitigate pain associated with dehorning calves after horn bud attachment

   Castration
   - Castration must be performed by competent personnel using proper, clean, well-maintained instruments and accepted techniques.

[1] See the Code for requirements for feeding snow as the sole water source for cattle types.
[2] Consider: monitor feed bunks to assess prior consumption and adjust feeding accordingly; include forage of effective particle length in all diets to reduce sub-acute ruminal acidosis; consider adjusting rations to prevent digestive disorders when cattle feed intake is interrupted (due to storm, power outage, machinery breakdown, etc.)
[3] Recommended to maintain accurate animal management and health records

- Seek guidance from your veterinarian on the optimum method and timing of castration, as well as the availability and advisability of pain control for castrating beef cattle.
- Castrate calves young as possible
- EFFECTIVE JANUARY 1, 2016 - use pain control, in consultation with your veterinarian, when castrating bulls older than nine months of age.

Tail Docking

- Beef cattle must not be tail docked unless on the advice of a veterinarian.

6. **Beef Code –** On-Farm Euthanasia (Section 6.1 and 6.2, Page 29; Section 6.3, P. 32)

   Key Requirements:

   - Euthanize (or cull*) without delay cattle that:
     - are unlikely to recover, fail to respond to treatment and convalescent protocols, have chronic, severe, or debilitating pain and distress, are unable to get to or consume feed and water, or show continuous weight loss or emaciation.
     - An acceptable method for euthanizing cattle must be used (see Table 6.1 in the Code).
       - Euthanasia must be performed by competent personnel (through training, experience, or mentorship).
       - Equipment used for euthanasia, such as guns or captive bolt devices, must be maintained according to manufacturers' instructions to ensure proper function.
       - Non-ambulatory cattle may not be dragged or forced to move prior to euthanasia

   Confirmation of Insensibility or Death

   - Evaluate the animal's consciousness immediately after the application of the appropriate euthanasia method by checking for a corneal reflex (see below).
     - Be prepared to immediately deliver a second application should the first attempt not render the animal immediately insensible.
     - Confirm death before moving or leaving the animal (see below). Confirm insensibility:
     - Touch the eyeball and note if the animal blinks (corneal reflex). An insensible animal will not blink.
     - Confirm death: A lack of heartbeat and respiration should be used to confirm death (50):
     - Evaluate heartbeat by physical palpation or by placing a stethoscope over the left lower chest area of the animal, just behind the elbow.
     - Evaluate respiration by observing the chest for any breathing movement. Note that breathing may be slow and erratic in an unconscious animal.

7. **Beef Code –** Animal Husbandry, Handling and Moving Cattle (Section 4.1, P. 19)

   Key Requirements:

   - Animal handlers must be familiar with cattle behaviour (through training, experience or mentorship) and use quiet handling techniques.
   - Electric prods must only be used to assist movement of cattle when animal or human safety is at risk or as a last resort when all other humane alternatives have failed and only when cattle have a clear path to move.
     - Do not use electric prods repeatedly on the same animal; on the genitals, face, udder or anal areas; or, on calves less than three months of age that can be moved manually
   - Willful mistreatment or intentional harm of cattle is unacceptable. This includes but is not limited to: beating an animal; slamming gates on animals; allowing herd dogs to continue pushing cattle with nowhere to move; dragging or pushing cattle with machinery (unless to protect animal or human safety).

8. **Beef Code – Animal Environment (Section 1, P. 7)**

Key Requirements:

- Cattle must have access to areas, either natural or man-made, that provide relief from weather that is likely to create a serious risk to their welfare.
- Promptly assist individual cattle showing signs of not coping with adverse weather (see Sections 1.1.1 and 1.1.2 of the Code for lists of signs)
- All beef operations must have access to equipment or facilities for the safe handling, restraint, treatment, segregation, loading, and unloading of cattle.
    - Design or manage indoor and outdoor cattle facilities to provide well-drained, comfortable resting areas.
    - Provide traction in handling areas to minimize cattle slips and falls.
    - All cattle in a group must have sufficient space to adopt normal resting postures at the same time.
    - Cattle kept in groups must be able to move freely around the pen and access feed and water.
    - Stocking density must be managed such that weight gain and duration of time spent lying is not adversely affected by crowding.
    - Maintain indoor air quality and ventilation at all times (ammonia levels < 25ppm).
    - Provide cattle housed indoors that do not have access to natural light with supplementary lighting to allow natural behaviour patterns and monitoring of the cattle

9. **Beef Code – Transportation (Section 5.1, P. 26)**

Key Requirements:

- Unfit cattle must not be transported unless for veterinary diagnosis or treatment under the advice of a veterinarian (refer to Appendix D for a list of conditions).
- Compromised animals may only be transported with special provisions and directly to their final destination (refer to Appendix D for a list of conditions and special provisions).
- Cattle must receive feed and water within five hours prior to loading if transport will exceed 24 hours.
- Cows or heifers that are likely to give birth during the journey must not be transported, unless for veterinary diagnosis or treatment.
- Ensure that any loading and unloading equipment, chutes or conveyances are free of hazards in order to minimize the risk of injury

Source document – World Organization for Animal Health (OIE) - Terrestrial Animal Health Code - 20/07/2015
(http://www.oie.int/index.php?id=169&L=0&htmfile=chapitre_aw_beef_catthe.htm)

10. **Animal Welfare and Beef Cattle Production Systems (Article 7.9.5.2-Environment.e-Nutrition)**

- All cattle need an adequate supply and access to palatable water that meets their physiological requirements and is free from contaminants hazardous to cattle health.

Appendix 3 – Additional Resource Materials

Verified Beef Production

1. Website for the Verified Beef Program; see - http://www.verifiedbeef.org/about_us.htm
2. Manual for the VBP Program; see - http://www.verifiedbeef.org/downloads/manual/vbp_producer_manual-checklist.pdf
3. Producer Checklist for the 55 Required Procedures; see - http://www.verifiedbeef.org/downloads/manual/checklist.pdf
4. VBP Site where the On-line Training can be accessed; templates and other resource materials; see, http://www.verifiedbeef.org/producer_resources.htm

McDonald's Global Vision for Antimicrobial Stewardship in Food Animals

Comprehensive document – http://www.aboutmcdonalds.com/content/dam/AboutMcDonalds/Sustainability/Antimicrobial_Stewardship_Vision.pdf

Four Guiding Criteria include:

1. Consider alternative strategies (e.g. husbandry, probiotics), before administering antimicrobials.
2. Do not use critically important antimicrobials (WHO definition) not presently approved for veterinary use.
3. Classes of antimicrobials approved for both human and veterinary medicine should…
   a. Only be used for treatment or prevention of animal disease in conjunction with a veterinary-developed animal health care program.
   b. Not be used for growth promotion purposes.
4. Do not use medically important antimicrobials (WHO definition) for growth promotion.

McDonald's Sustainable Beef Pilot Project – Processor Indicators

Background

McDonald's intended for our Sustainable Beef Pilot project (Pilot) to accomplish the following three objectives:

1. Begin purchasing a portion of our beef from verified sustainable sources in 2016
2. Bring the GRSB's Principles and Criteria to life through a locally-relevant, outcomes-based initiative
3. Support and accelerate development of an industry-led beef sustainability framework in the host geography

The following draft indicators have been developed for use in Canada with alignment to the GRSB Principles[1] and Criteria. When possible, the indicators were developed to provide specific, action-oriented, measurable, realistic outcomes. The 30 Processing facility indicators have been developed by McDonald's with significant input from diverse stakeholders including: Canadian Cattlemen's Association, Alberta Cattle Feeders Association, National Cattle Feeders Association, individual producers, academicians, subject matter experts, non-governmental organizations, and processors. These indicators will be provided to voluntary SB Pilot processing and further processing facilities, so they can review them and prepare for an independent 3rd party professional verifier from Where Food Comes From (www.wherefoodcomesfrom.com) with significant experience in beef cattle processing to perform an on-site verification of the indicators.

Indicator scoring system used by the 3rd party verifiers

1 = Entry level = Participants have an awareness and commitment to the indicator's importance and steps necessary to accomplish the outcome. There are no apparent gaps in performance specific to the indicator, but there is a lack of supporting records and observations to merit a higher score.

2 = Participants in level 2 demonstrate outcomes with elements of both the Entry level and Achievement level.

3 = Achievement level = Demonstrated performance toward goals through interview and/or observation related to the specific indicator.

- Relevant records
- No evidence of continuous improvement

4 = Participants in level 4 demonstrate outcomes with elements of both the Achievement level and Excellence level.

5 = Excellence level = Processes are in place to measure, monitor, verify and report outcomes toward related goals specific to the indicator.

- Continuous improvement is evident.

[1] Natural resources, Community and people, Animal health and Welfare, Food, Efficiency and Innovation

*Levels 2 and 4 are intentionally left blank to provide verifiers flexibility to address potential combinations. We expect to find outcomes with elements of 1 and 3 or 3 and 5 present. This system also provides us with the opportunity to learn from the pilot and inform the CRSB moving forward.

- **Barriers to entry** – Barriers to entry are defined as negative outcomes resulting from ongoing acts that are not being addressed by the participant with no awareness or plan for improvement. Example barriers to entry are provided for each indicator but not meant to be comprehensive. These are meant to ensure processes are in place to deliver minimum performance levels. Corrective actions to address barriers to entry must be made within 30 days of the verification report date to enable the operation to be designated SB.
- **Indicator Significance** – Critical indicators are defined as outcomes critical to maintain and enhance the social license of the Canadian beef community. Critical indicator numbers are highlighted in yellow.
  In cases where a particular indicator does not apply to a participant, participants are expected to bring it to the attention of the verifier.
- **Verification status of an operation –** For the purpose of the SB Pilot, an operation will need to achieve the following verification performance for cattle they produce to be counted as contributing to McDonald's purchases of Verified Sustainable Beef:
  - A score of 3 or higher for all critical indicators
  - An average score of 3 or higher for each of the 5 principles
- NA (highlighted in blue) is used to signify the specific indicator does not apply to Processors. This has been done to maintain consistent numbering, analysis and reporting of final indicators across all sectors (Cow-calf, Fed cattle, Processors)

Example:

Principle 2 – People and Community

Indicator 1 – Operation ensures safe and healthy work environment.

5 – Excellence: Processes are in place to measure, monitor, verify and report outcomes toward goals related to a safe and healthy work environment.

4 – Demonstrated outcomes with elements of both the Achievement level (3) and Excellence level (5).

3 – Achievement: Demonstrated performance toward goals through interview and/or observation to ensure a safe and healthy work environment.

- Relevant records
- No evidence of continuous improvement

2 – Demonstrated outcomes with elements of both the Entry level (1) and Achievement level (3).

1 – Entry: Awareness and commitment to create and maintain a safe and healthy work environment. No ongoing safety issues.

Barriers to entry: Failure to ensure a safe and healthy work environment. No awareness or plan for improvement.

*Levels 2 and 4 are intentionally left blank to provide verifiers flexibility to address potential combinations. We expect to find outcomes with elements of 1 and 3 or 3 and 5 present. This system also provides us with the opportunity to learn from the pilot and inform the CRSB moving forward.

1. Natural Resources (May or may not be applicable dependent on the processing facility)

#	Indicator	Barriers to entry	1 – Entry	2	3 - Achievement	4	5 – Excellence
1	Water quality, sediment, nutrient runoff, ground water and waterway health are responsibly managed.	Failure to responsibly manage water waste and/or discharge of concentrated, untreated waste into waterways are observed and not addressed. No awareness or plan for improvement.	Awareness and commitment to responsible management of waterway health, water quality sediment, nutrient runoff and ground water.	* See note below	Demonstrated performance toward goals through interview and observation of the water management program. Appropriate programming may include: • Relevant records • No evidence of continuous improvement	* See note below	Processes are in place to measure, monitor, verify and report outcomes toward goals related to the responsible and efficient management of ground and surface water resources. • Continuous improvement is evident
2	NA	NA	NA		NA		NA
3	Operation measures, monitors and reports carbon sequestration and emissions specific to their operation.	Unwilling to provide information on carbon sequestration and emissions related to operation. No awareness or plan for improvement.	Awareness and commitment to calculating carbon sequestration and emissions. Recognizes the important of carbon footprint.	* See note below	Demonstrated performance toward goals that are known to help sequester carbon and reduce emissions and is willing to provide information. • Relevant records • No evidence of continuous improvement	* See note below	Processes are in place to help sequester carbon and reduce emissions and using science-based methods to measure, monitor, manage, verify and report outcomes toward goals related to carbon. • Continuous improvement is evident
4	Operation protects native ecosystems including high conservation value areas (HCVA) and endangered species habitat.	Failure to protect native ecosystems, HCVA and/or endangered species habitat. No awareness or plan for improvement.	Awareness and commitment to protect native ecosystems, HCVA and/or endangered species habitat.	* See note below	Demonstrated performance toward goals through interview and observation in protecting native ecosystems, HCVA and/or endangered species habitat. Plans in place and components related to protecting native ecosystems are being implemented. • Relevant records • No evidence of continuous improvement	* See note below	Processes are in place to measure, monitor, verify and report outcomes toward goals related to native ecosystems, HCVA and/or endangered species habitat. • Continuous improvement is evident
5	NA	NA	NA		NA		NA

*Levels 2 and 4 are intentionally left blank to provide verifiers flexibility to address potential combinations. We expect to find outcomes with elements of 1 and 3 or 3 and 5 present. This system also provides us with the opportunity to learn from the pilot and inform the CRSB moving forward.

#	Indicator	Barriers to entry	1 – Entry	2	3 - Achievement	4	5 – Excellence
6	Practices are implemented to improve air quality.	Failure to improve air quality. No awareness or plan for improvement.	Awareness and commitment to improve air quality. No ongoing negative air quality impacts are observed. Awareness and/or initiation of available programming.	* See note below	Demonstrated performance toward goals through interview and observation of improving air quality. • Relevant records • No evidence of continuous improvement	* See note below	Processes are in place to measure, monitor, verify and report outcomes toward goals related to air quality. • Records of conformance to requirements • Continuous improvement is evident
7	Water is used in a frugal manner, and is reused and recycled whenever possible.	Failure to limit waste of water resource. No awareness or plan for improvement.	Awareness and commitment to using water frugally, reuse and recycle water whenever possible. No ongoing apparent waste. Awareness and/or initiation of available programming.	* See note below	Demonstrated performance toward goals through interview and observation. Efficient and effective water management minimizes waste and reuses and recycles whenever possible. • Relevant records • No evidence of continuous improvement	* See note below	Processes are in place to measure, monitor, verify and report outcomes toward goals related to conservation of water. • Continuous improvement is evident

2. Community and People

#	Indicator	Barriers to entry	1 – Entry	2	3 - Achievement	4	5 – Excellence
1	Operation ensures safe and healthy work environment.	Failure to ensure a safe and healthy work environment. No awareness or plan for improvement.	Awareness and commitment to create and maintain a safe and healthy work environment. No ongoing safety issues.	* See note below	Demonstrated performance toward goals through interview and/or observation to ensure a safe and healthy work environment. • Relevant records • No evidence of continuous improvement	* See note below	Processes are in place to measure, monitor, verify and report outcomes toward goals related to a safe and healthy work environment. • Records of conformance to requirements • Continuous improvement is evident
2	Operation supports their community. Local community is defined by each organization.	Failure to support the local community. No awareness or plan for improvement.	Awareness and commitment to support local community	* See note below	Demonstrated support of the local community through interview and/or observation. Appropriate programming may include: • Relevant records (plaques, certificates, images, etc.). • Employment of local labor force.	* See note below	Processes are in place to measure, monitor, verify and report outcomes specific to community support. • Continuous improvement is evident

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#	Indicator	Barriers to entry	1 – Entry	2	3 - Achievement	4	5 – Excellence
3	Career development opportunities are provided.	Failure to provide career development opportunities. No awareness or plan for improvement	Awareness and commitment to create career development opportunities.	* See note below	Demonstrated performance toward goals through interview and/or observation to provide career development opportunities. Appropriate programming may include: • Relevant records • No evidence of continuous improvement	* See note below	Processes are in place to measure, monitor, verify and report outcomes toward goals related to career development opportunities. • Continuous improvement is evident
4	Workers cultural heritage is recognized and treated with respect.	Failure to recognize and respect the cultural heritage of workers.	Awareness and commitment to recognize and respect workers cultural heritage.	* See note below	Demonstrated performance toward goals through interview and/or observation. Cultural heritage of community members are recognized and treated with respect. Appropriate programming may include: • Relevant records • No evidence of continuous improvement	* See note below	Processes are in place to measure, monitor, verify and report outcomes toward goals related to cultural heritage. • Continuous improvement is evident

5. Operation follows applicable labor laws and regulations: employment status, hours worked, child labor laws, hiring practices, grievance, etc. Yes/No
6. Operation has evidence of the right to use land for the purpose of beef processing. Yes or No
7. Where applicable, legal minimum wage is met for all workers Yes or No

3. Animal Health and Welfare (N/A in Further Processing facilities)

#	Indicator	Barriers to entry	1 – Entry	2	3 - Achievement	4	5 – Excellence
1	NA	NA	NA		NA		NA
2	Cattle have at-will access to potable water and if held for more than 24 hours, are provided with feed. (Appendix 1, #1)	Failure to provide cattle with at-will access to potable and/or failure to provide feed if held for more than 24 hours. No awareness or plan for improvement.	Awareness and commitment to provide cattle with at-will access to potable water and feed, if held for more than 24 hours.	*See note below	Demonstrated performance toward goals through interview and/or observation. Cattle have access to potable water and if held for more than 24 hours, are provided with feed. Appropriate programming may include: • Relevant records • No evidence of continuous improvement	*See note below	Processes are in place to measure, monitor, verify and report outcomes toward goals related to providing access to potable water and feed if cattle are held for more than 24 hours, are provided with feed. • Continuous improvement is evident
3	NA	NA	NA		NA		NA
4	NA	NA	NA		NA		NA

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McDonald's Sustainable Beef Pilot Project – Processor Indicators

#	Indicator	Barriers to entry	1 – Entry	2	3 - Achievement	4	5 – Excellence
5	NA	NA	NA		NA		NA
6	Operation ensures all cattle are rendered unconscious before death, by a CFIA approved method. (Appendix 1, #2)	Verifier observes conscious cattle at the time of exsanguination.	Awareness of importance and steps necessary to render cattle unconscious before death, by a CFIA approved method.	* See note below	Demonstrated performance toward goals through interview and observation. All cattle are rendered unconscious before death, by a CFIA approved method. • Relevant records • No evidence of continuous improvement	* See note below	Processes are in place to measure, monitor, verify and report outcomes toward goals of rendering cattle unconscious before death, by a CFIA approved method. • Records of conformance to requirements • Continuous improvement is evident
7	NA	NA	NA		NA		NA
8	Operation can demonstrate how every animal is provided a holding pen with adequate ventilation and space.(Appendix 1, #3)	Failure to provide cattle with a holding pen with adequate ventilation and space. No awareness or plan for improvement.	Awareness and commitment to provide cattle with a holding pen with adequate ventilation and space.	* See note below	Demonstrated performance toward goals through interview and/or observation to provide cattle with a holding pen with adequate ventilation and space. Appropriate programming may include: • Relevant records • No evidence of continuous improvement	* See note below	Processes are in place to measure, monitor, verify and report outcomes toward goals related to providing cattle with a holding pen with adequate ventilation and space. • Continuous improvement is evident
9	Operation ensures that its' facilities and handling techniques avoid subjecting cattle to distress and pain. (Appendix 1, #4)	Failure to avoid subjecting cattle to distress and pain. No awareness or plan for improvement.	Awareness and commitment to avoid subjecting cattle to distress and pain.	* See note below	Demonstrated performance toward goals through interview and/or observation to avoid subjecting cattle to distress and pain. Appropriate programming may include: • Relevant records • No evidence of continuous improvement	* See note below	Processes are in place to measure, monitor, verify and report outcomes toward goals related to avoidance of subjecting cattle to distress and pain. • Continuous improvement is evident
10	When in control of transport, operation takes action to ensure cattle are unloaded and transported in an appropriate manner to minimize stress	Failure to ensure cattle are loaded and/or transported properly to minimize stress. No awareness or plan for improvement.	Awareness and commitment to ensure cattle are loaded and transported in an appropriate manner to minimize stress.	* See note below	Demonstrated performance toward goals through interview and/or observation. Appropriate programming may include: • Relevant records • No evidence of continuous improvement	* See note below	Processes are in place to measure, monitor, verify and report outcomes toward goals related to minimizing stress on cattle during animal transport. • Continuous improvement is evident

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#	Indicator	Barriers to entry	1 – Entry	2	3 - Achievement	4	5 – Excellence
11	NA	NA	NA		NA		NA
12	Animals receive antemortem inspection within 24 hours before the time of slaughter (Appendix 1, #5)	Failure to perform antemortem inspection within 24 hours before the time of slaughter. No awareness or plan for improvement.	Awareness and commitment to importance and steps necessary to perform an antemortem inspection of all cattle within 24 hours before the time of slaughter.	* See note below	Demonstrated performance toward goals through interview and/or observation to perform antemortem inspection of all cattle within 24 hours of slaughter. Existence of an animal health plan developed and managed with CFIA. • Relevant records • No evidence of continuous improvement	* See note below	Processes are in place to measure, monitor, verify and report outcomes toward goals related to antemortem inspection of all cattle within 24 hours of slaughter. • Records of conformance to requirements • Continuous improvement is evident • Ongoing evaluations of the system

4. Food

#	Indicator	Barriers to entry	1 – Entry	2	3 - Achievement	4	5 – Excellence
1	Operation is HACCP certified and follows all federal laws regarding food safety, sanitation, drug residues, etc.	Failure to be HACCP certified and following all federal laws regarding food safety, sanitation, drug residues, etc. No awareness or plan for improvement.	Awareness and commitment to have an HACCP plan in place.	*See note below	Demonstrated performance toward goals through interview and observation. HACCP trained or registered and able to demonstrate compliance with HACCP specific to food safety. Relevant records No evidence of continuous improvement	*See note below	Processes in place to measure, monitor, verify and report outcomes toward goals related to HACCP certification and all federal laws regarding food safety, sanitation, drug residues, etc. • Records of conformance to reqmnts • Continuous improvement is evident. • Ongoing evaluations of the system
2	Operation shares information up and down the value chain (Prerequisite: send CSV files with RFID, Plant and Kill date to BIXS)	Failure to share information up and down the value chain. Operation does not send CSV files containing RFIDs, Plant and Kill date to BIXS. No awareness or plan for improvement.	Operation is not consistently sending CSV files with RFID, Plant, and kill date to BIXS.	*See note below	Demonstrated performance toward goals through interview and observation. Operation sends timely and accurate CSV files containing all RFIDs, Plant and Kill dates to BIXS. Relevant records/observations No evidence of continuous improvement	*See note below	Processes are in place to measure, monitor, verify and report outcomes toward goals related to information sharing, beyond RFIDs, Plant and Kill date, throughout the value chain. • Demonstrated performance • Continuous improvement is evident

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#	Indicator	Barriers to entry	1 – Entry	2	3 - Achievement	4	5 – Excellence
3	Operation takes all responsible efforts to ensure the quality of beef and co-products (e.g. hides, drop) to participants further down the value chain.	Failure to ensure beef and co-product quality are observed. No awareness or plan for improvement.	Awareness and commitment to a quality standard is in place to ensure the quality of beef and co-products produced.	*See note below	Demonstrated performance toward goals through interview and observation. Plant adopts advanced technology to address beef and co-product quality. Relevant records No evidence of continuous improvement	*See note below	Processes are in place to measure, monitor, verify and report outcomes toward goals related to quality of beef and co-products. • Continuous improvement is evident • Ongoing evaluations of the system
4	Operation demonstrates reduction of food waste. (e.g. avoiding land fill)	Failure to reduce food waste. No awareness or plan for improvement.	Awareness and commitment to demonstrate a minimum level managing or reducing food waste.	*See note below	Demonstrated performance toward goals through interview and observation. Plant demonstrates reuse and recycling performance with some gaps evident. Relevant records No evidence of continuous improvement	*See note below	Processes are in place to measure, monitor, verify and report outcomes toward goals related to reduction of food waste. • Demonstrated performance • Continuous improvement is evident • Ongoing evaluations of the system

5. Efficiency and Innovation

#	Indicator	Barriers to entry	1 – Entry	2	3 - Achievement	4	5 – Excellence
1	Operation reuses and recycles.	Failure to reduce waste or to reuse/recycle.	Awareness and commitment to initiate available programming. No negative impacts associated with waste management are observed.	*See note below	Demonstrated performance toward goals through interview and observation. Reuse and recycling program is in effect. • Relevant records No evidence of continuous improvement	*See note below	Processes are in place to measure, monitor, verify and report outcomes toward goals related to reduce and recycle. • Continuous improvement is evident • Ongoing evaluations of the system
2	Operation improves energy efficiency	Failure to reduce energy waste with no awareness or plan for improvement.	Awareness and commitment to demonstrate minimal efforts regarding improved energy efficiency. Expresses interest in improvements.	*See note below	Demonstrated performance toward goals through interview and observation. Evidence of efforts to optimize energy use to improve efficiency and productivity. • Relevant records • No evidence of continuous improvement	*See note below	Processes are in place to measure, monitor, verify and report outcomes toward goals related to energy efficiency. • Continuous improvement is evident • Ongoing evaluations of the system

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McDonald's Sustainable Beef Pilot Project – Processor Indicators

#	Indicator	Barriers to entry	1 – Entry	2	3 - Achievement	4	5 – Excellence
3	Operation responsibly optimizes efficiency and productivity through innovation and technology.	Failure to optimize efficiency and productivity through innovation and technology.	Awareness and commitment to innovation. No negative impacts associated with nonuse of new technology.	* See note below	Demonstrated performance toward goals through interview and observation. Plant seeks out new technology and processes. • Relevant records • No evidence of continuous improvement	* See note below	Processes are in place to measure, monitor, verify and report outcomes toward goals related to adopting innovation and technology. • Continuous improvement is evident • Ongoing evaluations of the system
4	All chemicals utilized in the operation are approved for use by Canadian Food Inspection Agency. All chemicals and pesticides are stored, used and disposed of safely and responsibly.	Failure to store, use or dispose of chemicals, additives and pesticides responsibly. No awareness or plan for improvement.	Awareness and/or initiation of available programming. No negative impacts associated with chemicals, pesticides and additive use.	* See note below	Demonstrated performance toward goals through interview and observation. All chemicals, pesticides and additives are approved, properly labeled and used appropriately. • Relevant records • No evidence of continuous improvement	* See note below	Processes are in place to measure, monitor, verify and report outcomes toward goals related to the storage and use of pesticides and chemicals. • Records of conformance to requirements • Continuous improvement is evident • Ongoing evaluations of the system
5	Operation engages with subject-matter experts to obtain information regarding critical issues related to beef sustainability.	Failure to engage with subject matter experts regarding issues related to beef sustainability. No awareness or plan for improvement.	Awareness and commitment to engage subject matter experts regarding critical issues related to beef sustainability.	* See note below	Demonstrated performance toward goals through interview and observation. Engaging with subject matter experts regarding issues related to beef sustainability. • Relevant records • No evidence of continuous improvement	* See note below	Processes are in place to measure, monitor, verify and report outcomes toward goals related to engaging with subject matter experts. • Continuous improvement is evident • Ongoing evaluations of the system
6	Operation engages with stakeholders throughout the value chain to help them understand production issues related to beef sustainability	Failure to engage with stakeholders in the value chain to help them understand beef sustainability. No awareness or plan for improvement.	Awareness and commitment to seek potential benefits and opportunities to engage with stakeholders in the value chain to help them understand beef sustainability.	* See note below	Demonstrated performance toward goals through interview and observation. Engaging with stakeholders in the value chain and uses this information to improve process. • Relevant records • No evidence of continuous improvement	* See note below	Processes in place to measure, monitor, verify and report outcomes toward goals related to engaging with stakeholders throughout the value chain. • Continuous improvement is evident • Ongoing evaluations of the system

Please direct questions and comments regarding these insight to jriva@wherefoodcomesfrom.com or call Jim Riva at (202) 669-5252

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Appendix 1 – Animal Health and Welfare Program Materials

Source document – CFIA Meat Inspection Regulations, PART III - EXAMINATION, INSPECTION, HUMANE TREATMENT AND SLAUGHTER, PACKAGING AND LABELLING
http://laws-lois.justice.gc.ca/eng/regulations/SOR-90-288/page-20.html#h-22

1. **Feed & Water** – Paragraph 65 – Every food animal in a holding pen awaiting slaughter shall be provided with access to potable water and shall, if held for more than 24 hours, be provided with feed.

2. **Unconscious/Insensible** – Paragraph 79 – Every food animal that is slaughtered, other than a muskox, caribou or reindeer that is a game animal that is slaughtered elsewhere than in a registered establishment, shall, before being bled,
   (a) be rendered unconscious in a manner that ensures that it does not regain consciousness before death, by one of the following methods:
      (i) by delivering a blow to the head by means of a penetrating or non-penetrating mechanical device in a manner that causes immediate loss of consciousness,
      (ii) by exposure to a gas or a gas mixture in a manner that causes a rapid loss of consciousness, or
      (iii) by the application of an electrical current in a manner that causes immediate loss of consciousness; or
      (b) be killed by one of the methods set out in paragraph (a) or, in the case of a bird or a domesticated rabbit, by rapid decapitation.

3. **Holding pens** – Paragraph 64 – Every holding pen that is used for food animals awaiting slaughter shall be provided with adequate ventilation and shall not be used in a manner that results in their overcrowding.

4. **Handling**
   a. Paragraph 62
      (1) No food animal shall be handled in a manner that subjects the animal to avoidable distress or avoidable pain.
      (2) No goad or electrical prod shall be applied to the anal, genital or facial region of a food animal.
   b. Paragraph 63
      (2) Every food animal that is obviously diseased or injured shall immediately be segregated from apparently healthy food animals.
      (3) Every food animal that is a potential danger to other food animals shall immediately be segregated from those other food animals.

5. **Antemortem inspection** – Paragraph 67**.** (1) Subject to subsection (9), every operator who slaughters an animal shall perform, within 24 hours before the time of slaughter, an ante-mortem examination of the animal.

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VERIFICATION SCORECARD

Producer # **XXXXXXXXXXX** Verification Date: **May 1, 2016** Any Barriers to Entry? **NO**

Verified Sustainable Beef - Achievement!

General Verifier Comments
Operation demonstrates commitment to sustainably managing water resources, and grasslands, and therefore scored high in Principle 1 - Natural Resources. The producer strives to maintain a safe work environment. The operation maintains animal health protocols and recordkeeping systems, while also promoting low-stress handling practices.

Principle 1	Avg. Score	1.1 Water	1.2 Soil Health	1.3 Carbon	1.4 Grasslands	1.5 Biodiversity
Natural Resources	**4.0**	4	4	3	5	4

Principle 2	Avg. Score	2.1 Safe Work Environment	2.2 Community	2.3 Career Development	2.4 Cultural Heritage	2.5 Labour Laws	2.6 Right to Use Land	2.7 Minimum Wage
People & Community	**3.3**	4	3	3	3	Y	Y	Y

Principle 3	Avg. Score	3.1 Feed	3.2 Water	3.3 Animal Health	3.4 Pharmaceuticals	3.5 Pain Mgmt.	3.6 Euthanasia	3.7 Stocking Density	3.8 Environmental Stress	3.9 Handling & Facilities	3.10 Loading & Transport	3.11 BCS
Animal Health & Welfare	**3.4**	3	3	4	4	3	3	3	4	4	3	3

Principle 4	Avg. Score	4.1 Safety & Quality	4.2 Information Sharing
Food	**3.0**	3	3

Principle 5	Avg. Score	5.1 Reuse & Recycle	5.2 Energy Efficiency	5.3 Innovation & Technology	5.4 Crop Protection	5.5 Engage with Experts	5.6 Engage w/ Stakeholders
Efficiency & Innovation	**3.3**	3	3	4	3	4	3

**NOTE: All Scores 1.0 to 5.0 (1.0 = Entry, 3.0 = Achievement, 5.0 = Excellence); Yellow indicates Critical Indicators, must score 3.0 or higher.*

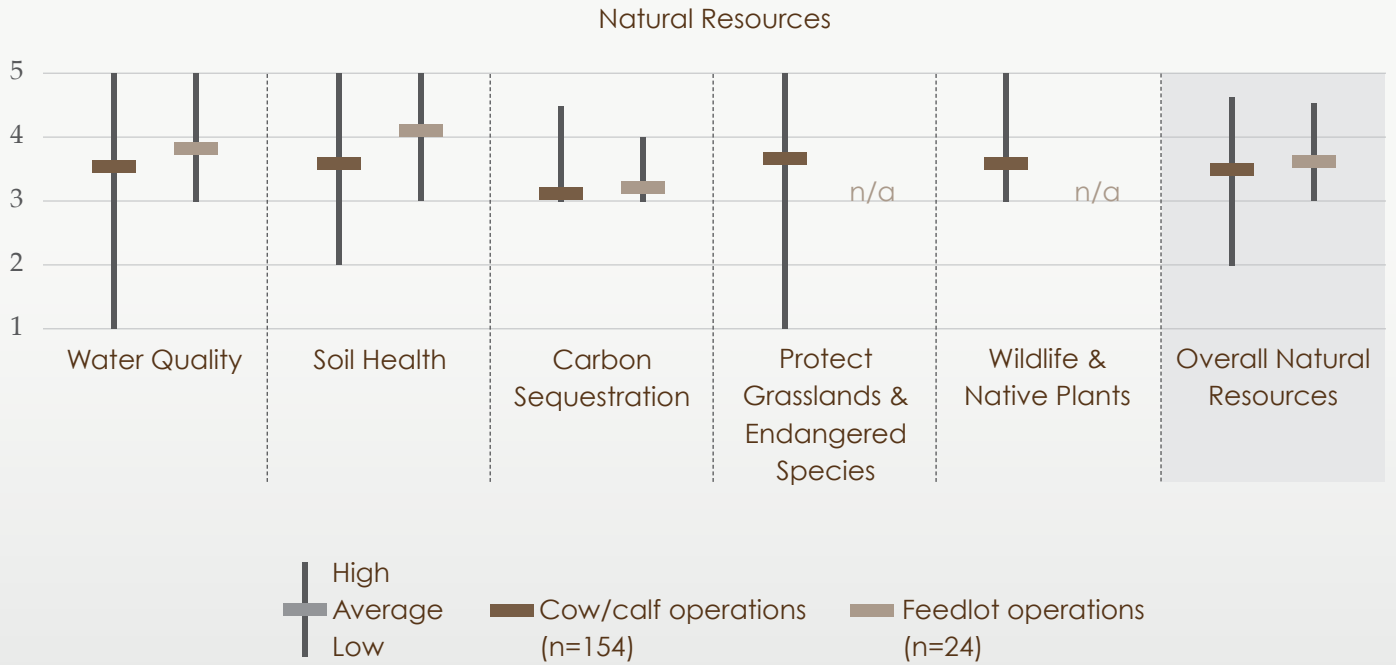
Principle	#	Indicator Key Words	Verifier Notes	Interviews	Observations?	SOPs?	Records	Continuous Improvement?	Score
Natural Resources	1.1	Water	*<Verifier Comments specific to each individual operation>*	X	X	X	X		4
Natural Resources	1.2	Soil Health	*<Verifier Comments specific to each individual operation>*	X	X		X		4
Natural Resources	1.3	Carbon	*<Verifier Comments specific to each individual operation>*	X					3
Natural Resources	1.4	Grasslands & Native Ecosystems	*<Verifier Comments specific to each individual operation>*	X	X	X	X	X	5
Natural Resources	1.5	Biodiversity	*<Verifier Comments specific to each individual operation>*	X	X		X		4
People & Community	2.1	Safe Work Environment	*<Verifier Comments specific to each individual operation>*	X	X		X		4
People & Community	2.2	Community	*<Verifier Comments specific to each individual operation>*	X	X				3
People & Community	2.3	Career Development	*<Verifier Comments specific to each individual operation>*	X	X				3
People & Community	2.4	Cultural Heritage	*<Verifier Comments specific to each individual operation>*	X	X				3
People & Community	2.5	Labour Laws	YES; *<Verifier Comments specific to each individual operation>*	X			X		YES
People & Community	2.6	Right to Use Land	YES; *<Verifier Comments specific to each individual operation>*	X			X		YES
People & Community	2.7	Minimum Wage	YES; *<Verifier Comments specific to each individual operation>*	X			X		YES
Animal Health & Welfare	3.1	Feed	*<Verifier Comments specific to each individual operation>*	X	X	X			3
Animal Health & Welfare	3.2	Water	*<Verifier Comments specific to each individual operation>*	X	X				3
Animal Health & Welfare	3.3	Animal Health	*<Verifier Comments specific to each individual operation>*	X	X	X	X		4
Animal Health & Welfare	3.4	Pharmaceu-ticals	*<Verifier Comments specific to each individual operation>*	X	X	X	X		4
Animal Health & Welfare	3.5	Pain Mgmt.	*<Verifier Comments specific to each individual operation>*	X	X	X			3
Animal Health & Welfare	3.6	Euthanasia	*<Verifier Comments specific to each individual operation>*	X					3

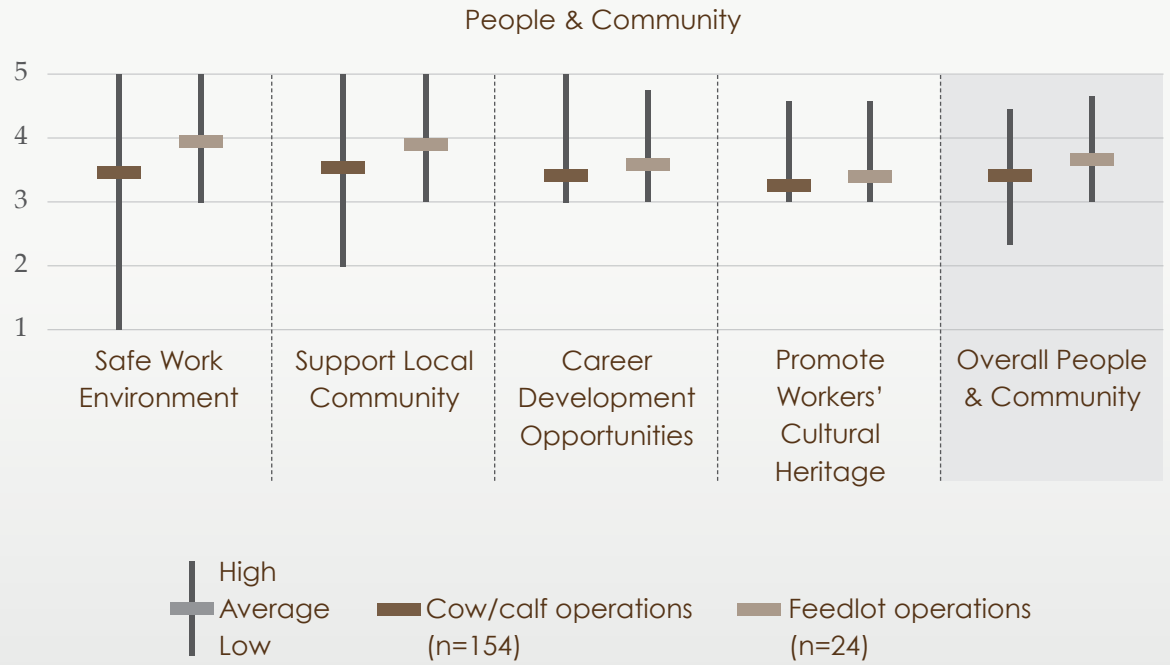
Animal Health & Welfare	3.7	Stocking Density	*<Verifier Comments specific to each individual operation>*	X	X				3
Animal Health & Welfare	3.8	Environmental Stress	*<Verifier Comments specific to each individual operation>*	X	X		X		4
Animal Health & Welfare	3.9	Handling Stress	*<Verifier Comments specific to each individual operation>*	X	X		X		4
Animal Health & Welfare	3.10	Loading & Transport	*<Verifier Comments specific to each individual operation>*	X					3
Animal Health & Welfare	3.11	BCS	*<Verifier Comments specific to each individual operation>*	X	X				3
Food	4.1	Safety & Quality	*<Verifier Comments specific to each individual operation>*	X					3
Food	4.2	Sharing Information	*<Verifier Comments specific to each individual operation>*	X					3
Efficiency & Innovation	5.1	Reuse & Recycle	*<Verifier Comments specific to each individual operation>*	X	X				3
Efficiency & Innovation	5.2	Energy Efficiency	*<Verifier Comments specific to each individual operation>*	X	X				3
Efficiency & Innovation	5.3	Innovation & Technology	*<Verifier Comments specific to each individual operation>*	X	X	X	X		4
Efficiency & Innovation	5.4	Crop Protection Products	*<Verifier Comments specific to each individual operation>*	X	X				3
Efficiency & Innovation	5.5	Engage with Experts	*<Verifier Comments specific to each individual operation>*	X	X		X		4
Efficiency & Innovation	5.6	Engage w/ Stakeholders	*<Verifier Comments specific to each individual operation>*	X	X				3

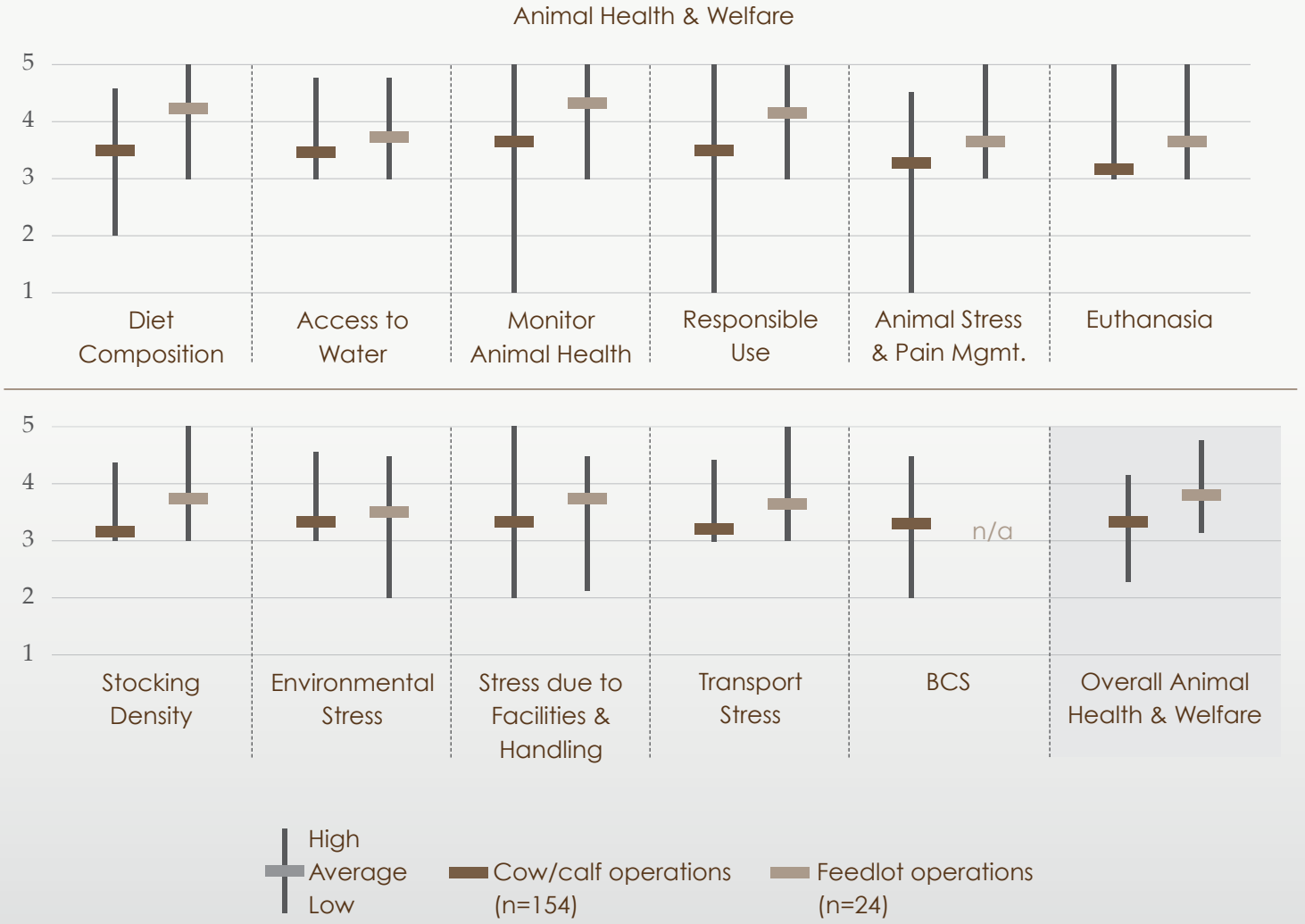
VERIFICATION PERFORMANCE APPENDIX

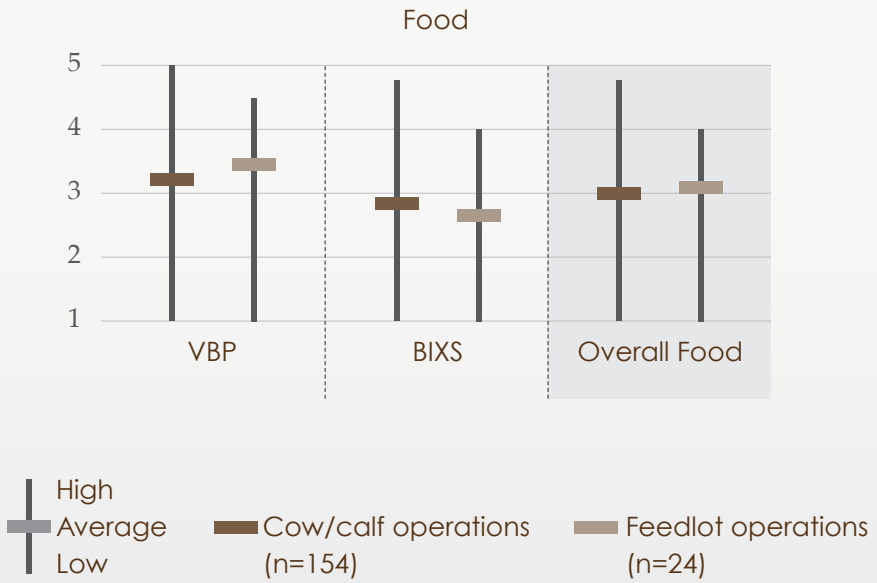
Preamble

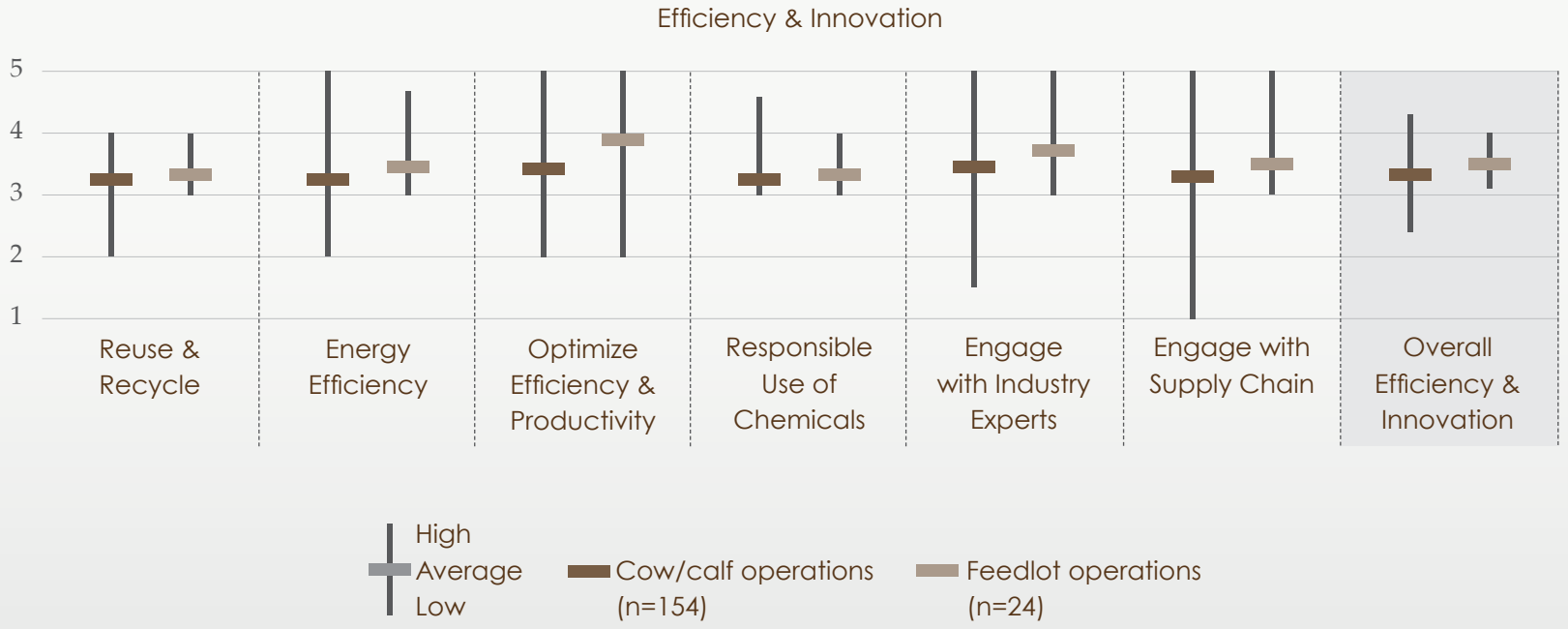
The objective of this pilot was to develop a verification process that was credible, allowed for scalability and would verify outcomes. For many of the indicators there isn't a specific metric or even a measurement tool which allows an operation, much less a verifier, to easily verify the effectiveness of practices or sustainability outcomes. Therefore, we developed a scoring matrix with specific requirements tied to each indicator on a scale from 1 – 5, and identified certain Barriers to Entry for each indicator. A Barrier to Entry is determined if any negative outcomes were observed as part of the onsite verification process. Barriers to Entry were also tied to prescribed practices specific to a few indicators (e.g., VBP training, having a VCPR, and using BIXS to share information). This scoring matrix allows for an operation to quickly view their score tied to an indicator. For the pilot, "1" was determined to be Entry Level where a producer had an awareness and commitment and there were no observed, intentional, ongoing acts of abuse specific to the indicator. A "3" was Achievement Level and was the minimum requirement for the McDonald's Pilot to be counted in the Chain of Custody calculations. A score of "3" meant that the operation had demonstrated performance toward goals through interviews and/or observation (and relevant records when available). A "5" was the Excellence Level and meant that the operation had processes in place to measure, monitor, verify and report outcomes towards goals specific to the indicator. Independent verifiers scored each of the indicators for each of the onsite verifications. Subsequent to the onsite verification a second level review was conducted (a process used to calibrate verifiers and ensure consistency in application) and a Verification Report was sent to each participant in the pilot. Below are graphs depicting the aggregate data as of the data cut-off date of May, 3, 2016 for the cow/calf and feedlot segments, and showing both the score range and the average score for each indicator. This information was broken down even further and each participant was sent a Benchmark Report that offers comparison of their scores against the aggregate. Due to the small packer/processor segment sample size segment, this data was excluded from the aggregate date.

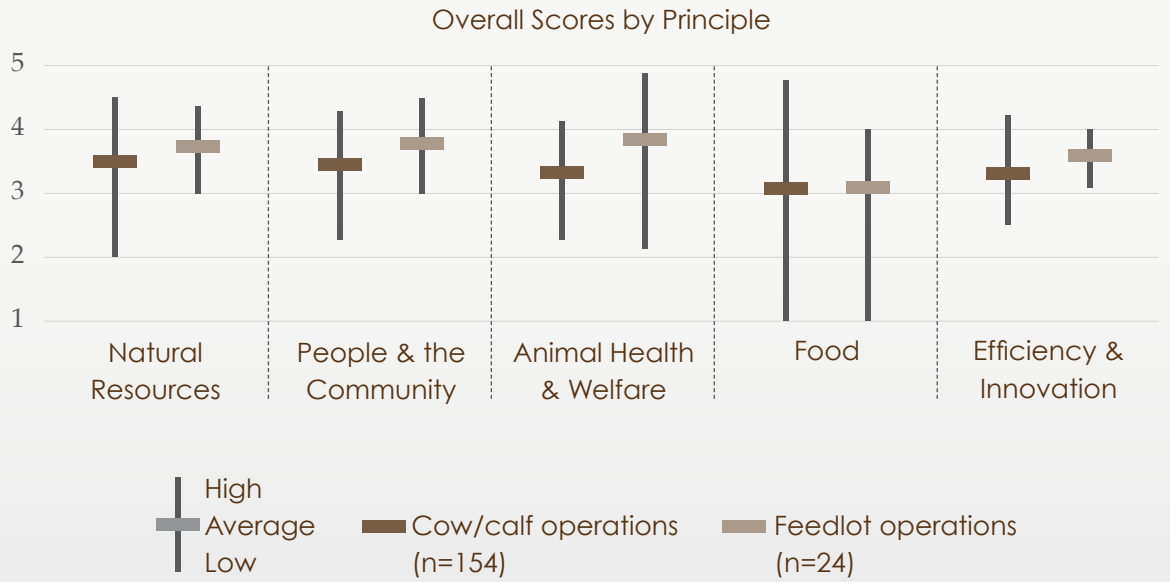

Natural Resources
5
4
3
2
1
n/a
n/a
Water Quality
Soil Health
Carbon Sequestration
Protect Grasslands & Endangered Species
Wildlife & Native Plants
Overall Natural Resources
High
Average
Low
Cow/calf operations (n=154)
Feedlot operations (n=24)


People & Community
5
4
3
2
1
Safe Work Environment
Support Local Community
Career Development Opportunities
Promote Workers' Cultural Heritage
Overall People & Community
High
Average
Low
Cow/calf operations (n=154)
Feedlot operations (n=24)


Animal Health & Welfare
5
4
3
2
1
Diet Composition
Access to Water
Monitor Animal Health
Responsible Use
Animal Stress & Pain Mgmt.
Euthanasia
Stocking Density
Environmental Stress
Stress due to Facilities & Handling
Transport Stress
BCS
n/a
Overall Animal Health & Welfare
High
Average
Low
Cow/calf operations (n=154)
Feedlot operations (n=24)


Food
5
4
3
2
1
VBP
BIXS
Overall Food
High
Average
Low
Cow/calf operations (n=154)
Feedlot operations (n=24)


Efficiency & Innovation
5
4
3
2
1
Reuse & Recycle
Energy Efficiency
Optimize Efficiency & Productivity
Responsible Use of Chemicals
Engage with Industry Experts
Engage with Supply Chain
Overall Efficiency & Innovation
High
Average
Low
Cow/calf operations (n=154)
Feedlot operations (n=24)


Overall Scores by Principle
5
4
3
2
1
Natural Resources
People & the Community
Animal Health & Welfare
Food
Efficiency & Innovation
High
Average
Low
Cow/calf operations (n=154)
Feedlot operations (n=24)

Sustainable Beef Pilot:

Benchmark Report

Alberta Feedlot
Date: May 2016

SUMMARY

The information in this report enables you to compare your operation's performance with your peers through a number of benchmarks including:

1. **Principle level benchmarks** - This enables you to compare your performance within each of the five principles of this pilot (Natural resources, Community and People, Animal health and Welfare, Food and Efficiency and Innovation).
2. **Indicator level benchmarks** – This enables you to compare your performance in each of the 29 indicators in this pilot for fed-cattle, intensive operations. This level of benchmarking enables you to identify potential opportunities for improvement.

Figure 1 depicts your operation's overall performance in the Pilot. On this figure you can see how your operation scored according to the five Principles relative to the Achievement Level expected for Sustainable Beef Status in the Pilot[1].

Figure 1: Overall Performance

[1] For the purpose of the Sustainable Beef Pilot, an operation will need to achieve the following performance for cattle they produce to be counted as contributing to McDonald's purchases of Sustainable Beef:

- o A score of 3 or higher for all critical indicators
- o An average score of 3 or higher for each of the 5 principles.

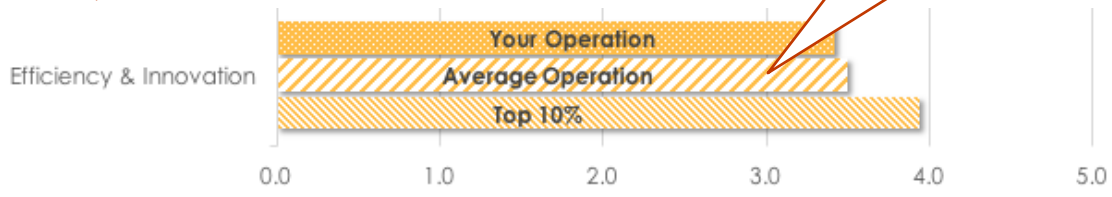
PILOT SUMMARY

A total of 178 operations participated in this pilot including:

- 24 feedlot operations
- 5 Backgrounders
- 154 cow/calf (CC) operations with 78 of them also identifying themselves as Backgrounders

PRINCIPLE LEVEL BENCHMARK

Figures (2-7) illustrate your operation's overall performance by Principle including your operation's performance relative to the average of pilot participants' scores, and the top 10 percent. The following key provides definitions to explain the way the data is displayed in the next set of figures (Figures 2-7). **Please note that if an indicator score of '0.0' occurs in the table below each bar graph, it simply means the indicator was not applicable to your operation (i.e. Excel software converts a 'Not Applicable' to the numeric form of zero).**



	Efficiency & Innovation	Food	Animal Health & Welfare	Community & People	Natural Resources
Your Operation	3.4	3.5	3.2	3.3	3.4
Average Operation	[illegible]	3.1	3.4	3.5	3.5
Top 10%	3.9	[illegible]	3.8	4.0	4.2

Indicator name/criteria

Visual representation of scores (depicted in the table)

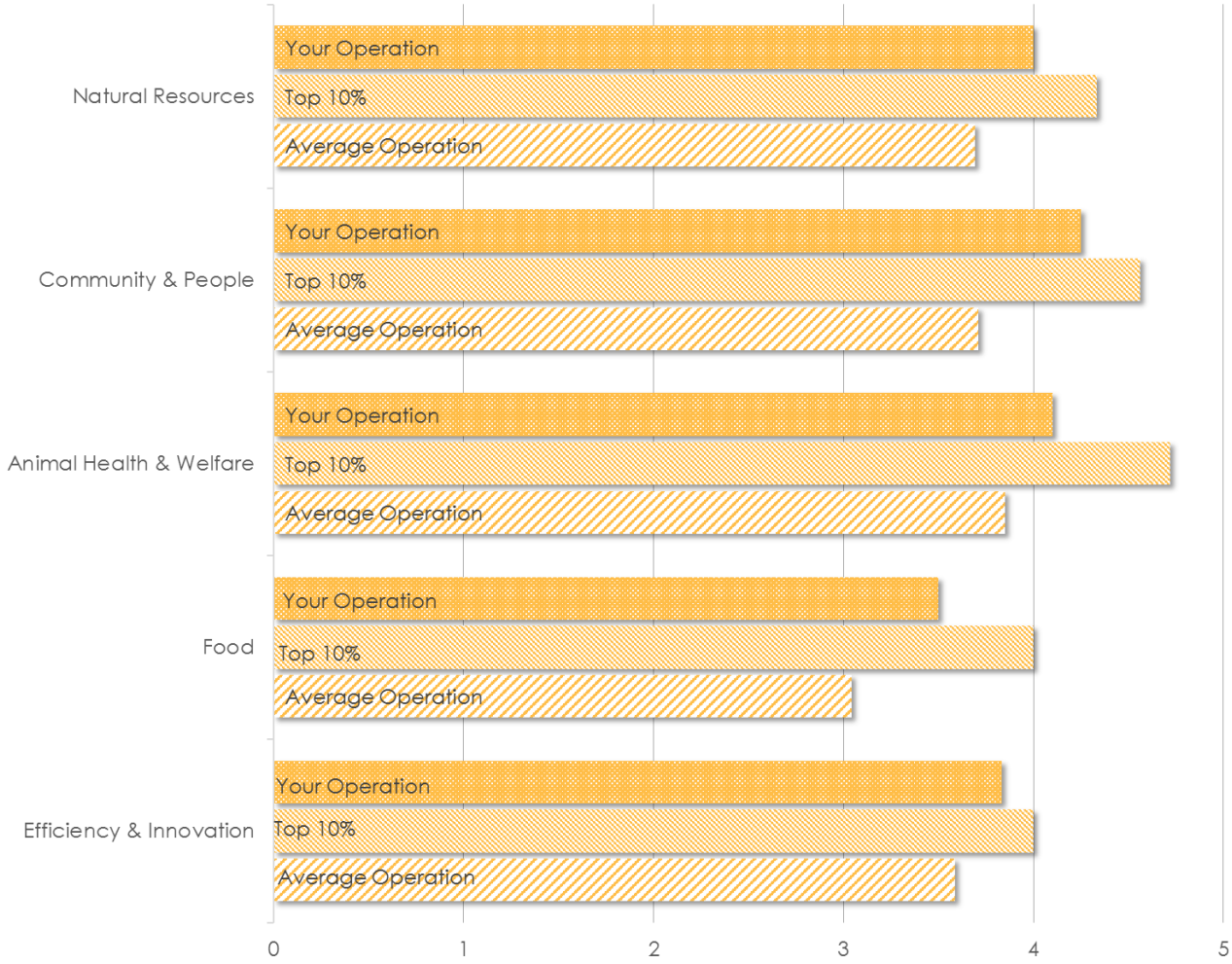
Score Your Operation received for the Principle/Indicator

Average participant score for the Principle/Indicator

Score of the top 10 % of pilot participants

Figure 2 below illustrates your operation's overall performance in all the principles. From this figure you can compare your operation to the average pilot participant's scores and the top 10%. This figure, and subsequent table will allow you to see where you stand relative to the industry and top performers, and assist you in identifying any potential areas where you may have opportunities for improvements.

Figure 2: Your Operation's Overall Performance

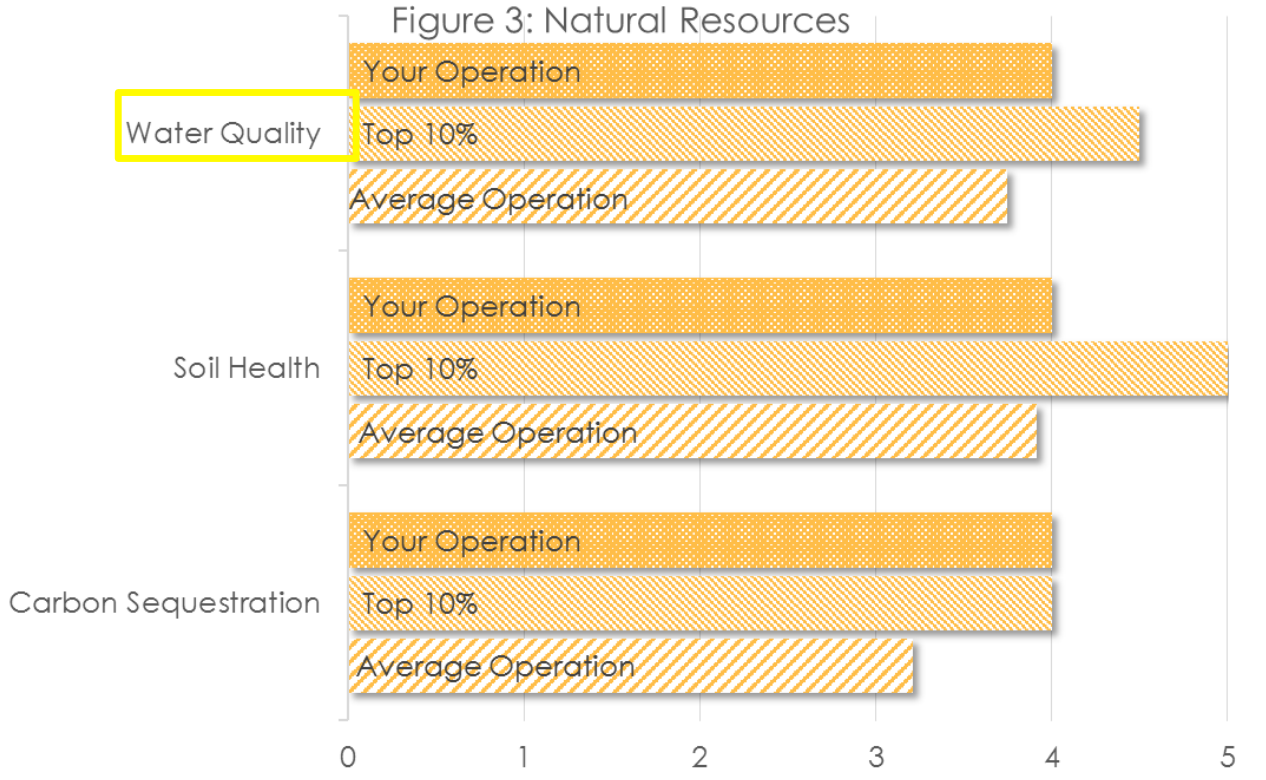


	Efficiency & Innovation	Food	Animal Health & Welfare	Community & People	Natural Resources
Your Operation	3.8	3.5	4.1	4.3	4.0
Top 10%	4.0	4.0	4.7	4.6	4.3
Average Operation	3.6	3.0	3.9	3.7	3.7

NATURAL RESOURCES

The Natural Resource indicators are designed to measure an operation's performance in three specific metrics including water quality, soil health, greenhouse gases, protection of native ecosystems and biodiversity.

Figure 3 illustrates your operation's overall performance in the three Natural Resources indicators. From this figure and the table below it, you can compare your operation to the average score of pilot participants and the top 10%, and potentially identify areas where you would like to improve. Indicators outlined in yellow represent critical indicators.

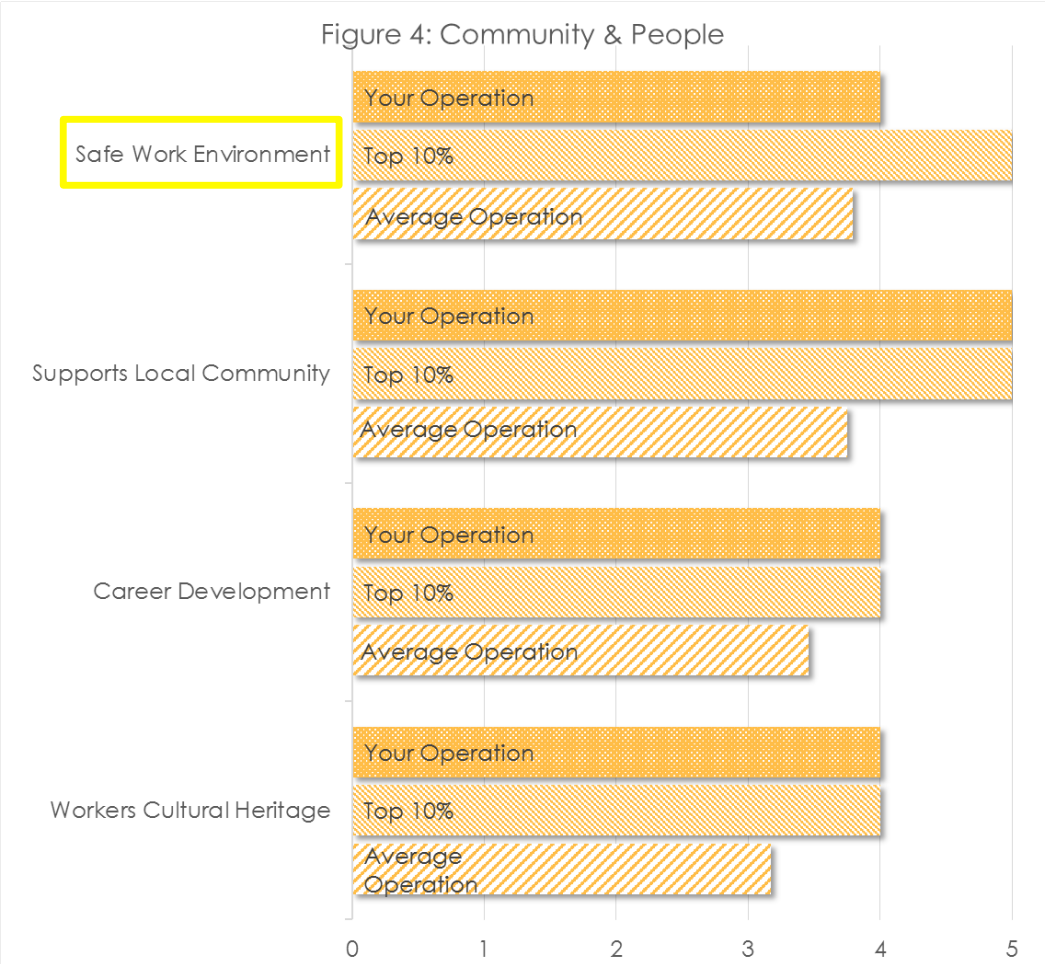


	Carbon Sequestration	Soil Health	Water Quality
Your Operation	4.0	4.0	4.0
Top 10%	4.0	5.0	4.5
Average Operation	3.2	3.9	3.8

COMMUNITY AND PEOPLE

The Community and People indicators are designed to measure an operation's performance in eight specific metrics including safe work environment, community, career development and cultural heritage.

Figure 4 illustrates your operation's overall performance in the Community and People indicators. From this figure and the table below it, you can compare your operation to the average score of pilot participants and the top 10%, and potentially identify areas where you would like to improve.



	Workers Cultural Heritage	Career Development	Supports Local Community	Safe Work Environment
Your Operation	4.0	4.0	5.0	4.0
Top 10%	4.0	4.0	5.0	5.0
Average Operation	3.2	3.5	3.8	3.8

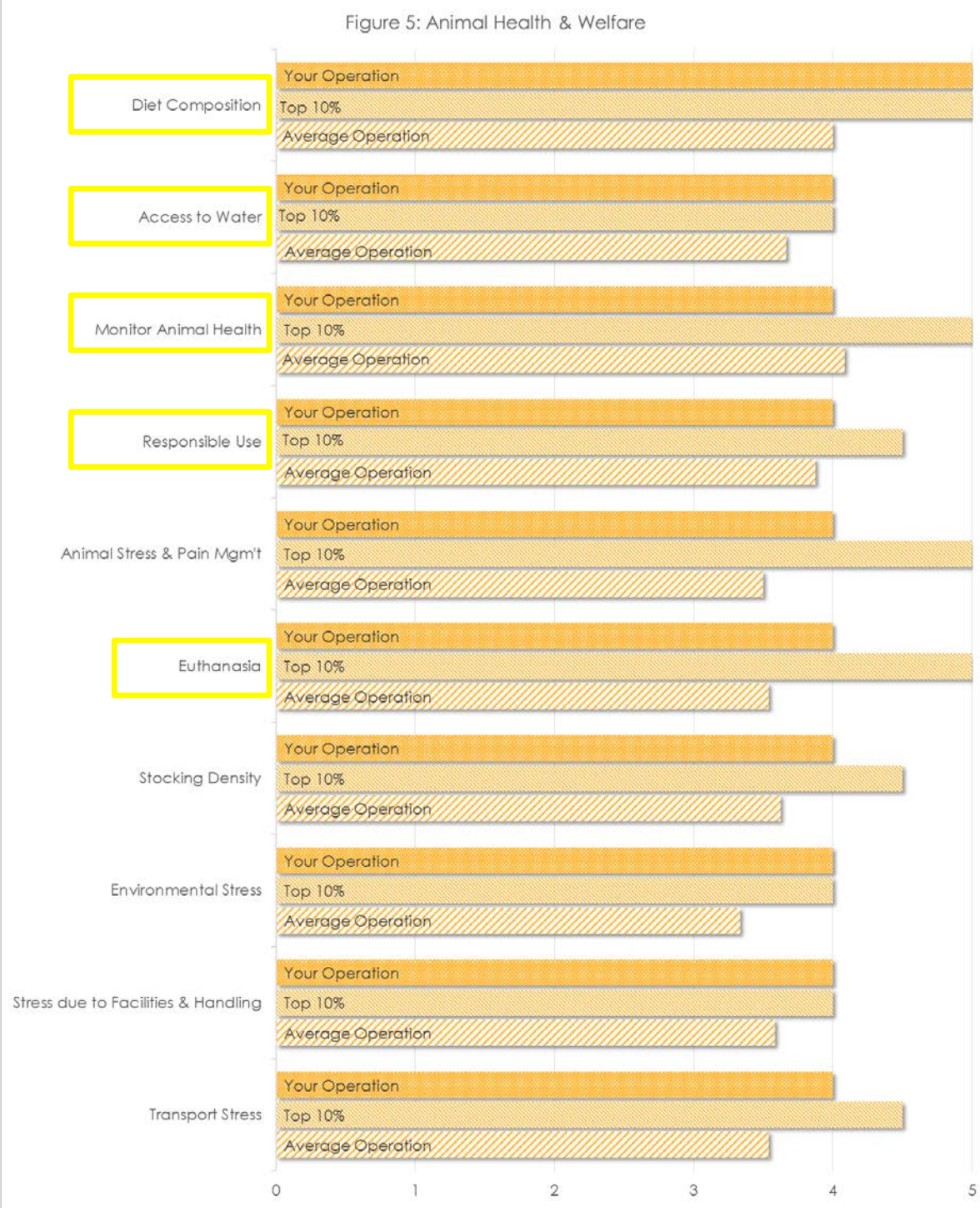
	Laws and Regulations	Right to use land	Minimum wage	Permit for CFO
Your Operation				
Results	Y	Y	Y	Y
Verification Results for all Feedlot Operations in Pilot				
Yes	9	24	11	22
No	0	0	0	0
NA*	15	0	13	2

*NA either means either the operation does not have any employees, or the operation is in Alberta where agricultural operations were exempt from labor laws when the verification took place, or the operation was built before the Ag Operation Practices Act Amendment of 2002 came into effect and did not require a Confined Feeding Operation (CFO) permit.

ANIMAL HEALTH AND WELFARE

The Animal Health and Welfare indicators are designed to measure an operations' performance in ten specific metrics including feed, water, animal health, pharmaceuticals, pain management, euthanasia, stocking density, environmental stress, handing stress, loading and transport. Figure 5 below illustrates your operation's overall performance in the Animal Health and Welfare indicators.

Figure 5: Animal Health & Welfare



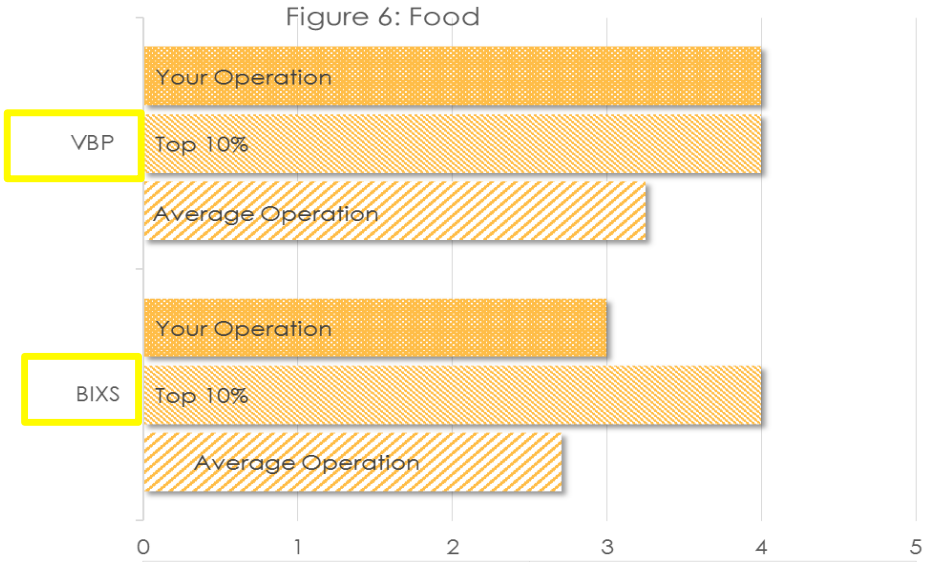
From this figure and the table below, you can compare your operation to the average score of pilot participants and the top 10%, and potentially identify areas where you would like to improve.

	Access to Feed	Access to Water	Monitor Animal Health	Responsible Use	Animal Stress & Pain Mgm't	Euthanasia	Stocking Density	Environmental Stress	Stress due to Facilities & Handling	Transport Stress
Your Operation	5.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Average Operation	4.0	3.7	4.1	3.9	3.5	3.5	3.6	3.3	3.6	3.5
Top 10%	5.0	4.0	5.0	4.5	5.0	5.0	4.5	4.0	4.0	4.5

FOOD

The Food indicators are designed to measure an operation's performance in two specific metrics including safety and quality and information sharing.

Figure 6 illustrates your operation's overall performance in the Food indicators. From this figure and the table below it, you can compare your operation to the average score of pilot participants and the top 10%, and potentially identify areas where you would like to improve.

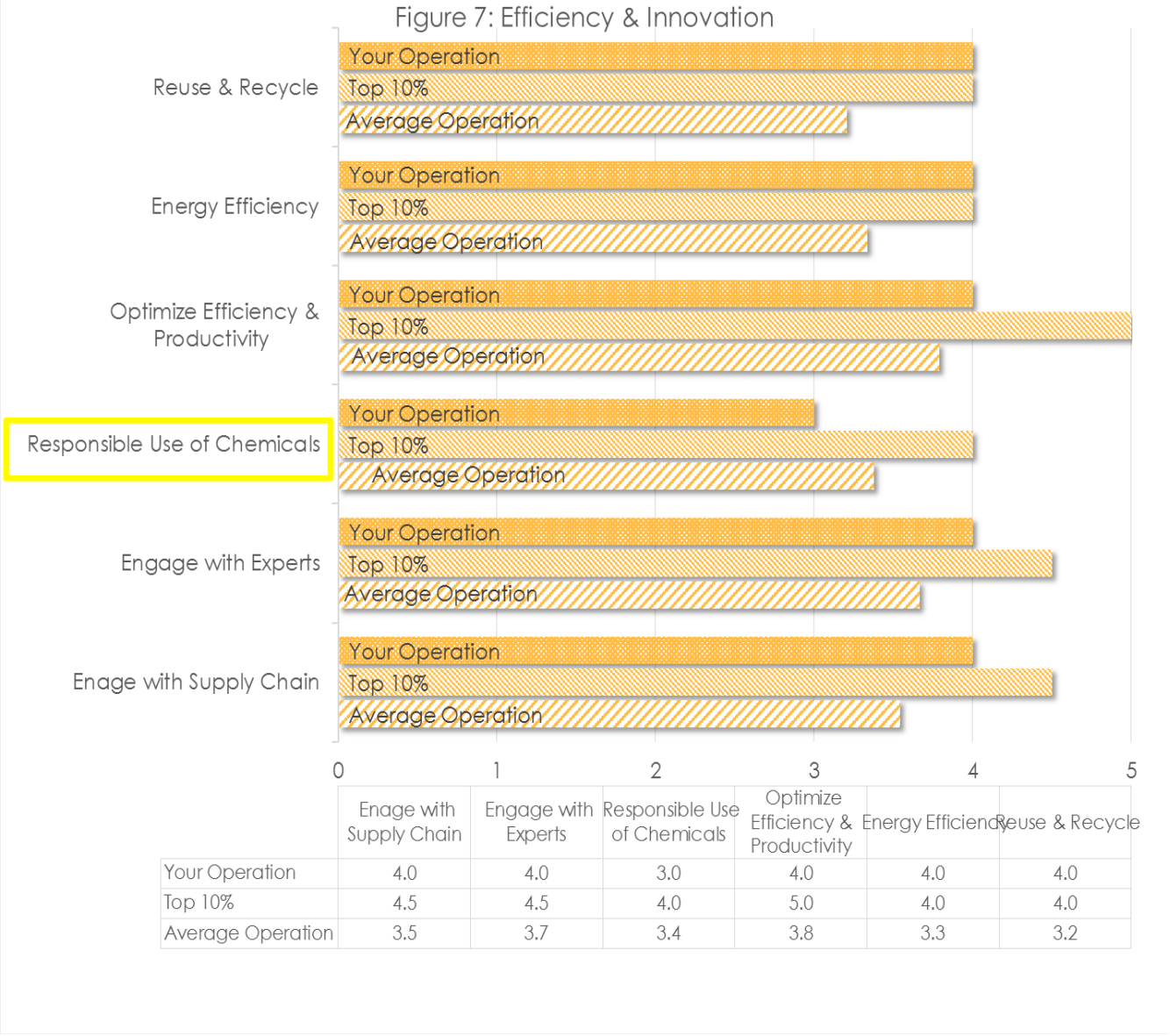


	BIXS	VBP
Your Operation	3.0	4.0
Top 10%	4.0	4.0
Average Operation	2.7	3.3

EFFICIENCY AND INNOVATION

The Efficiency and Innovation indicators are designed to measure an operation's performance in six specific metrics including reusing and recycling, energy efficiency, innovation and technology, crop protection, engagement with experts, and engagement with stakeholders.

Figure 7 illustrates your operation's overall performance in the Efficiency and Innovation indicators. From this figure and the table below it, you can compare your operation to the average score of pilot participants and the top 10%, and potentially identify areas where you would like to improve.



	Enage with Supply Chain	Engage with Experts	Responsible Use of Chemicals	Optimize Efficiency & Productivity	Energy Efficiency	Reuse & Recycle
Your Operation	4.0	4.0	3.0	4.0	4.0	4.0
Top 10%	4.5	4.5	4.0	5.0	4.0	4.0
Average Operation	3.5	3.7	3.4	3.8	3.3	3.2

ACTION PLAN

Beef sustainability is all about continuous improvements that are economically viable, socially responsible and environmentally sustainable.

Your verification report provided you with a snapshot of where your operation was, on the day the verifier from Where Food Comes From was with you. This benchmarking report allows you to compare your performance to your peers. We recommend you share this report and a copy of the indicators and this worksheet with your team (family members, trusted peers, veterinarian, nutritionist/feed company rep, forage association staff, genetics provider, etc.). Asking others to review the information and help you identify and prioritize potential continuous improvements using the following simple three step process is a great way to maximize the usefulness of your report:

This benchmarking report allows you to see your operations performance relative to your peers. To assist you, additional resources are provided below Appendix 2.

STEP 1 – WHAT?

Identify the three indicators most important to your operation that have potential for improvement. You can do this by take note of where your operation scores less than the pilot average and relative to the top 10%. This will provide you with insight into identifying opportunities. Make special note of any Barriers to Entry and Critical Indicators.

STEP 2 – SO WHAT?

Describe why the three indicators you picked in Step 1 are the most important to your operation.

STEP 3 – NOW WHAT?

Describe the actions that should be taken to make continuous improvements in those indicators? What is our SMART (see below) Plan?

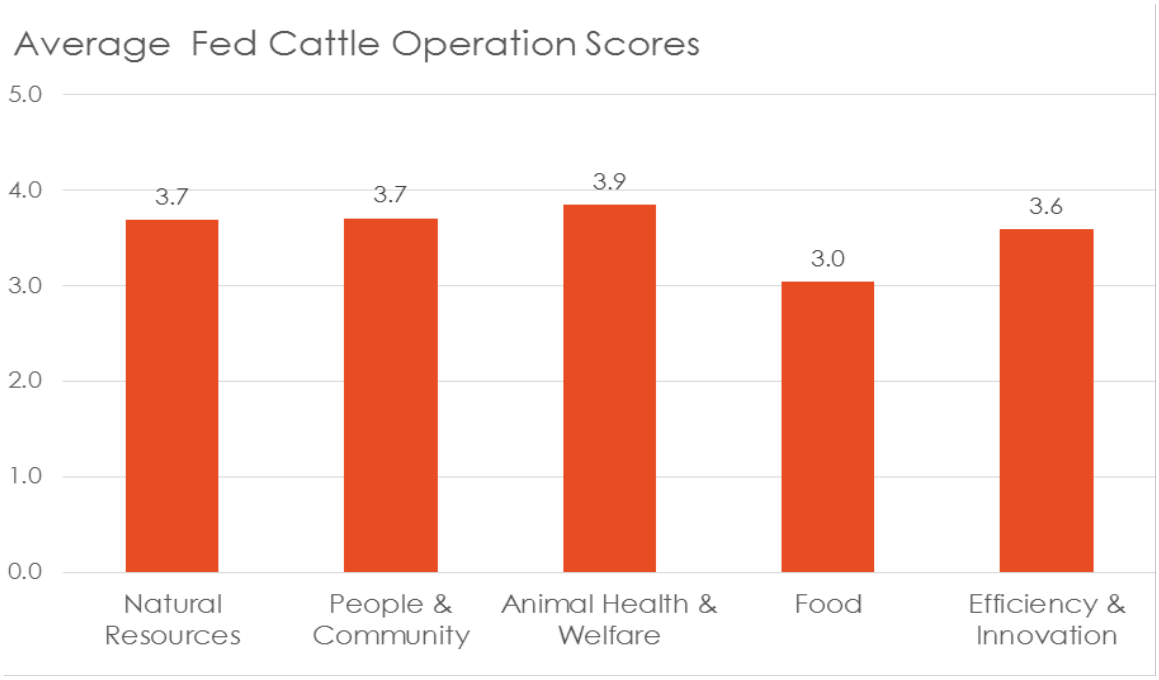
- **S**pecific – What needs to be done?
- **M**easurable – How are we going to measure the outcomes?
- **A**ction-oriented – Who will be responsible for getting it done?
- **R**ealistic – Are we setting realistic expectations?
- **T**imetable – When will we check in on progress and when should the work be completed?

Action plan

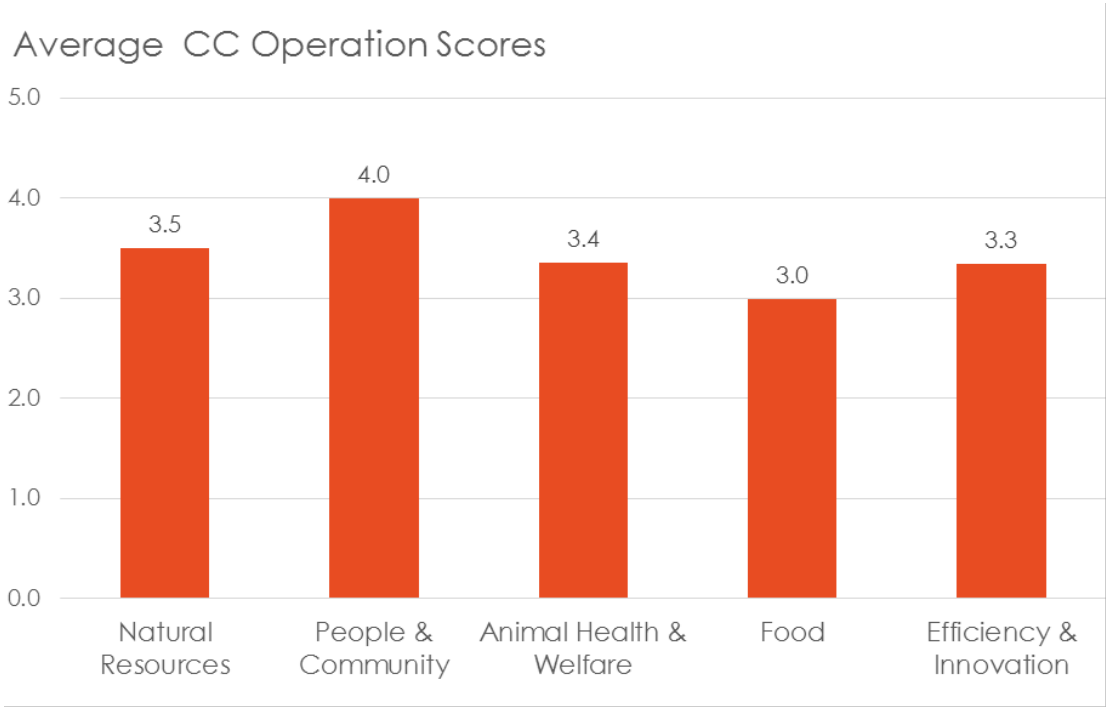
Step 1 – What? (Three indicators to improve on)	Step 2 – So what? (Why are they important to us)	Step 3 – Now what? (SMART Plan)
1.	1.	1.
2.	2.	2.
3.	3.	3.

Anything else worth discussing:

APPENDIX A: SUMMARY OF PARTICIPANTS



High	4.5	4.6	4.9	4.0	4.0
Low	3.0	3.0	3.1	0.5	3.1



High	4.6	4.4	4.2	4.7	4.2
Low	2.0	2.3	2.4	0.5	2.4

APPENDIX 2 –SUPPORTING PROGRAM MATERIALS

NATURAL RESOURCE SUPPORTING PROGRAM MATERIALS

1. **Environmental Farm Plan (EFP) -** Producer self-assessment of risks; development of a Farm Plan to address high priority risks over time. Worksheets that could be developed into Management Plans with conservation impacts: Soil Management/Crop Management, Pasture Management/Pest Management/Grazing Management/Trees, Shelterbelts, Woodlots and Bush/Water Bodies/Wintering Sites Livestock Yards; Manure Storage; Manure Use and Management; Nutrient Management for Crop Production; Livestock Wintering Sites; Soil Management; Water bodies (http://www.albertaefp.com)
2. **Cows and Fish Riparian Management (CFRM) -** Technical assistance programs to enhance and protect riparian zones (http://www.cowsandfish.org)
3. **Growing Forward 2 Programming (GF2)** – Once an EFP Plan is in place, BMP cost shared programs that have conservation indicators: Cow-Calf On-Farm Stewardship; Confined Feeding and Water Management (http://www.growingforward.alberta.ca/GF2Search/index.htm?interestedin=Environmental%20Stewardship)
4. **Grazing Lease Stewardship Code of Practice (COP) -** 4 Key principles to rangeland management; applies to those who are grazing cattle on public lands (stocking rates, timing, etc) (http://esrd.alberta.ca/lands-forests/grazing-range-management/range-plant-community-guides-stocking-rates.aspx)
5. **Rangeland Health Assessment Field Sheets (RHA)-** Visual, quantifiable assessment that determines ecological health classification of grassland, forest and tame pastures., Native plant community guides, stocking rates are available for sub-regions in Alberta **(**http://esrd.alberta.ca/lands-forests/grazing- range-management/range-health.aspx)
6. **Beneficial Grazing Management Practices for Sage grouse and Ecology of Silver Sagebrush in Southeastern Alberta** – (http://esrd.alberta.ca/lands- forests/grazing-range-management/documents/BeneficialGrazing-SageGrouseSagebrush-2004.pdf)
7. **Management Plans could include**: Sustainable Grazing Management Plan (tame/native/forests on public and private lands); Riparian Management Plan Rangeland Management Plan ()(public rangelands); Woodlot Management Plan; MULTISAR Plan – Grassland Natural Region, Alberta (http://esrd.alberta.ca/fish-wildlife/species-at-risk/species-at-risk-publications-web-resources/species-at-risk-general/documents/SAR148-MULTISAR- StrategyGrasslandRegion-2012-2013-Report-April2013.pdf)
8. **AOPA Confined Feeding Operations Extension Materials (AOPA)** - See http://www1.agric.gov.ab.ca/$department/deptdocs.nsf/all/epw9798/$file/brochure.pdf
10. **Cow-Calf On-Farm Stewardship; Confined Feeding and Water Management** - See **(http://www.growingforward.alberta.ca/GF2Search/index.htm?interestedin=Environmental%20Stewardship)**
11. **Sector-based BMP Manuals (BMP) - Cow/Calf; Farmstead; Cropping and Confined Livestock** - See **(http://www1.agric.gov.ab.ca/$department/deptdocs.nsf/all/agdex13088)**
12. **Management Plans could include: Nutrient Management Plans; Manure Management Plans; Sustainable Grazing Management Plans; Crop Management Plans**
13. **Cow-Calf Operations and Greenhouse Gases Workbook –** See http://www1.agric.gov.ab.ca/$department/deptdocs.nsf/all/cl9706/$FILE/cowcalf_final_complete.pdf
14. **Water Quality Resource Materials – see:** http://www.agriculture.alberta.ca/app21/infopage?cat1=Soil%2FWater%2FAir or http://www1.agric.gov.ab.ca/$department/deptdocs.nsf/all/wat3345

ANIMAL HEALTH AND WELFARE PROGRAM MATERIALS

Source Document – Code of Practice for the Care and Handling of Beef Cattle (https://www.nfacc.ca/codes-of-practice/beef-cattle)

1. **Beef Code –** Nutrition and Feed Management (Section 2.1, Page 11 and Appendix A)

Key Requirements:

- Monitor cattle behaviour, performance, body condition score and health on an ongoing basis and adjust the ***feeding program*** accordingly.
- Ensure cattle have access to feed of adequate quality and quantity to fulfill their nutritional needs at all times, and maintain proper body condition, taking into account factors such as: age, frame size, reproductive status, health status, level of production, competition and weather.
- Take prompt corrective action to improve the body condition score of cattle with a score of 2 or less (out of 5).

Additional Tools: http://www.beefresearch.ca/research/body-condition-scoring.cfm

2. **Beef Code –** Nutrition and Feed Management (Section 2.2, Page 12)

Key Requirements:

- Ensure that cattle have access to palatable water of adequate quality and quantity to fulfill their physiological needs.
- Monitor water sources, feeding habits, behaviour, performance and health on an ongoing basis and be prepared to adjust the ***watering program*** accordingly[2].

3. **Beef Code –** Nutritional Disorders Associated with High Energy Feeding (Section 3.3.3, Page 16)

Key Requirements:

- Design, implement, evaluate and adjust your feeding program to reduce the risk of nutrition-induced disorders, and consult your veterinarian or a nutritionist when needed.
- Transition cattle from high-forage to high-energy rations gradually to avoid abrupt dietary changes[3]

4. **Beef Code –** Herd Health Management (Section 3.1, Page 14)

Key Requirements:

- Establish an ongoing working relationship (VCPR) with a licensed practicing veterinarian and develop a strategy for disease prevention and herd health[4]

5. **Beef Code –** Animal Husbandry (Section 4.4, Page 22; Section 4.5, P.23; Section 4.8, P. 25)

Key Requirements:

De-horning and de-budding:

- Dehorning must be performed only by competent personnel using proper, well-maintained tools and accepted techniques.
- Seek guidance from your veterinarian on the availability and advisability of pain control for disbudding or dehorning beef cattle.
- Disbud calves as early as practically possible, while horn development is still at the horn bud stage (typically 2-3 months).
- EFFECTIVE JANUARY 1, 2016 - use pain control, in consultation with your veterinarian to mitigate pain associated with dehorning calves after horn bud attachment

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[2] See the Code for requirements for feeding snow as the sole water source for cattle types.

[3] Consider: monitor feed bunks to assess prior consumption and adjust feeding accordingly; include forage of effective particle length in all diets to reduce sub-acute ruminal acidosis; consider adjusting rations to prevent digestive disorders when cattle feed intake is interrupted (due to storm, power outage, machinery breakdown, etc.)

[4] Recommended to maintain accurate animal management and health records

Castration

- Castration must be performed by competent personnel using proper, clean, well-maintained instruments and accepted techniques.
- Seek guidance from your veterinarian on the optimum method and timing of castration, as well as the availability and advisability of pain control for castrating beef cattle.
- Castrate calves young as possible
- EFFECTIVE JANUARY 1, 2016 - use pain control, in consultation with your veterinarian, when castrating bulls older than nine months of age.

Tail Docking

- Beef cattle must not be tail docked unless on the advice of a veterinarian.

6. **Beef Code –** On-Farm Euthanasia (Section 6.1 and 6.2, Page 29; Section 6.3, P. 32)

Key Requirements:

- Euthanize (or cull*) without delay cattle that:
  - Are unlikely to recover, fail to respond to treatment and convalescent protocols, have chronic, severe, or debilitating pain and distress, are unable to get to or consume feed and water, or show continuous weight loss or emaciation.
  - An acceptable method for euthanizing cattle must be used (see Table 6.1 in the Code).
    - Euthanasia must be performed by competent personnel (through training, experience, or mentorship).
    - Equipment used for euthanasia, such as guns or captive bolt devices, must be maintained according to manufacturers' instructions to ensure proper function.
    - Non-ambulatory cattle may not be dragged or forced to move prior to euthanasia

Confirmation of Insensibility or Death

- Evaluate the animal's consciousness immediately after the application of the appropriate euthanasia method by checking for a corneal reflex (see below).
  - Be prepared to immediately deliver a second application should the first attempt not render the animal immediately insensible.
  - Confirm death before moving or leaving the animal (see below). Confirm insensibility:
  - Touch the eyeball and note if the animal blinks (corneal reflex). An insensible animal will not blink.
  - Confirm death: A lack of heartbeat and respiration should be used to confirm death (50):
  - Evaluate heartbeat by physical palpation or by placing a stethoscope over the left lower chest area of the animal, just behind the elbow.
  - Evaluate respiration by observing the chest for any breathing movement. Note that breathing may be slow and erratic in an unconscious animal.

7. Beef Code – Animal Husbandry, Handling and Moving Cattle (Section 4.1, P. 19)

Key Requirements:

- Animal handlers must be familiar with cattle behaviour (through training, experience or mentorship) and use quiet handling techniques.
- Electric prods must only be used to assist movement of cattle when animal or human safety is at risk or as a last resort when all other humane alternatives have failed and only when cattle have a clear path to move.
  - Do not use electric prods repeatedly on the same animal; on the genitals, face, udder or anal areas; or, on calves less than three months of age that can be moved manually
- Willful mistreatment or intentional harm of cattle is unacceptable. This includes but is not limited to: beating an animal; slamming gates on animals; allowing herd dogs to continue pushing cattle with nowhere to move; dragging or pushing cattle with machinery (unless to protect animal or human safety).

8. Beef Code – Animal Environment (Section 1, P. 7)

Key Requirements:

- Cattle must have access to areas, either natural or man-made, that provide relief from weather that is likely to create a serious risk to their welfare.
- Promptly assist individual cattle showing signs of not coping with adverse weather (see Sections 1.1.1 and 1.1.2 of the Code for lists of signs)
- All beef operations must have access to equipment or facilities for the safe handling, restraint, treatment, segregation, loading, and unloading of cattle.
    - Design or manage indoor and outdoor cattle facilities to provide well-drained, comfortable resting areas.
    - Provide traction in handling areas to minimize cattle slips and falls.
    - All cattle in a group must have sufficient space to adopt normal resting postures at the same time.
    - Cattle kept in groups must be able to move freely around the pen and access feed and water.
    - Stocking density must be managed such that weight gain and duration of time spent lying is not adversely affected by crowding.
    - Maintain indoor air quality and ventilation at all times (ammonia levels < 25ppm).
    - Provide cattle housed indoors that do not have access to natural light with supplementary lighting to allow natural behaviour patterns and monitoring of the cattle

9. Beef Code – Transportation (Section 5.1, P. 26)

Key Requirements:

- Unfit cattle must not be transported unless for veterinary diagnosis or treatment under the advice of a veterinarian (refer to Appendix D for a list of conditions).

- Compromised animals may only be transported with special provisions and directly to their final destination (refer to Appendix D for a list of conditions and special provisions).
- Cattle must receive feed and water within five hours prior to loading if transport will exceed 24 hours.
- Cows or heifers that are likely to give birth during the journey must not be transported, unless for veterinary diagnosis or treatment.
- Ensure that any loading and unloading equipment, chutes or conveyances are free of hazards in order to minimize the risk of injury

ADDITIONAL RESOURCE MATERIALS

Verified Beef Production

1. Website for the Verified Beef Program; see - http://www.verifiedbeef.org/about_us.htm
2. Manual for the VBP Program; see - http://www.verifiedbeef.org/downloads/manual/vbp_producer_manual-checklist.pdf
3. Producer Checklist for the 55 Required Procedures; see - http://www.verifiedbeef.org/downloads/manual/checklist.pdf
4. VBP Site where the On-line Training can be accessed; templates and other resource materials; see, http://www.verifiedbeef.org/producer_resources.htm

McDonald's Global Vision for Antimicrobial Stewardship in Food Animals
Comprehensive document –
http://www.aboutmcdonalds.com/content/dam/AboutMcDonalds/Sustainability/Antimicrobial_Stewardship_Vision.pdf
Four Guiding Criteria include:

1. Consider alternative strategies (e.g. husbandry, probiotics), before administering antimicrobials.
2. Do not use critically important antimicrobials (WHO definition) not presently approved for veterinary use.
3. Classes of antimicrobials approved for both human and veterinary medicine should
   a. Only be used for treatment or prevention of animal disease in conjunction with a veterinary-developed animal health care program.
   b. Not be used for growth promotion purposes.
4. Do not use medically important antimicrobials (WHO definition) for growth promotion.

Source document – World Organization for Animal Health (OIE) - Terrestrial Animal Health Code - 20/07/2015 (http://www.oie.int/index.php?id=169&L=0&htmfile=chapitre_aw_beef_catthe.htm)

Sustainable Beef Pilot:

Benchmark Report

Alberta Ranch
Date: May 2016

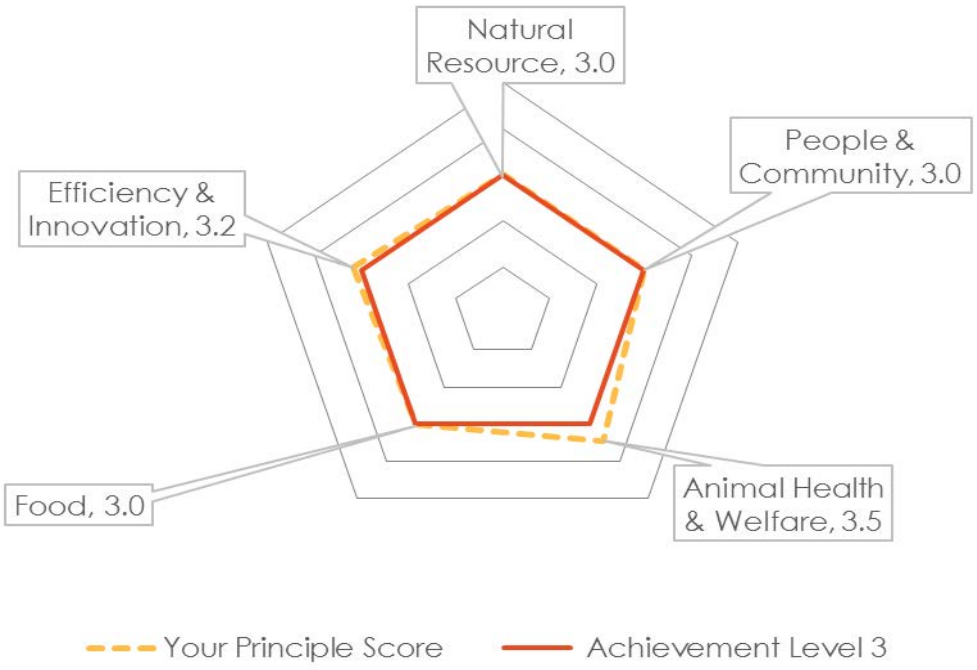
SUMMARY

The information in this report enables you to compare your operation's performance with your peers through a number of benchmarks including:

1. **Principle level benchmarks** - This enables you to compare your performance within each of the five principles of this pilot (Natural resources, Community and People, Animal health and Welfare, Food and Efficiency and Innovation).
2. **Indicator level benchmarks** – This enables you to compare your performance in each of the 31 indicators in this pilot for cow-calf, extensive operations. This level of benchmarking enables you to identify potential opportunities for improvement.

Figure 1 depicts your operation's overall performance in the Pilot. On this figure you can see how your operation scored according to the five Principles relative to the Achievement Level expected for Sustainable Beef Status in the Pilot[1].

Figure 1: Overall Performance



[1] For the purpose of the Sustainable Beef Pilot, an operation will need to achieve the following performance for cattle they produce to be counted as contributing to McDonald's purchases of Sustainable Beef:

- o A score of 3 or higher for all critical indicators
- o An average score of 3 or higher for each of the 5 principles.

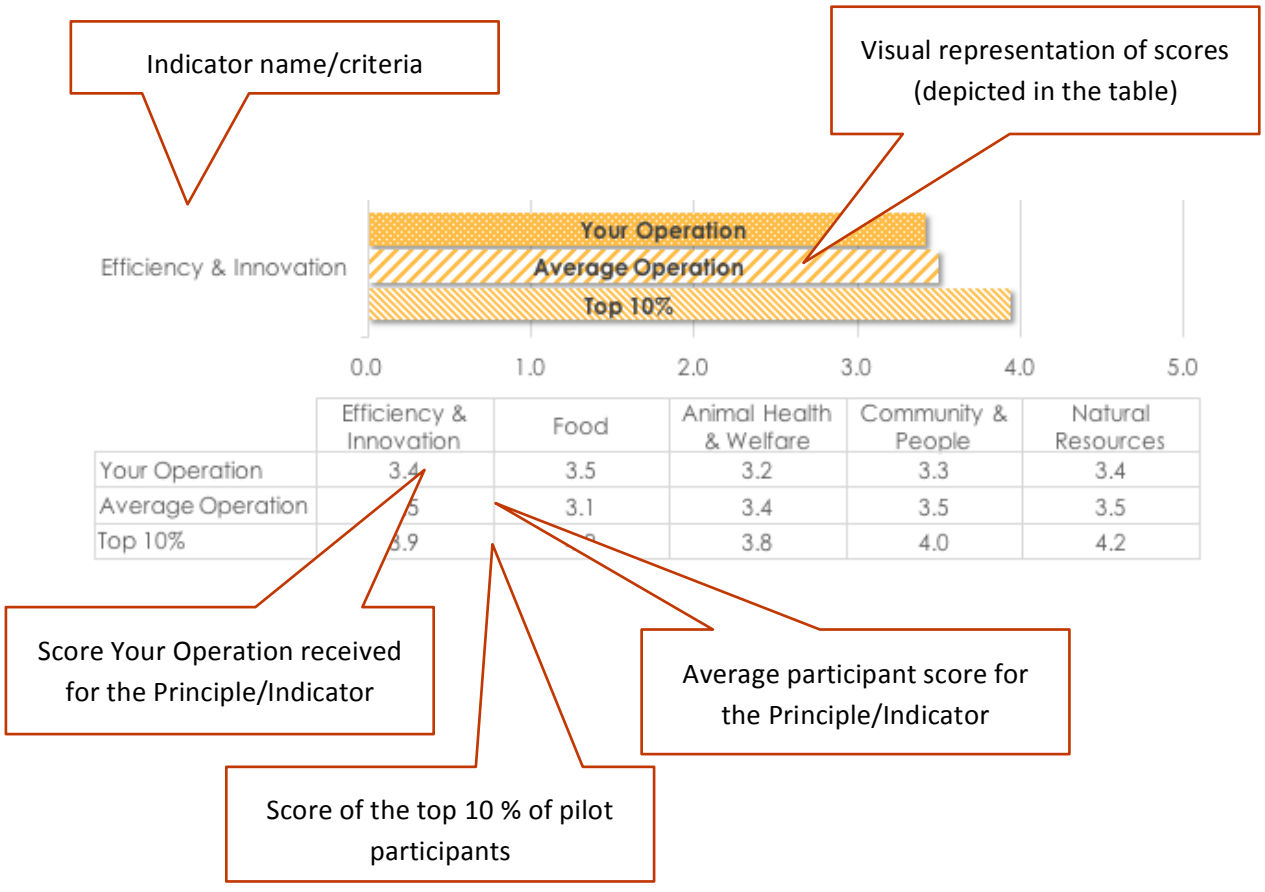
PILOT SUMMARY

A total of 178 beef operations participated in this pilot including:

- 24 feedlot operations
- 5 Backgrounders
- 154 cow/calf (CC) operations with 78 of them also identifying themselves as Backgrounders

PRINCIPLE LEVEL BENCHMARK

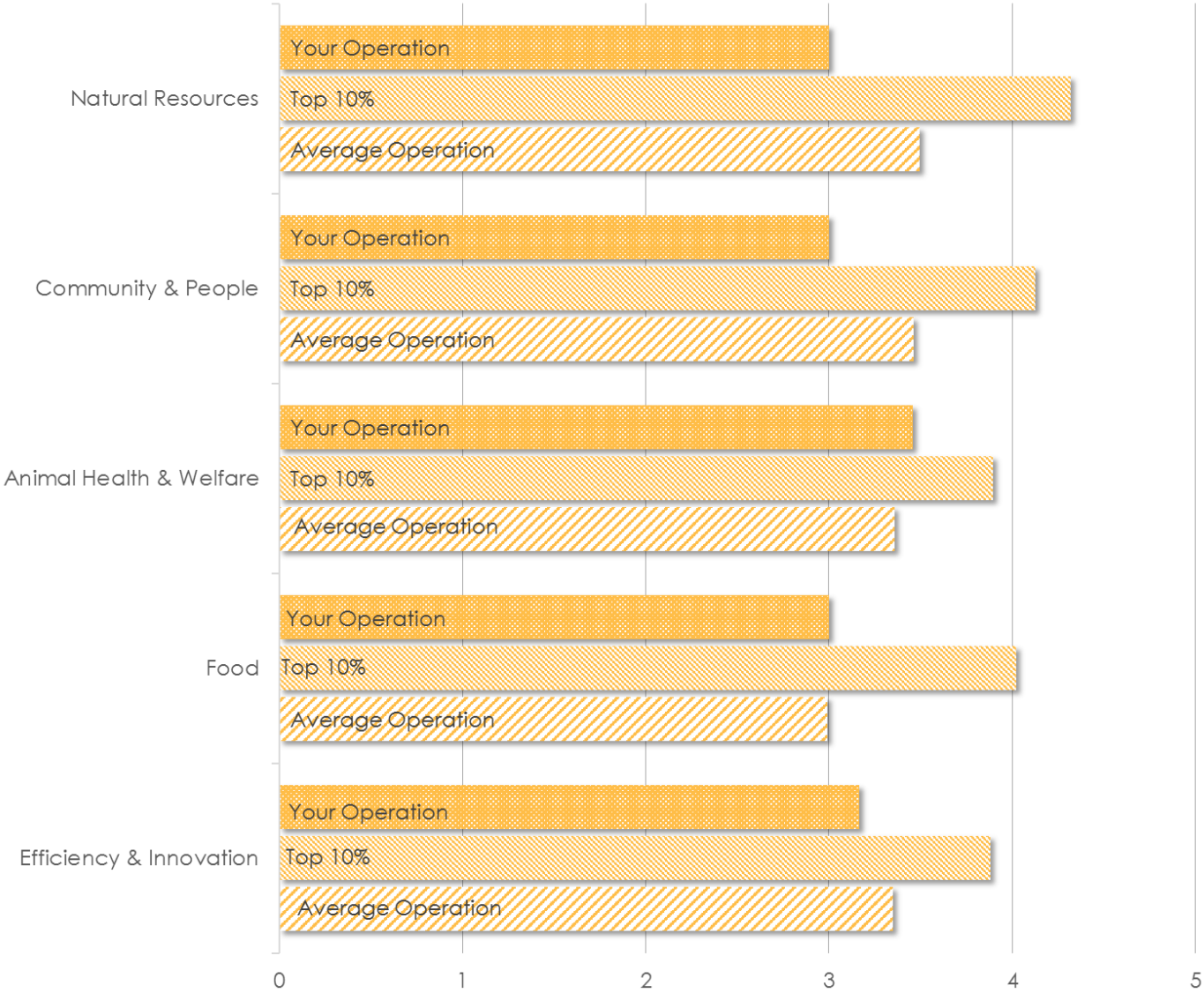
Figures (2-7) illustrate your operation's overall performance by Principle including your operation's performance relative to the average of pilot participants' scores, and the top 10 percent. The following key provides definitions to explain the way the data is displayed in the next set of figures (Figures 2-7). **Please note that if an indicator score of '0.0' occurs in the table below each bar graph, it simply means the indicator was not applicable to your operation (i.e. Excel software converts a 'Not Applicable' to the numeric form of zero).**



	Efficiency & Innovation	Food	Animal Health & Welfare	Community & People	Natural Resources
Your Operation	3.4	3.5	3.2	3.3	3.4
Average Operation	[illegible]	3.1	3.4	3.5	3.5
Top 10%	3.9	[illegible]	3.8	4.0	4.2

Figure 2 below illustrates your operation's overall performance in all the principles. From this figure you can compare your operation to the average pilot participant's scores and the top 10%. This figure, and subsequent table will allow you to see where you stand relative to the industry and top performers, and assist you in identifying any potential areas where you may have opportunities for improvements.

Figure 2: Your Operation's Overall Performance



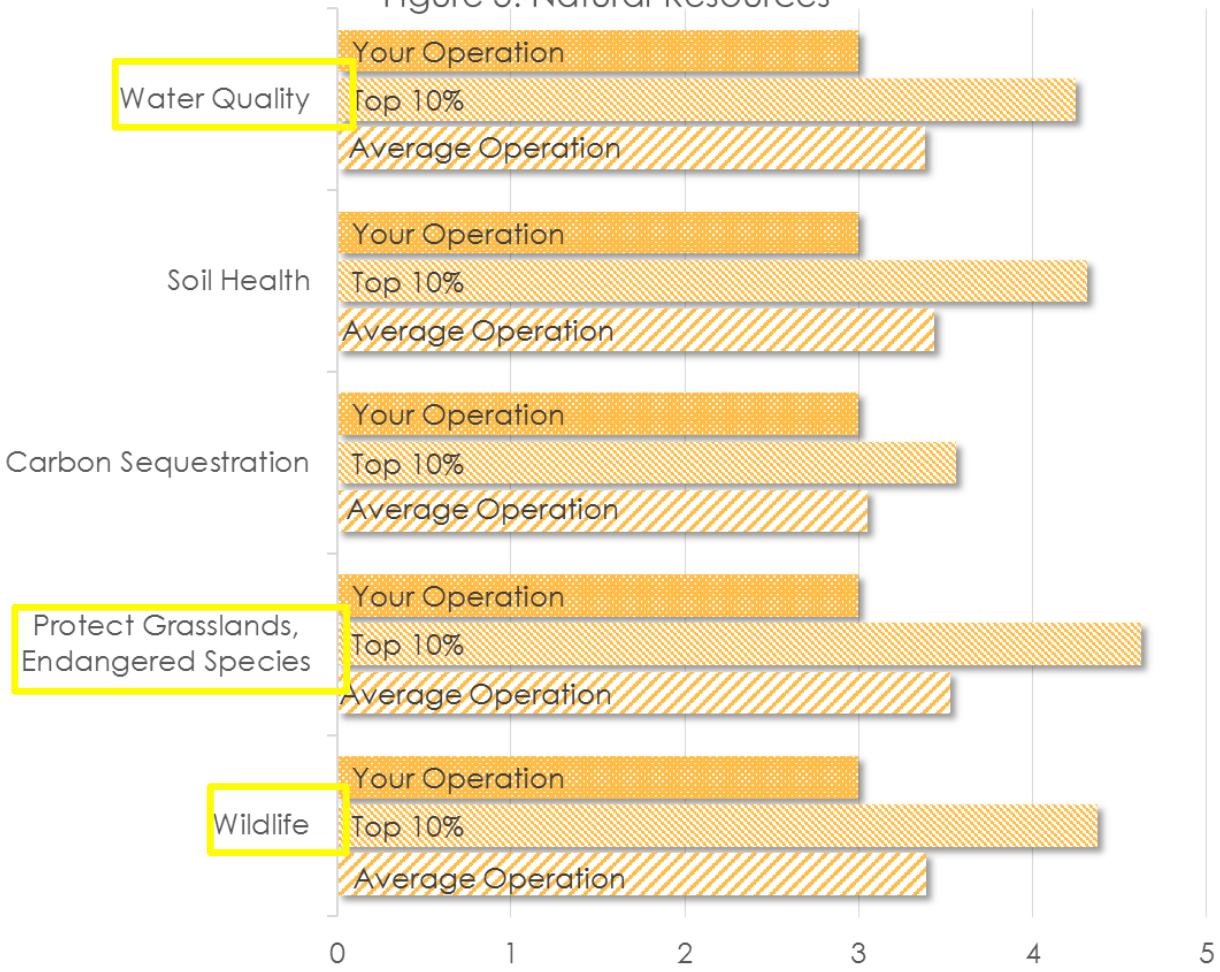
	Efficiency & Innovation	Food	Animal Health & Welfare	Community & People	Natural Resources
Your Operation	3.2	3.0	3.5	3.0	3.0
Top 10%	3.9	4.0	3.9	4.1	4.3
Average Operation	3.3	3.0	3.4	3.5	3.5

NATURAL RESOURCES

The Natural Resource indicators are designed to measure an operation's performance in five specific metrics including water quality, soil health, greenhouse gases, protection of native ecosystems and biodiversity.

Figure 3 illustrates your operation's overall performance in the five Natural Resources indicators. From this figure and the table below it, you can compare your operation to the average score of pilot participants and the top 10%, and potentially identify areas where you would like to improve. Indicators outlined in yellow represent critical indicators.

Figure 3: Natural Resources

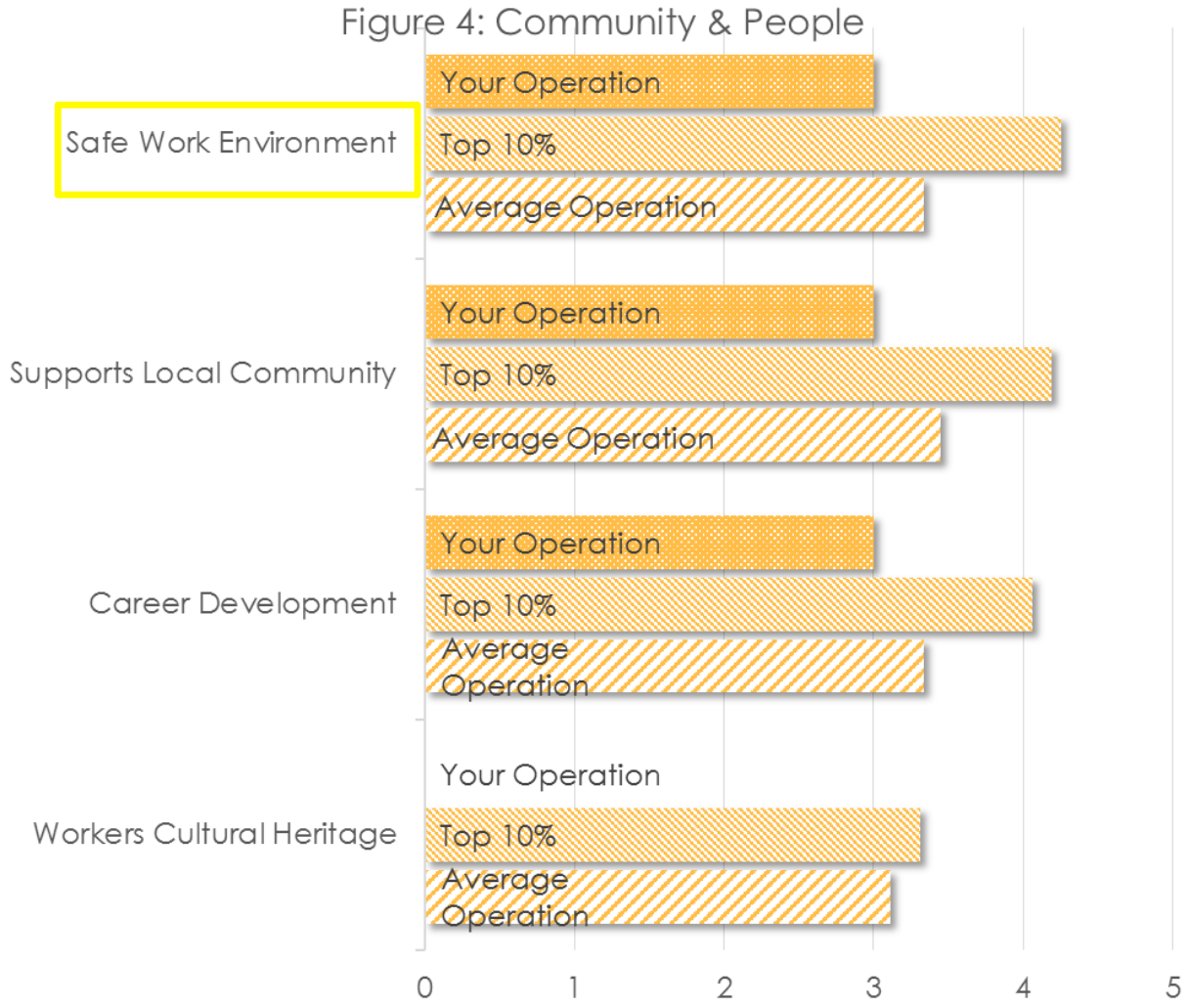


	Wildlife	Protect Grasslands, Endangered Species	Carbon Sequestration	Soil Health	Water Quality
Your Operation	3.0	3.0	3.0	3.0	3.0
Top 10%	4.4	4.6	3.6	4.3	4.3
Average Operation	3.4	3.5	3.1	3.4	3.4

COMMUNITY AND PEOPLE

The Community and People indicators are designed to measure an operation's performance in seven specific metrics including safe work environment, community, career development and cultural heritage.

Figure 4 illustrates your operation's overall performance in the Community and People indicators. From this figure and the table below it, you can compare your operation to the average score of pilot participants and the top 10%, and potentially identify areas where you would like to improve.



	Workers Cultural Heritage	Career Development	Supports Local Community	Safe Work Environment
Your Operation	0.0	3.0	3.0	3.0
Top 10%	3.3	4.1	4.2	4.3
Average Operation	3.1	3.3	3.4	3.3

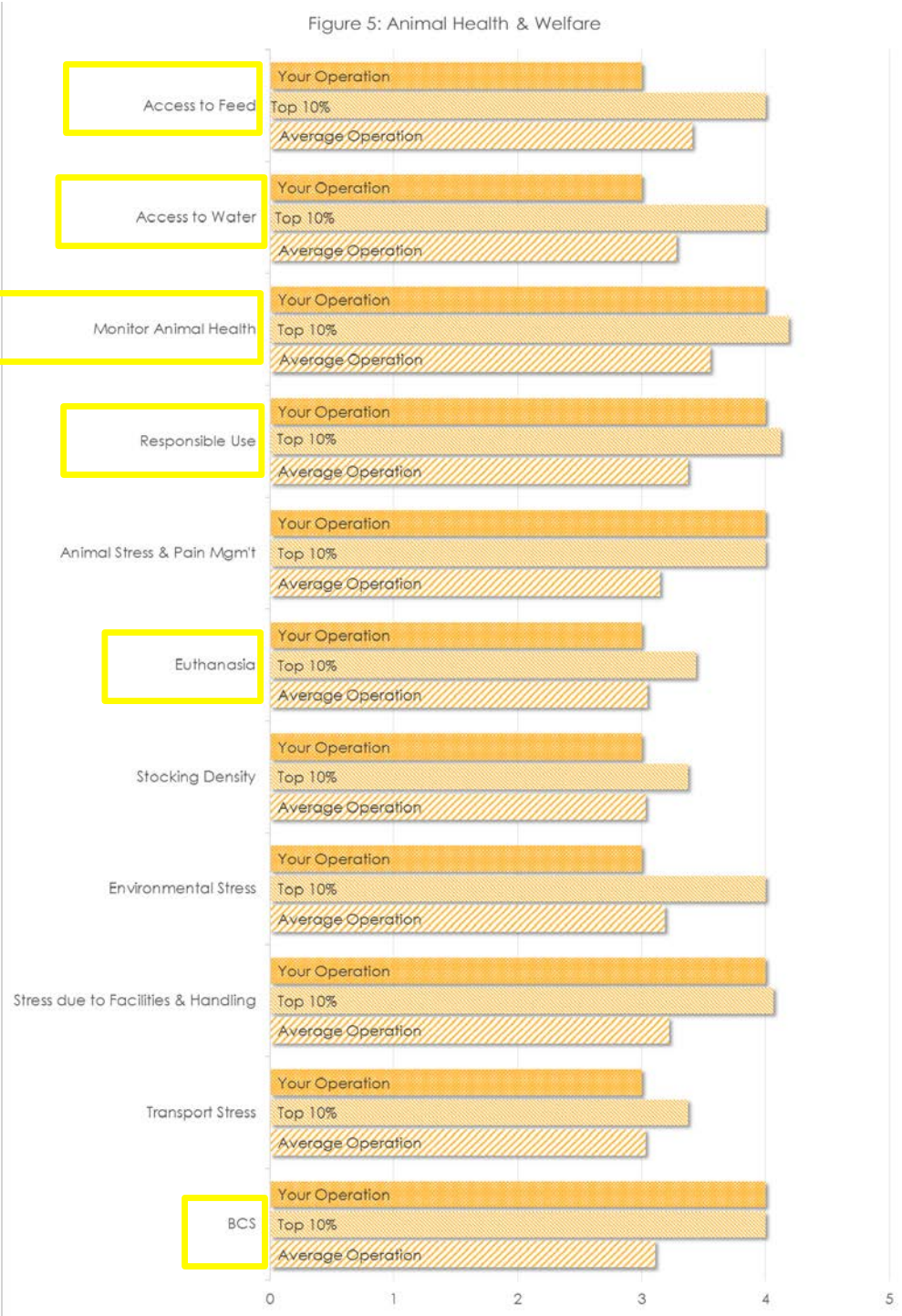
	Laws and Regulations	Right to use land	Minimum wage
Your Operation			
Results	N/A	Y	N/A
Verification Results for all Cow/Calf Operations in Pilot			
Yes	31	153	37
No	0	1	0
NA*	123	0	117

*NA either means either the operation does not have any employees, or the operation is in Alberta where agricultural operations were exempt from labor laws when the verification took place, or the operation was built before the Ag Operation Practices Act Amendment of 2002 came into effect.

ANIMAL HEALTH AND WELFARE

The Animal Health and Welfare indicators are designed to measure an operations' performance in eleven specific metrics including feed, water, animal health, pharmaceuticals, pain management, euthanasia, stocking density, environmental stress, handing stress, loading and transport. Figure 5 below illustrates your operation's overall performance in the Animal Health and Welfare indicators.

Figure 5: Animal Health & Welfare



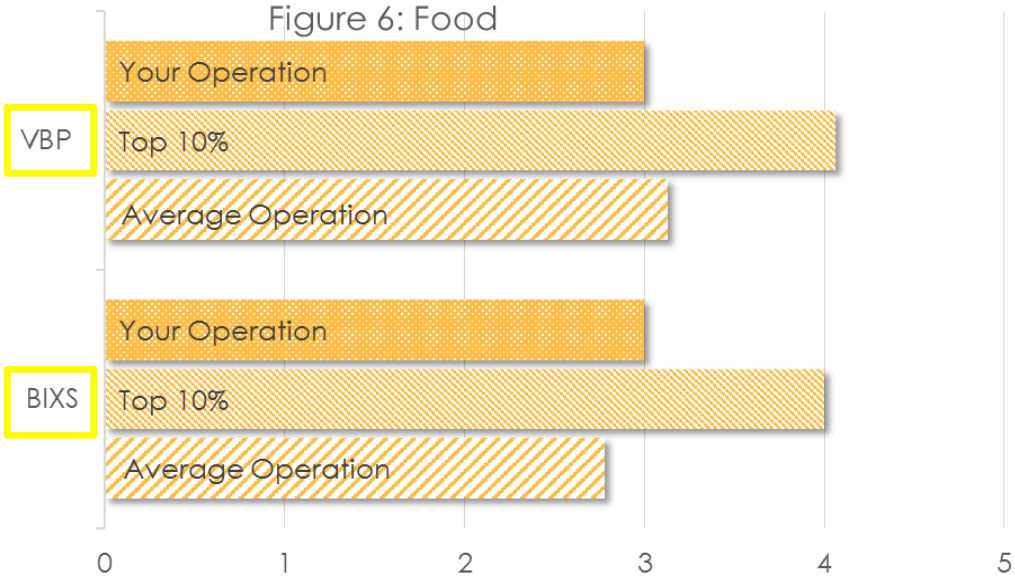
From this figure and the table below, you can compare your operation to the average score of pilot participants and the top 10%, and potentially identify areas where you would like to improve.

	Diet Composition	Access to Water	Monitor Animal Health	Responsible Use	Animal Stress & Pain Mgm't	Euthanasia	Stocking Density	Environmental Stress	Stress due to Facilities & Handling	Transport Stress	BCS
Your Operation	3.0	3.0	4.0	4.0	4.0	3.0	3.0	3.0	4.0	3.0	4.0
Average Operation	3.4	3.3	3.6	3.4	3.1	3.0	3.0	3.2	3.2	3.0	3.1
Top 10%	4.0	4.0	4.2	4.1	4.0	3.4	3.4	4.0	4.1	3.4	4.0

FOOD

The Food indicators are designed to measure an operation's performance in two specific metrics including safety and quality and information sharing.

Figure 6 illustrates your operation's overall performance in the Food indicators. From this figure and the table below it, you can compare your operation to the average score of pilot participants and the top 10%, and potentially identify areas where you would like to improve.



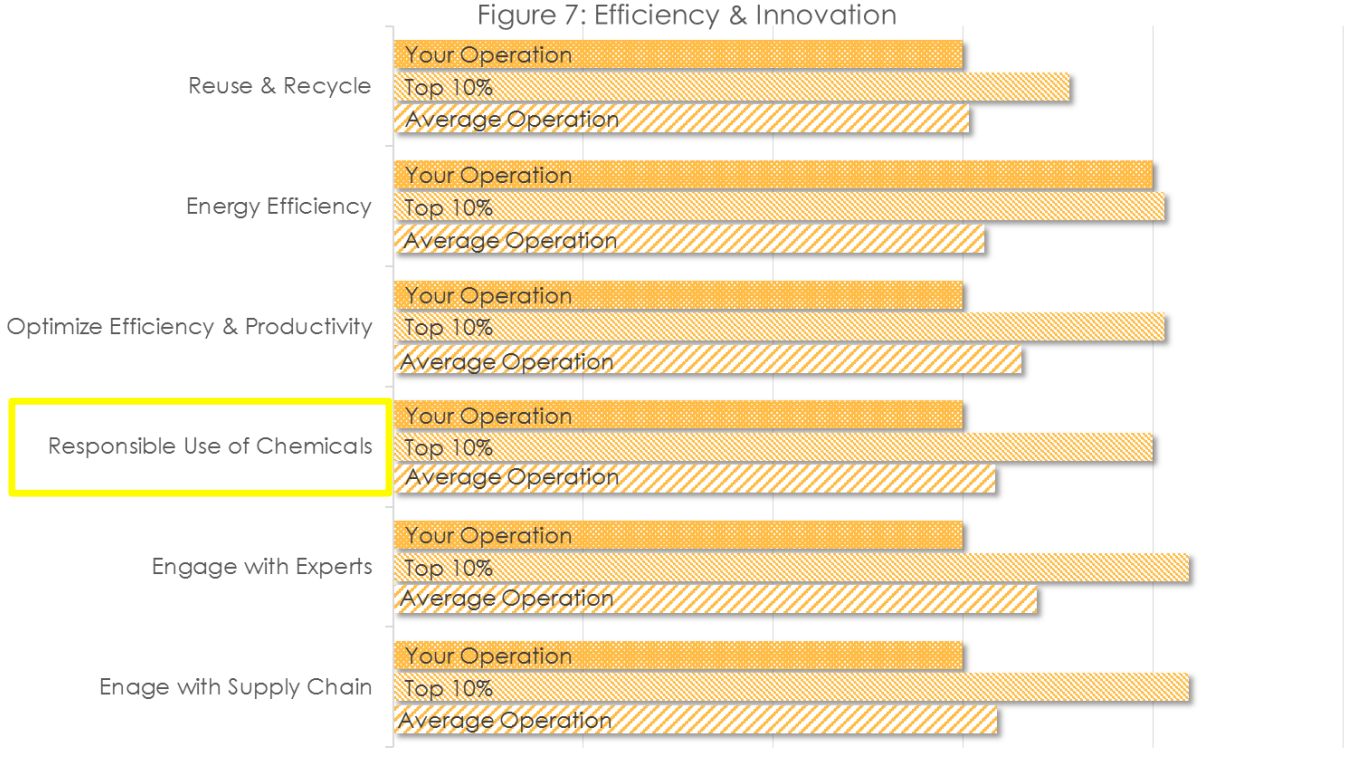
	BIXS	VBP
Your Operation	3.0	3.0
Top 10%	4.0	4.1
Average Operation	2.8	3.1

EFFICIENCY AND INNOVATION

The Efficiency and Innovation indicators are designed to measure an operation's performance in six specific metrics including reusing and recycling, energy efficiency, innovation and technology, crop protection, engagement with experts, and engagement with stakeholders.

Figure 7 illustrates your operation's overall performance in the Efficiency and Innovation indicators. From this figure and the table below it, you can compare your operation to the average score of pilot participants and the top 10%, and potentially identify areas where you would like to improve.

Figure 7: Efficiency & Innovation



	Enage with Supply Chain	Engage with Experts	Responsible Use of Chemicals	Optimize Efficiency & Productivity	Energy Efficiency	Reuse & Recycle
Your Operation	3.0	3.0	3.0	3.0	4.0	3.0
Top 10%	4.2	4.2	4.0	4.1	4.1	3.6
Average Operation	3.2	3.4	3.2	3.3	3.1	3.0

ACTION PLAN

Beef sustainability is all about continuous improvements that are economically viable, socially responsible and environmentally sustainable. Your verification report provided you with a snapshot of where your operation was, on the day the verifier from Where Food Comes From was with you. This benchmarking report allows you to compare your performance to your peers. We recommend you share this report and a copy of the indicators and this worksheet with your team (family members, trusted peers, veterinarian, nutritionist/feed company rep, forage association staff, genetics provider, etc.). Asking others to review the information and help you identify and prioritize potential continuous improvements using the following simple three step process is a great way to maximize the usefulness of your report:
This benchmarking report allows you to see your operations performance relative to your peers. To assist you, additional resources are provided below Appendix 2.

STEP 1 – WHAT?

Identify the three indicators most important to your operation that have potential for improvement. You can do this by take note of where your operation scores less than the pilot average and relative to the top 10%. This will provide you with insight into identifying opportunities. Make special note of any Barriers to Entry and Critical Indicators.

STEP 2 – SO WHAT?

Describe why the three indicators you picked in Step 1 are the most important to your operation.

STEP 3 – NOW WHAT?

Describe the actions that should be taken to make continuous improvements in those indicators? What is our SMART (see below) Plan?

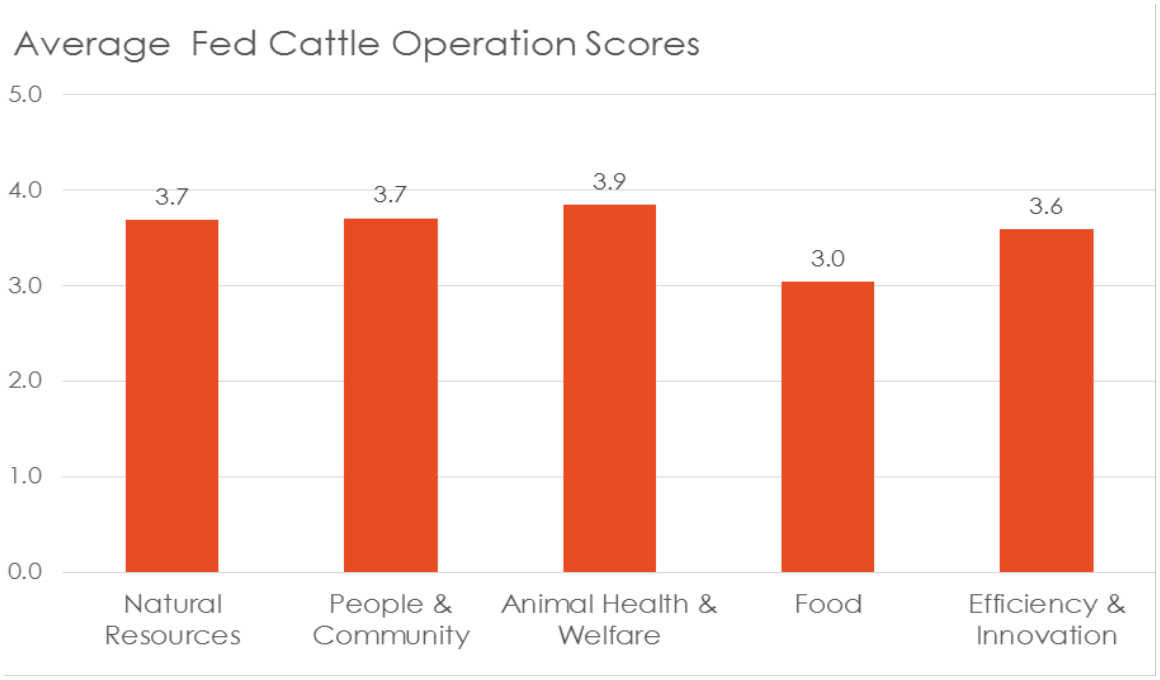
- **M**easurable – How are we going to measure the outcomes?
- **A**ction-oriented – Who will be responsible for getting it done?
- **R**ealistic – Are we setting realistic expectations?
- **T**imetable – When will we check in on progress and when should the work be completed?

Action plan

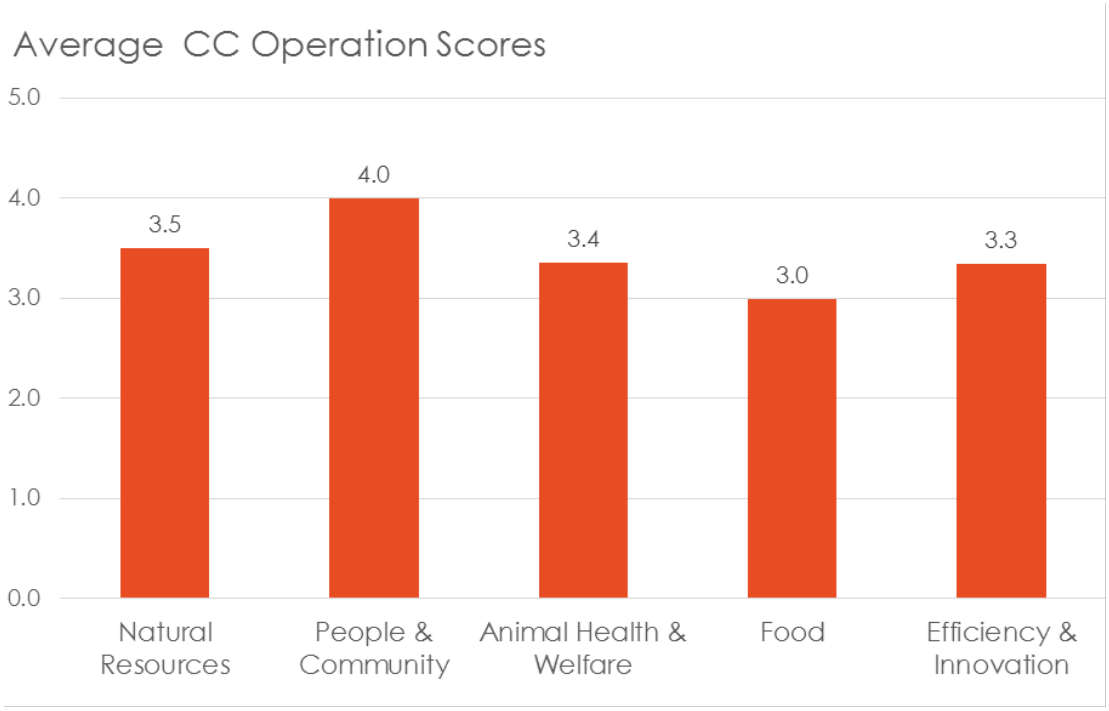
Step 1 – What? (Three indicators to improve on)	Step 2 – So what? (Why are they important to us)	Step 3 – Now what? (SMART Plan)
1.	1.	1.
2.	2.	2.
3.	3.	3.

Anything else worth discussing:

APPENDIX A: SUMMARY OF PARTICIPANTS



High	4.5	4.6	4.9	4.0	4.0
Low	3.0	3.0	3.1	0.5	3.1



High	4.6	4.4	4.2	4.7	4.2
Low	2.0	2.3	2.4	0.5	2.4

APPENDIX 2 –SUPPORTING PROGRAM MATERIALS

NATURAL RESOURCE SUPPORTING PROGRAM MATERIALS

1. **Environmental Farm Plan (EFP) -** Producer self-assessment of risks; development of a Farm Plan to address high priority risks over time. Worksheets that could be developed into Management Plans with conservation impacts: Soil Management/Crop Management, Pasture Management/Pest Management/Grazing Management/Trees, Shelterbelts, Woodlots and Bush/Water Bodies/Wintering Sites Livestock Yards; Manure Storage; Manure Use and Management; Nutrient Management for Crop Production; Livestock Wintering Sites; Soil Management; Water bodies (http://www.albertaefp.com)
2. **Cows and Fish Riparian Management (CFRM) -** Technical assistance programs to enhance and protect riparian zones (http://www.cowsandfish.org)
3. **Growing Forward 2 Programming (GF2)** – Once an EFP Plan is in place, BMP cost shared programs that have conservation indicators: Cow-Calf On-Farm Stewardship; Confined Feeding and Water Management (http://www.growingforward.alberta.ca/GF2Search/index.htm?interestedin=Environmental%20Stewardship)
4. **Grazing Lease Stewardship Code of Practice (COP) -** 4 Key principles to rangeland management; applies to those who are grazing cattle on public lands (stocking rates, timing, etc) (http://esrd.alberta.ca/lands-forests/grazing-range-management/range-plant-community-guides-stocking-rates.aspx)
5. **Rangeland Health Assessment Field Sheets (RHA)-** Visual, quantifiable assessment that determines ecological health classification of grassland, forest and tame pastures., Native plant community guides, stocking rates are available for sub-regions in Alberta **(**http://esrd.alberta.ca/lands-forests/grazing- range-management/range-health.aspx)

6. **Beneficial Grazing Management Practices for Sage grouse and Ecology of Silver Sagebrush in Southeastern Alberta –** (http://esrd.alberta.ca/lands- forests/grazing-range-management/documents/BeneficialGrazing-SageGrouseSagebrush-2004.pdf)
7. **Management Plans could include**: Sustainable Grazing Management Plan (tame/native/forests on public and private lands); Riparian Management Plan Rangeland Management Plan ()(public rangelands); Woodlot Management Plan; MULTISAR Plan – Grassland Natural Region, Alberta (http://esrd.alberta.ca/fish-wildlife/species-at-risk/species-at-risk-publications-web-resources/species-at-risk-general/documents/SAR148-MULTISAR- StrategyGrasslandRegion-2012-2013-Report-April2013.pdf)
8. **AOPA Confined Feeding Operations Extension Materials (AOPA)** - See http://www1.agric.gov.ab.ca/$department/deptdocs.nsf/all/epw9798/$file/brochure.pdf
10. **Cow-Calf On-Farm Stewardship; Confined Feeding and Water Management** - See **(http://www.growingforward.alberta.ca/GF2Search/index.htm?interestedin=Environmental%20Stewardship)**
11. **Sector-based BMP Manuals (BMP) - Cow/Calf; Farmstead; Cropping and Confined Livestock** - See **(http://www1.agric.gov.ab.ca/$department/deptdocs.nsf/all/agdex13088)**
12. **Management Plans could include: Nutrient Management Plans; Manure Management Plans; Sustainable Grazing Management Plans; Crop Management Plans**
13. **Cow-Calf Operations and Greenhouse Gases Workbook –** See http://www1.agric.gov.ab.ca/$department/deptdocs.nsf/all/cl9706/$FILE/cowcalf_final_complete.pdf
14. **Water Quality Resource Materials – see:** http://www.agriculture.alberta.ca/app21/infopage?cat1=Soil%2FWater%2FAir or http://www1.agric.gov.ab.ca/$department/deptdocs.nsf/all/wat3345

ANIMAL HEALTH AND WELFARE PROGRAM MATERIALS

Source Document – Code of Practice for the Care and Handling of Beef Cattle (https://www.nfacc.ca/codes-of-practice/beef-cattle)

1. **Beef Code –** Nutrition and Feed Management (Section 2.1, Page 11 and Appendix A)

Key Requirements:

- Monitor cattle behaviour, performance, body condition score and health on an ongoing basis and adjust the ***feeding program*** accordingly.
- Ensure cattle have access to feed of adequate quality and quantity to fulfill their nutritional needs at all times, and maintain proper body condition, taking into account factors such as: age, frame size, reproductive status, health status, level of production, competition and weather.
- Take prompt corrective action to improve the body condition score of cattle with a score of 2 or less (out of 5).

Additional Tools: http://www.beefresearch.ca/research/body-condition-scoring.cfm

2. **Beef Code –** Nutrition and Feed Management (Section 2.2, Page 12)

Key Requirements:

- Ensure that cattle have access to palatable water of adequate quality and quantity to fulfill their physiological needs.

- Monitor water sources, feeding habits, behaviour, performance and health on an ongoing basis and be prepared to adjust the ***watering program*** accordingly[2].

3. **Beef Code –** Nutritional Disorders Associated with High Energy Feeding (Section 3.3.3, Page 16)

Key Requirements:

- Design, implement, evaluate and adjust your feeding program to reduce the risk of nutrition-induced disorders, and consult your veterinarian or a nutritionist when needed.
- Transition cattle from high-forage to high-energy rations gradually to avoid abrupt dietary changes[3]

4. **Beef Code –** Herd Health Management (Section 3.1, Page 14)

Key Requirements:

- Establish an ongoing working relationship (VCPR) with a licensed practicing veterinarian and develop a strategy for disease prevention and herd health[4]

5. **Beef Code –** Animal Husbandry (Section 4.4, Page 22; Section 4.5, P.23; Section 4.8, P. 25)

Key Requirements:

De-horning and de-budding:

- Dehorning must be performed only by competent personnel using proper, well-maintained tools and accepted techniques.
- Seek guidance from your veterinarian on the availability and advisability of pain control for disbudding or dehorning beef cattle.
- Disbud calves as early as practically possible, while horn development is still at the horn bud stage (typically 2-3 months).

- EFFECTIVE JANUARY 1, 2016 - use pain control, in consultation with your veterinarian to mitigate pain associated with dehorning calves after horn bud attachment

Castration

- Castration must be performed by competent personnel using proper, clean, well-maintained instruments and accepted techniques.
- Seek guidance from your veterinarian on the optimum method and timing of castration, as well as the availability and advisability of pain control for castrating beef cattle.
- Castrate calves young as possible
- EFFECTIVE JANUARY 1, 2016 - use pain control, in consultation with your veterinarian, when castrating bulls older than nine months of age.

Tail Docking

- Beef cattle must not be tail docked unless on the advice of a veterinarian.

6. **Beef Code –** On-Farm Euthanasia (Section 6.1 and 6.2, Page 29; Section 6.3, P. 32)

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[2] See the Code for requirements for feeding snow as the sole water source for cattle types.

[3] Consider: monitor feed bunks to assess prior consumption and adjust feeding accordingly; include forage of effective particle length in all diets to reduce sub-acute ruminal acidosis; consider adjusting rations to prevent digestive disorders when cattle feed intake is interrupted (due to storm, power outage, machinery breakdown, etc.)

[4] Recommended to maintain accurate animal management and health records

Key Requirements:

- Euthanize (or cull*) without delay cattle that:
  - Are unlikely to recover, fail to respond to treatment and convalescent protocols, have chronic, severe, or debilitating pain and distress, are unable to get to or consume feed and water, or show continuous weight loss or emaciation.
  - An acceptable method for euthanizing cattle must be used (see Table 6.1 in the Code).
    - Euthanasia must be performed by competent personnel (through training, experience, or mentorship).
    - Equipment used for euthanasia, such as guns or captive bolt devices, must be maintained according to manufacturers' instructions to ensure proper function.
    - Non-ambulatory cattle may not be dragged or forced to move prior to euthanasia

Confirmation of Insensibility or Death

- Evaluate the animal's consciousness immediately after the application of the appropriate euthanasia method by checking for a corneal reflex (see below).
  - Be prepared to immediately deliver a second application should the first attempt not render the animal immediately insensible.
  - Confirm death before moving or leaving the animal (see below). Confirm insensibility:
  - Touch the eyeball and note if the animal blinks (corneal reflex). An insensible animal will not blink.
  - Confirm death: A lack of heartbeat and respiration should be used to confirm death (50):
  - Evaluate heartbeat by physical palpation or by placing a stethoscope over the left lower chest area of the animal, just behind the elbow.
  - Evaluate respiration by observing the chest for any breathing movement. Note that breathing may be slow and erratic in an unconscious animal.

7. Beef Code – Animal Husbandry, Handling and Moving Cattle (Section 4.1, P. 19)

Key Requirements:

- Animal handlers must be familiar with cattle behaviour (through training, experience or mentorship) and use quiet handling techniques.
- Electric prods must only be used to assist movement of cattle when animal or human safety is at risk or as a last resort when all other humane alternatives have failed and only when cattle have a clear path to move.
  - Do not use electric prods repeatedly on the same animal; on the genitals, face, udder or anal areas; or, on calves less than three months of age that can be moved manually

- Willful mistreatment or intentional harm of cattle is unacceptable. This includes but is not limited to: beating an animal; slamming gates on animals; allowing herd dogs to continue pushing cattle with nowhere to move; dragging or pushing cattle with machinery (unless to protect animal or human safety).

8. Beef Code – Animal Environment (Section 1, P. 7)

Key Requirements:

- Cattle must have access to areas, either natural or man-made, that provide relief from weather that is likely to create a serious risk to their welfare.
- Promptly assist individual cattle showing signs of not coping with adverse weather (see Sections 1.1.1 and 1.1.2 of the Code for lists of signs)
- All beef operations must have access to equipment or facilities for the safe handling, restraint, treatment, segregation, loading, and unloading of cattle.

- Design or manage indoor and outdoor cattle facilities to provide well-drained, comfortable resting areas.
- Provide traction in handling areas to minimize cattle slips and falls.
- All cattle in a group must have sufficient space to adopt normal resting postures at the same time.
- Cattle kept in groups must be able to move freely around the pen and access feed and water.
- Stocking density must be managed such that weight gain and duration of time spent lying is not adversely affected by crowding.
- Maintain indoor air quality and ventilation at all times (ammonia levels < 25ppm).
- Provide cattle housed indoors that do not have access to natural light with supplementary lighting to allow natural behaviour patterns and monitoring of the cattle

9. Beef Code – Transportation (Section 5.1, P. 26)

Key Requirements:

- Unfit cattle must not be transported unless for veterinary diagnosis or treatment under the advice of a veterinarian (refer to Appendix D for a list of conditions).

- Compromised animals may only be transported with special provisions and directly to their final destination (refer to Appendix D for a list of conditions and special provisions).
- Cattle must receive feed and water within five hours prior to loading if transport will exceed 24 hours.
- Cows or heifers that are likely to give birth during the journey must not be transported, unless for veterinary diagnosis or treatment.
- Ensure that any loading and unloading equipment, chutes or conveyances are free of hazards in order to minimize the risk of injury

ADDITIONAL RESOURCE MATERIALS

Verified Beef Production

1. Website for the Verified Beef Program; see - http://www.verifiedbeef.org/about_us.htm
2. Manual for the VBP Program; see - http://www.verifiedbeef.org/downloads/manual/vbp_producer_manual-checklist.pdf
3. Producer Checklist for the 55 Required Procedures; see - http://www.verifiedbeef.org/downloads/manual/checklist.pdf
4. VBP Site where the On-line Training can be accessed; templates and other resource materials; see, http://www.verifiedbeef.org/producer_resources.htm

McDonald's Global Vision for Antimicrobial Stewardship in Food Animals
Comprehensive document – http://www.aboutmcdonalds.com/content/dam/AboutMcDonalds/Sustainability/Antimicrobial_Stewardship_Vision.pdf
Four Guiding Criteria include:

1. Consider alternative strategies (e.g. husbandry, probiotics), before administering antimicrobials.
2. Do not use critically important antimicrobials (WHO definition) not presently approved for veterinary use.
3. Classes of antimicrobials approved for both human and veterinary medicine should
   a. Only be used for treatment or prevention of animal disease in conjunction with a veterinary-developed animal health care program.
   b. Not be used for growth promotion purposes.
4. Do not use medically important antimicrobials (WHO definition) for growth promotion.

Source document – World Organization for Animal Health (OIE) - Terrestrial Animal Health Code - 20/07/2015 (http://www.oie.int/index.php?id=169&L=0&htmfile=chapitre_aw_beef_catthe.htm)

Verification Performance Report

The objective of this pilot was to develop a verification process that was credible, allowed for scalability and would verify outcomes. For many of the indicators there isn't a specific metric or even a measurement tool which allows an operation, much less a verifier, to easily verify the effectiveness of practices or sustainability outcomes. Therefore, we developed a scoring matrix with specific requirements tied to each indicator on a scale from 1 – 5, and identified certain Barriers to Entry for each indicator.

A Barrier to Entry is determined if any negative outcomes were observed as part of the onsite verification process. Barriers to Entry were also tied to prescribed practices specific to a few indicators (e.g., VBP training, having a VCPR, and using BIXS to share information). This scoring matrix allows for an operation to quickly view their score tied to an indicator. For the pilot, "1" was determined to be Entry Level where a producer had an awareness and commitment and there were no observed, intentional, ongoing acts of abuse specific to the indicator. A "3" was Achievement Level and was the minimum requirement for the McDonald's Pilot to be counted in the Chain of Custody calculations. A score of "3" meant that the operation had demonstrated performance toward goals through interviews and/or observation (and relevant records when available). A "5" was the Excellence Level and meant that the operation had processes in place to measure, monitor, verify and report outcomes towards goals specific to the indicator. Independent verifiers scored each of the indicators for each of the onsite verifications.

Subsequent to the onsite verification a second level review was conducted (a process used to calibrate verifiers and ensure consistency in application) and a Verification Report was sent to each participant in the pilot. Below are graphs depicting the aggregate data as of the data cut-off date of May, 3, 2016 for the cow/calf and feedlot segments, and showing both the score range and the average score for each indicator.

This information was broken down even further and each participant was sent a Benchmark Report that offers comparison of their scores against the aggregate. Due to the small packer/processor segment sample size segment, this data was excluded from the aggregate date.

Definition of Mass Balance

About ISEAL:

The International Social and Environmental Accreditation and Labelling (ISEAL) Alliance (ISEAL, www.iseal.org) is a non-governmental organisation whose mission is to strengthen sustainability standards systems for the benefit of people and the environment. Its membership is open to all multi-stakeholder sustainability standards and accreditation bodies that demonstrate their ability to meet the ISEAL Codes of Good Practice and accompanying requirements, and commit to learning and improving.

The four goals of ISEAL Alliance are to:

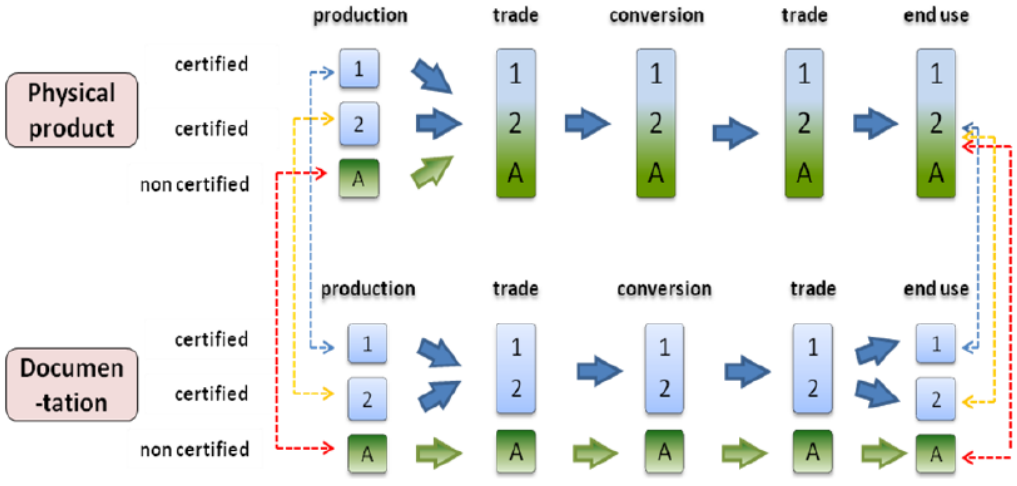
- Improve the impacts of standards
- Define credibility for sustainability standards
- Increase the uptake of credible sustainability standards
- Improve the effectiveness of standards

ISEAL and Chain of Custody Models

The ISEAL Sustainability Claims Good Practice Guide also provides guidance on the type of claims that can be made based on the chain of custody model used. For product related claims, the chain of custody model used has implications for the level of confidence that a product contains certified (or sustainable) material, and therefore affects the type of claim that can be made. The claims cannot overstate the model. In the McDonald's pilot project, we used the ***mass balance*** model for chain of custody. Other examples of models are physical segregation, identity preservation, certificates (book and claim, e.g., Green Palm certificates).

Mass Balance model

The following is a general illustration of the Mass Balance model:



MCDONALD'S SUSTAINABLE BEEF PILOT

Information Sharing Initiative Report | April 7, 2016

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INTRODUCTION

INTRODUCTION

The third criteria for the Food Principle of the Global Roundtable for Sustainable Beef (GRSB) is, "Information[1] should be shared both up and down the value chain to provide opportunities for participants to improve their businesses, while respecting confidentiality."

As part of the Pilot, McDonald's supported an initiative to evaluate the potential usefulness of data sharing with stakeholders in the Canadian beef community. To that end, McDonald's partnered with Beefbooster and BIXS to enlist the help of two professionals[2] from Livestock Gentec. Together, they analyzed the nearly two million records packing plants entered into the Beef Information Exchange System (BIXS) from 2012 to 2014 as part of a federally sponsored project. They then cross-referenced those records with a proprietary set of data linking individual RFIDs from Beefbooster cattle to their sires and dams.

This initiative created the first opportunity for a specific group of producers to analyze a subset of their raw data within BIXS and transform it into meaningful information. The analysis was intended to be a high level examination without multiple scenarios and sensitivities being run. It was not intended to be a comprehensive analysis of potential impacts on individual ranches, feedlots and packers' particular business models and relationships in the market. It is hoped to serve as a catalyst for future information sharing opportunities for any interested members of the Canadian beef community.

The professionals looked at the data two ways:

1. **Macro-analysis** – A high level analysis using a specific set of cattle feeding assumptions (See Appendix on page 18) on all the available records with good quality carcass data and birth dates.

2. **Micro-analysis** – A deeper analysis on a subset of those records where genomic technology was used to identify the specific Beefbooster sires of 813 calves.

[1] Specific information related to sustainability principles and criteria should be determined by the local, national and regional roundtables as they establish their indicators.

[2] Michael MacNeil, MS, PhD. and John Basarab, PhD.

KEY TAKEAWAYS

KEY TAKEAWAYS

Macro-analysis (industry)

1. **Missing birth dates in CCIA records resulted in culling 87% of the records:** Significant need for more cow-calf ranches to be in BIXS and upload accurate calf birth dates

2. **Data must be transformed to create value:** Data needs to be transformed into usable information, then into shared knowledge to make informed decisions and create value.

3. **Cattle harvested before 19 months of age had the best profit opportunity under the market conditions and assumptions used in this initiative**: ~41% of Canadian cattle in the database were harvested before 20 months of age.

4. **Reduced Carbon Footprint:** Cattle harvested at 18 months instead of 24 months demonstrated the potential to reduce GHG intensity of beef production by 1.2 tonnes CO2e /youthful animal harvested.

Micro-analysis (Beefbooster)

5. **$219 higher carcass value for the average TX (terminal cross) line Beefbooster calf compared to the industry average**

6. **Opportunity to select bulls for carcass value:** There is an opportunity to improve carcass value by selecting yearling bulls using a multi-trait carcass value index.

Data Sources: Only three data sources were used for this initiative

1. **Carcass data from packers** – Nearly two million records with RFIDs and carcass data from packing plants sent to BIXS during 2012 to 2014 as part of a federally sponsored project.

2. **Birth dates from ranchers** – Several hundred thousand births with RFIDs entered into BIXS by cow-calf ranchers.

3. **Beefbooster data set** – Sire and source identified harvest data (N=813) subset of BIXS data set.

NO DATA was sourced from any feedlots participating in BIXS.

Caution: This was a high-level analysis. It was NOT intended to be a comprehensive analysis, nor an analysis of potential impacts on individual ranches, feedlots and packers' particular business models and relationships in the market.

RESULTS

RESULTS

Macro-analysis of carcass data in BIXS

1,909,787 records were submitted to BIXS by packers as part of a federally funded project from January, 1, 2012 to April 30, 2014. BIXS cross-referenced these carcass records with several hundred thousand records from BIXS cow-calf ranchers entered into BIXS by cow-calf ranchers. NO DATA was sourced from any feedlots participating in BIXS for the purpose of this trial. Livestock Gentec's analysis excluded:

- 87% of the records for lack of date of birth because the producers associated with these records were not BIXS members so associated birth dates were not available.

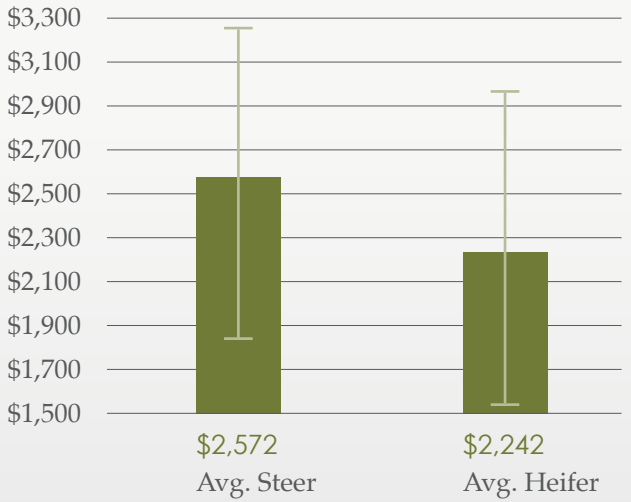
- 6% of the records for unreasonable outliers in the following fields: over-age, ribeye area, sub-cutaneous back fat, marbling or records were missing: sex, harvest date, hot carcass weight, longissimus muscle area, fat depth, marbling score, quality grade or yield grade.

Bear Trap Feeders | Nanton, AB

RESULTS

Macro-Analysis Area 1

Benchmarking Canadian Beef Industry Carcass Value



Methodology

Investigators used the Cargill, High River grid to calculate individual carcass values for each of the animals within the population of (n = 1,834,267) and then analyzed the distribution of the carcass value within the population (Standard deviation $233.50). About 50% of the carcasses had back fat measurement of greater than 0.5 inch.

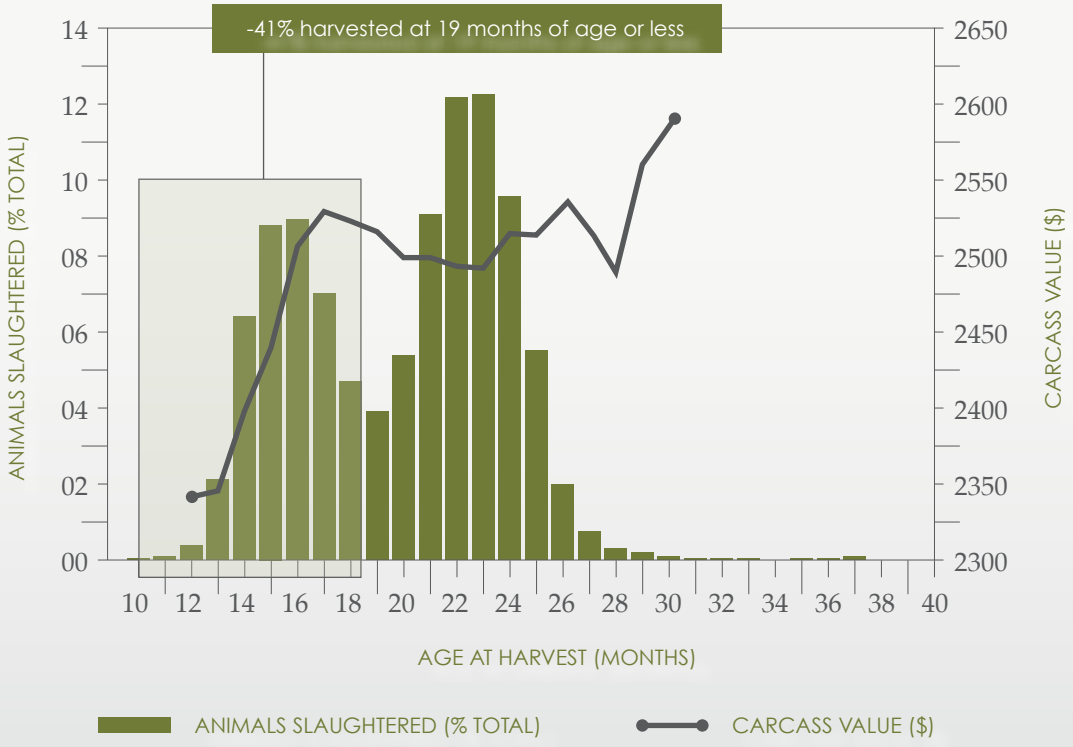
Carcass discount information:

- 40% discounted for quality grade
- 13% discounted for yield grade
- 1.6% discounted for carcass weight

RESULTS

Macro-Analysis Area 2

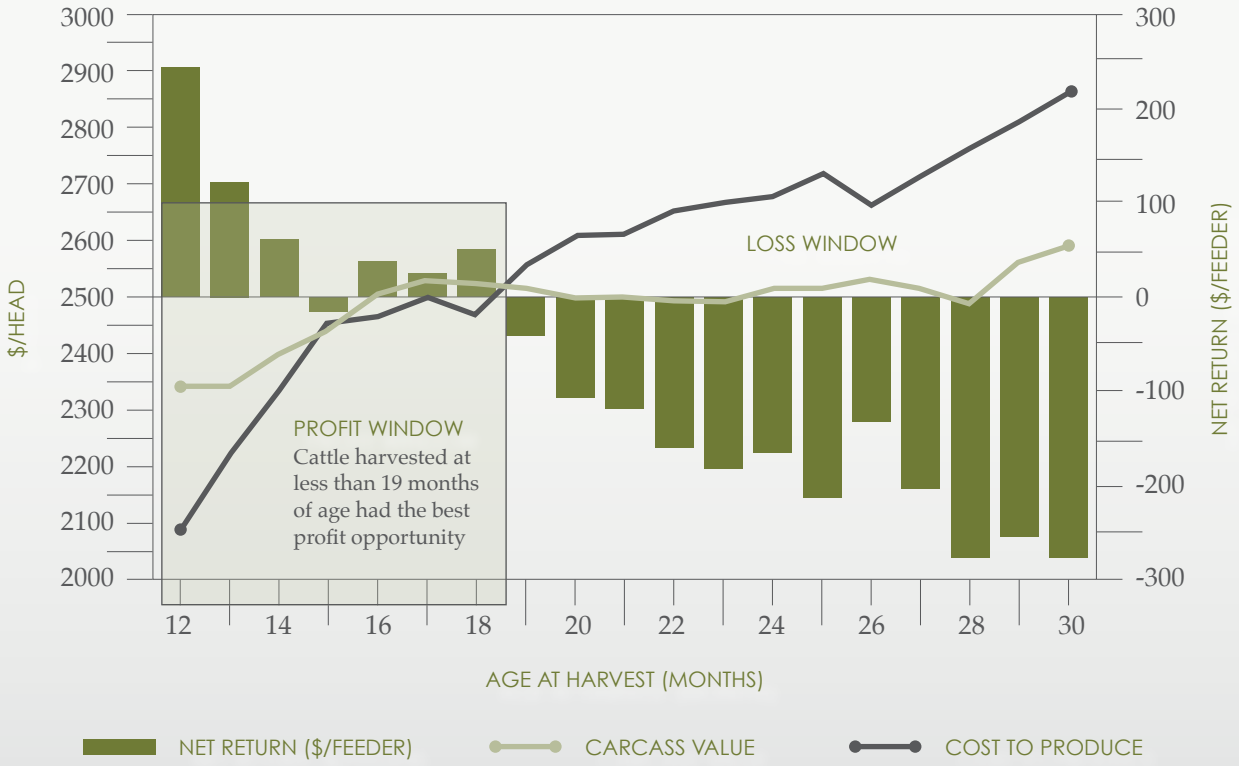
Distribution of age, carcass weight and value at harvest (n=126,870)



RESULTS

Macro-Analysis Area 3

Cost to Produce, Carcass Value and Net Return Estimate

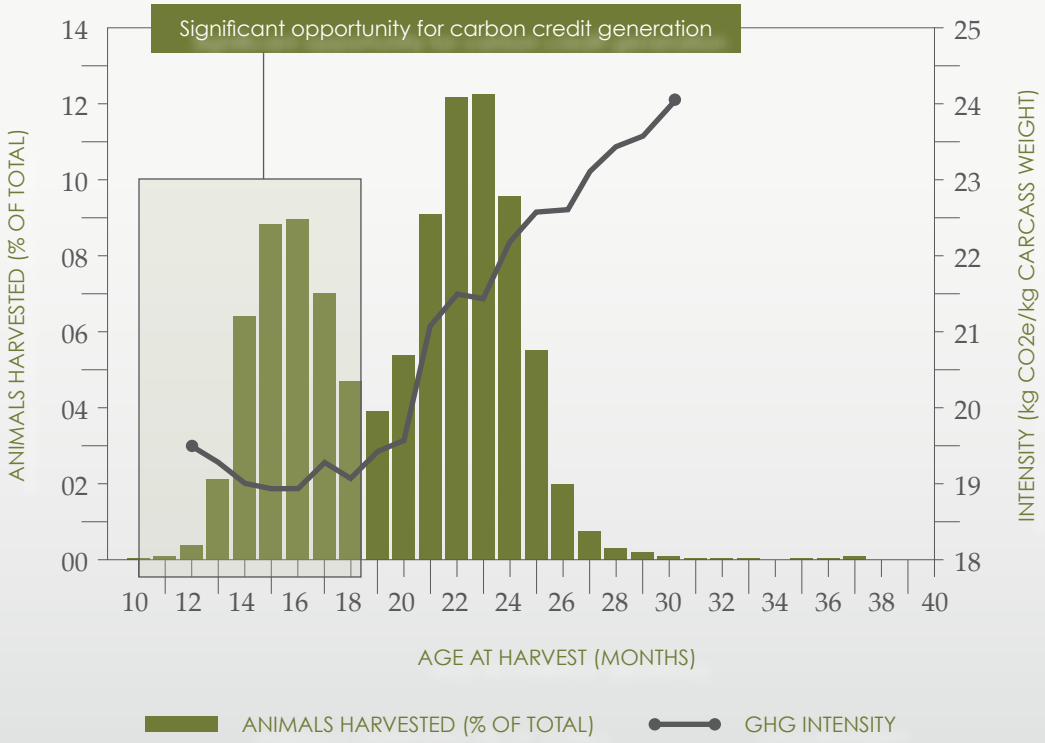


RESULTS

Macro-Analysis Area 4

Greenhouse Gas Emissions Intensity and Age at Harvest

Reducing age at harvest from 24 to 18 months of age reduces GHG intensity by 1.2 tonnes CO2e/head (Assume 850 lb. carcass)



RESULTS

Micro-economic analysis of Beefbooster data set

Livestock Gentec analyzed a subset of Canadian Cattle Identification Agency (CCIA) and BIXS records linked to 813 calves where genomic technology was used to identify their specific Beefbooster sire and dam lines.

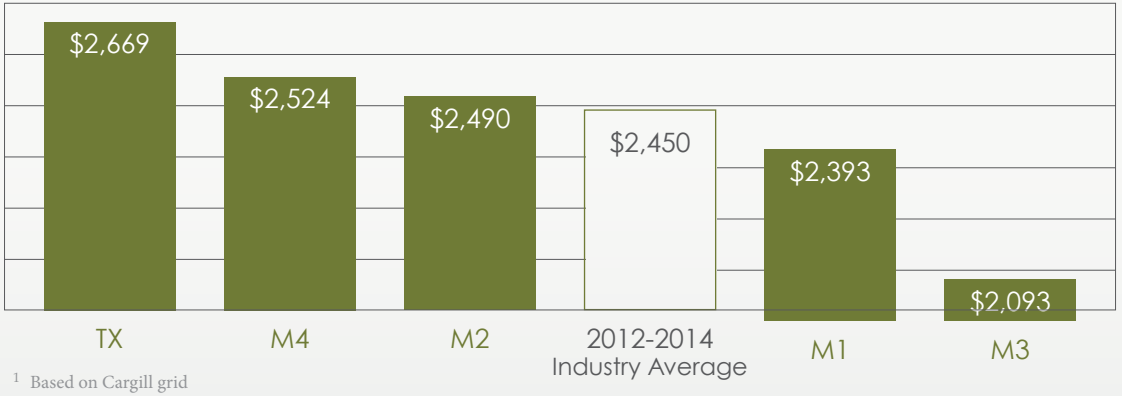
M4 Cow-calfs pairs | Beefbooster

RESULTS

Micro-Analysis Area 1

Beefbooster Line Carcass Value Calculation

Livestock Gentec determined the individual carcass value for each individual animal determined by weight, quality and yield grades through the Cargill, High River, Alberta grid. These results are portrayed in the following two charts:



[1] Based on Cargill grid
[2] 63% steers and 37% heifers - source CanFax Research Services

Carcass Value Variance Within Beefbooster Lines

	TX	M4	M2	2012-2014 Industry Average	M1	M3
Highest Value	$255	$108	$121	0	$(7)	$(322)
Average Value	$219	$74	$40		$(57)	$(357)
Lowest Value	$183	$40	$(41)		$(107)	$(392)

RESULTS

Micro-Analysis Area 2

Carcass Value Expected Progeny Difference (EPD) by Sire Line

Livestock Gentec then performed mixed model analysis considering harvest date, sex, strain, sire within strain to determine Carcass Value EPDs for each sire within each line.

SIRE LINE	M1 (N=28)	M2 (N=5)	M3 (N=29)	M4 (N=48)	TX (N=15)
Highest EPD	+$61	+$33	($19)	+$95	+$169
Lowest EPD	-$87	-$9	-$186	-$22	+$4

Based on these results, there is an opportunity to improve carcass value by selecting yearling bulls using a multi-trait carcass value index.

TX Bull | Beefbooster

CONCLUSION

CONCLUSION

1. Collaboration, information sharing and analysis of data have the potential to create significant value for the Canadian beef community.

2. There is a significant need for more cow-calf ranches to participate in BIXS and upload their calf birth dates.

Antelope Butte Ranch | Lundbreck, AB

APPENDIX

APPENDIX

Cost Assumptions

1. $Cost_a$ (feeder*) = multiply steer live weight (500-600 lb) by buying price ($3.00/lb) plus $11.50/hd for marketing and transportation [$0.15/lb slide when >500 lb]
2. $Cost_i$ (induction) = 3% of feeder cost based on CanFax Trends for 2015) processing, vaccination, medicines and veterinary services
3. $Cost_f$ (feed) = $1.00/day for backgrounding diets, $0.83/day for pasture ($25/animal unit month) and $2.26/day for finishing diets
4. $Cost_y$ (yardage) = multiplying days on feed (DOF) by $0.45/head/day
5. $Cost_{int}$ (interest) = The sum of the feeder value and half the total feed costs multiplied by the proportion of the year in drylot and pasture (DOF/365) and by 0.03 (3% interest
6. $Cost_d$ (death loss) = 1.5% of feeder costs
7. $Cost_m$ (marketing costs) = $5/hd
8. $Cost_g$ (growth promotants) = $1.05 per implant with 200 mg progesterone and 20 mg estradiol benzoate and $4.50 per implant with 120 mg trenbolone acetate and 24 mg estradiol

Greenhouse Gas Reference Sources

1. On-farm emissions of CH4 from enteric fermentation and manure
2. On-farm emissions of N2O from manure,
3. Off-farm emissions of N2O from N leaching, run-off and volatilization
4. On-farm emissions of N2O from cropping due to soils, fertilizer, roots and residue (11.2% in calf-fed systems; 11.4% in yearling-fed systems)
5. CO2 emissions from energy use (9.0% in calf-fed systems; 9.5% in yearling fed systems
   - GHG emissions for cowherd were taken from Basarab et al., animals, 2012
   - Conversion of CH4 to CO2e = x 25
   - Conversion of N20 to CO2e = x 298

*Feeder cost does not include costs associated with cow purchase and maintenance

RECOGNITION

Lead

Beefbooster

Support

BIXS and McDonald's

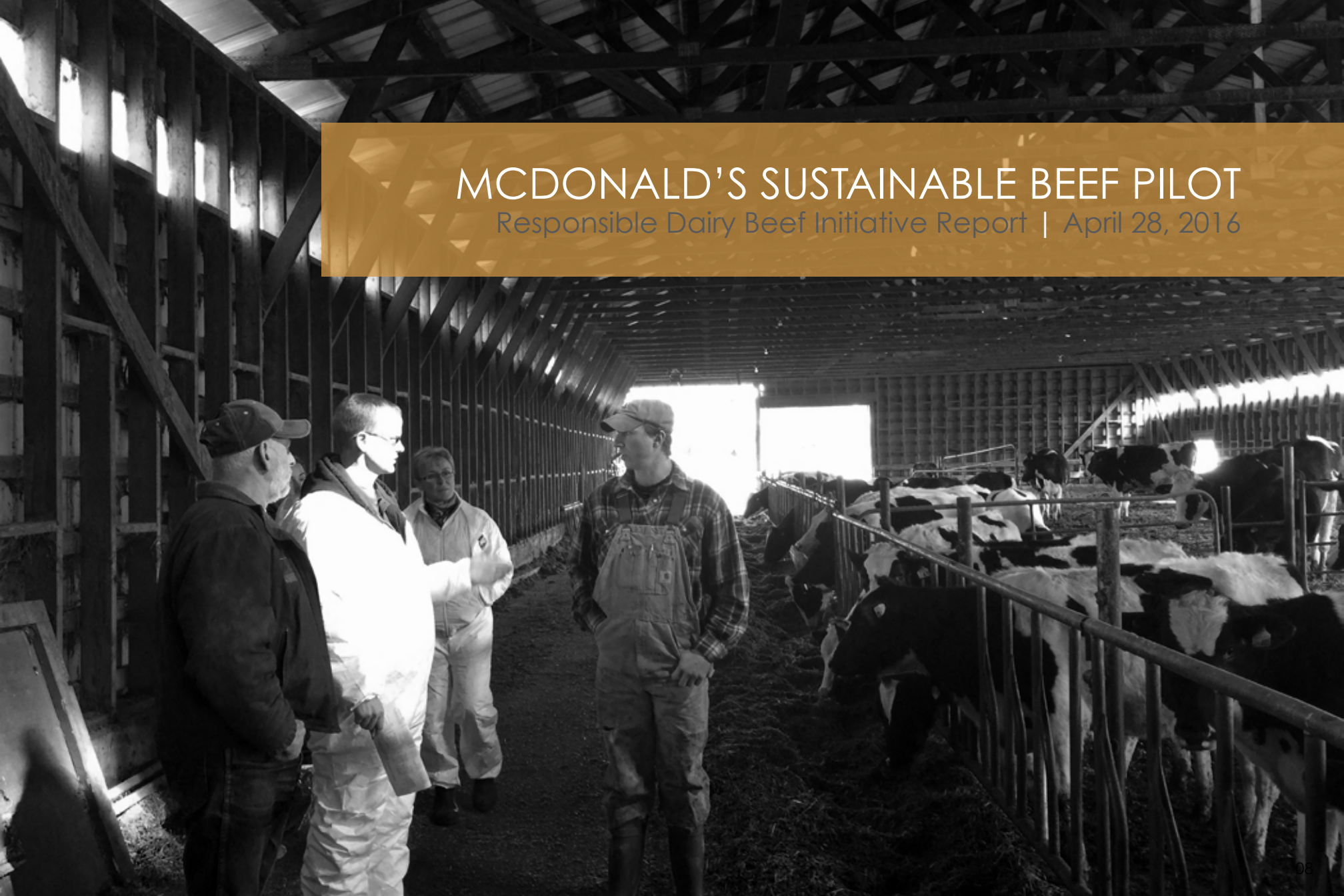
Funding

McDonald's and Alberta Livestock Meat Agency

Analysts

Michael MacNeil, MS, PhD.
Livestock Gentec,
Miles City, MT, USA

John Basarab, PhD.
Livestock Gentec
Lacombe, AB, Canada



MCDONALD'S SUSTAINABLE BEEF PILOT

Responsible Dairy Beef Initiative Report | April 28, 2016

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INTRODUCTION

INTRODUCTION

Historically, dairy cows make up 12% of the Canadian beef supply that contributes more than $500 million/year to Canadian dairy producers.

In July, 2013, Dairy Farmers of Canada's (DFC) delegates formally endorsed the proAction™ Initiative as a coordinated national framework that develops, tests, integrates and executes the following six on-farm customer assurance programs:

1. Milk Quality
2. Food Safety (Canadian Quality Milk)
3. Animal Care
4. Livestock Traceability
5. Biosecurity
6. Environment

To date, the Milk Quality and Food Safety programs have been developed and implemented. The other four are in various phases of development and testing. Final deployment of the comprehensive proAction program is slated for 2019.

As part of the McDonald's Sustainable Beef Pilot, we supported an initiative to measure, monitor and verify the alignment of the proAction system with the McDonald's Sustainable Beef Pilot Indicators. The long term goal is for the DFC proAction program to be aligned with the needs of Canadian Roundtable for Sustainable Beef (CRSB) members as both programs mature.

PURPOSE

PURPOSE

The basis of the initiative was two-fold:

1. Perform two on-site verifications of Canadian dairies to test a set of Responsible Dairy Beef Indicators adapted from the pilot's Fed Cattle/Extensive Indicators. This effort would take into account the robust DFC programs in place but verify their performance through interviews, observations and record review by a professional, independent verifier from Where Food Comes From, Inc.

2. Use BIXS to track the chain of custody from mature cattle sold by the two cooperating dairies from January 1, 2014 through May 1, 2016.

Heini Dairy Farm | Rimby, AB

ON-SITE VERIFICATIONS

ON-SITE VERIFICATIONS

Team

The following team members set out to test the Responsible Dairy Indicators on March 31:

- **Guy Seguin**, Dairy Farmers of Canada
- **Jodi Flaig**, Alberta Milk Producers
- **Matt Jones**, Where Food Comes From, Inc.
- **Deb Wilson**, BIXS
- **Matt Sutton-Vermeulen**, Prasino

Dairies

We performed on-site verifications at the following two dairies in Central Alberta:

- **Gert Schrijver**, Marsfield Dairy in Stettler
- **Heini and Markus Hehli**, in Rimby

Heini Dairy Farm | Rimby, AB

DISCOVERIES

DISCOVERIES

The team set out to discover answers to the following questions:

1. **Are the indicators relevant?**
   Yes, the indicators are relevant to the entire dairy operation and not just the cull cows.

2. **Do any of the indicators need to be adapted?**
   We should make a few minor adaptations so the terminology is more specific to dairy.

3. **Is anything missing?**
   No. There don't appear to be any significant gaps.

4. **How did the two farms perform against the 29 Responsible Dairy Beef indicators in actual on-site verifications?**
   The two farms performed well against the indicators. The verification process enabled both operations to showcase their strengths and identified potential areas for improvements in both operations.

5. **How did the Pilot verification process align with proAction validation process?**
   The Pilot verification process itself aligned very well with the proAction system and validation process as it exists today with the Canadian Quality Milk and Animal Care modules. It enabled the professional verifier to trust, but verify the previous validations carried out on the dairies and was sensitive enough to identify opportunities for the producers to improve related to these two modules and other future modules. The only apparent gaps appear to be:

   a) **Social** – Currently, there are not any elements within the proAction system that will align with the indicators under Community and People. But, Dairy Farmers of Canada plans to introduce a program called Dairy Farm Plus in 2016 that will align well with these indicators and provide a tool to calculate the GHG and water footprint of the dairy farm.

   b) **Greenhouse gas emissions** – The Dairy Farm Plus program also plans to provide a tool for dairy farmers to calculate the GHG footprint of their dairy farm.

   c) **Biosecurity** – The current set of indicators does not have any indicators related to biosecurity.

DISCOVERIES

The team set out to discover answers to the following questions:

6. **What information do the dairy farmers receive from packing plants?**
   These two dairies and most Canadian dairy farmers either sell their cull cows to their local auction market or a local locker and only receive back the live weight of their cows. In an ideal world, the dairy farmer would like to receive the following from the packing plant:

   a) Live weight

   b) Carcass weight

   c) Meat yield

   d) A premium for being verified as a sustainable operation

7. **What else did we learn about the processing of cull cows?**

   a) The producers are paying attention to the health and wellness of cull cows before shipping them with excellent records

   b) When they sell to an auction market, the producers have no control nor knowledge of where the cow goes, how she is handled, nor how long it is before she is slaughtered at a packing plant.

   c) All Canadian abattoirs are required by law to send the Canadian Cattle Identification Agency (CCIA) a list of tags they retire from cattle harvested at their plants each day. These tag numbers, their kill date and plant are available to BIXS if each plant agrees to share it with them.

   d) Currently, BIXS does not receive any of this information.

8. **Will the BIXS system be able to align with the NEAS system to track chain of custody specific to this pilot?**

   a) The current plan is for a manual transfer of data to occur from CCIA to BIXS regarding cull cows from these two dairies that were harvested after January 1, 2014. This will require coordination with NEAS.

KEY TAKEAWAYS

KEY TAKEAWAYS

Key takeaways from the on-site verifications and discussions with the two farmers:

1. **Complementary alignment** – The pilot indicators and 3rd party verification process is aligned with the existing 2nd party proAction validation program and can be adapted to support the future modules. The existing Pilot indicators and future proAction metrics appear to be very complementary.

2. **Constraints and barriers** – Further work is necessary to address the following constraints and barriers:

    a) **Cost and frequency** – Currently, an on-farm proAction validation happens every 2nd year paid by the farmers. How much will a verification cost, who will pay for it and how frequent will they need to be conducted?

    b) **Value proposition** – What is the value proposition to the dairy farmer?

    c) **Part of proAction or separate from it** – Dairy farmers and the dairy associations would prefer for the verification to be integrated into their 2nd party proAction validation process

    d) **Need for coordination** – There is a need for significant improvement in coordination, information flow and meaningful collaboration between Canadian Cattlemen's Association and Dairy Farmers of Canada regarding the issues involving cull dairy cows as a source of sustainable beef

RECOMMENDATIONS

RECOMMENDATIONS TO CRSB

If the initiative moves forward:

1. **Shadow validators** – If the initiative moves forward we recommend that verifiers shadow proAction validators to gain insights and collaborate

2. **Guide** – Development of a pre-verification guide for the producers – One pager

3. **Pre-verification** – Have a field person from the association review the pre-verification guide with the producer so they know what the expectations are and the documentation needed

4. **Professional support** – Provincial dairy associations can help develop and adapt existing support systems and tools for continuous professional producer development

5. **Address the constraints and barriers** – CRSB, with McDonald's Canada as a member, will develop a business model to address the constraints and barriers noted above

MCDONALD'S SUSTAINABLE BEEF PILOT

Youth Beef Club Initiative | May 12, 2016

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INTRODUCTION & PURPOSE

INTRODUCTION & PURPOSE

Stephen Hughes, 4-H Club leader at the Longview 4-H Beef Club and his fellow leaders, Ryan Cartwright and Alex Robertson, volunteered to provide a learning opportunity for their club and the families in their community, and Alex Robertson volunteered to involve their beef club in a Pilot workshop. This led to a brainstorming session with other fellow leaders in the Canadian youth beef club community and the creation of a program that created the following opportunities for youth beef clubs across Canada:

1. **Workshop** – Clubs hosted Pilot workshops to share the past, present and future of sustainable beef in Canada from McDonald's point of view. During the workshops, the youth were brought front and center and directly involved in the discussions. They offered their opinions and insights into what sustainable beef means to them and their families.

2. **Verifications** – We encouraged the youth and their families to become directly involved in third party verifications of their operations and the follow up opportunities for continuous improvements.

3. **Video contest** – We provided an opportunity for each club that hosted a workshop to participate in a video contest to showcase:
   a) Why sustainable beef is important to their families?

   b) How will they make beef more sustainable in the future?

Stephen Hughes and Longview 4-H Beef Club

WORKSHOPS & VIDEO SUBMISSIONS

WORKSHOPS & VIDEO SUBMISSIONS

The following clubs participated in workshops across Canada, had family members participate in third party verifications of their ranches and submitted videos in the contest:

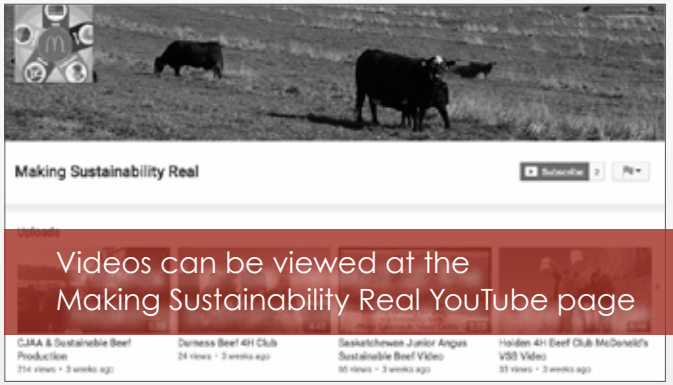
1. Canadian Junior Angus Association

2. Durness 4-H Beef Club

3. Holden 4-H Beef Club

4. Longview 4H Beef Club

5. Saskatchewan Junior Angus Association



https://www.youtube.com/channel/UCVP4ExYF4JaF_b_pIbnfZEw

CONTEST JUDGING & RESULTS

CONTEST JUDGING & RESULTS

Jeffrey Fitzpatrick-Stilwell chaired the following panel of volunteer judges:

- Emily Murray, Cargill Beef
- Annemarie Pedersen, Annemarie Pedersen Communications
- Ben Wilson, BenJo Productions
- Deb Wilson, Beef Information Exchange System (BIXSCo)

The judges privately and independently scored each video based on the following criteria:

1. **Why** – The ability to demonstrate why sustainable beef is important to the club members.

2. **Continuous Improvement** – The ability to bring continuous improvement in sustainable beef to life.

3. **Connectivity** – The ability to connect the Canadian beef community with consumers.

Charity steer, raised and sold by Longview 4-H Beef Club, raises $36,000 for local hospital.

CONTEST WINNERS

CONTEST WINNERS

The videos were judged and ranked in a similar way to the scoring for the on-farm verification. The following awards were given:

1. **Excellence – First Place:**
   Canadian Junior Angus Association, $5,000 award

2. **Achievement – Second Place:**
   Longview 4H Beef Club, $2,500 award

3. **Entry – Third, Fourth and Fifth Place:**
   - Durness 4-H Beef Club, $750 award
   - Holden 4-H Beef Club, $750 award
   - Saskatchewan Junior Angus Association, $750 award

Longview 4-H Beef Club

KEY TAKEAWAYS

KEY TAKEAWAYS

1. **Lead and Learn** – When it comes to continuous improvements in sustainable beef, the next generation is fired up, ready to participate and willing to lead and learn.

2. **Beef Community** – Everyone in the Canadian beef community benefits by working together, listening to and respecting each other's opinions. We are all in this together.

3. **Progress over Perfection** – We learned that it is better to work together and make measurable progress instead of requiring everything to be perfect before we try to execute a project like this.

Taryn and Morgan Robertson with their heifers

RECOMMENDATIONS TO CRSB

RECOMMENDATIONS TO CRSB

1. **Lead and Learn**
   a) Develop and implement creative ways for the next generation of Canadians to lead and learn within the CRSB programs. Learn to do by doing.
   b) Your mission is not to make everyone happy. An initiative like this will be challenged from start to finish by stakeholders who want it to fit their biased view of the world. It is important to ask their opinions, listen and learn from their advice, but you must empower your people to make independent decisions that are in the best interest of the CRSB and not necessarily every single member.

2. **Beef Community** – Engage all aspects of the Canadian Beef Community in CRSB leadership, programs and decision-making. This includes: Ranchers, Backgrounders, Feedlots, Processors, Suppliers, Government, Non-governmental organizations and any other stakeholders who want to advance continuous improvements in the sustainability of Canadian beef production.

3. **Progress over Perfection** – Set clear expectations for participation, but be flexible in their interpretation to enable for people to engage at a level that works for them.

Initiative stats:

- Youth club participation in six educational Pilot workshops
- Five videos submitted
- 6% of Pilot participants represented by club member families
- $9,750 awarded to support ongoing club efforts

On-line Self-Assessment Initiative Report

Introduction

The McDonald's Sustainable Beef Pilot end date (April 1, 2016) and maximum spend allocated to verifications were pre-determined as part of the Pilot Project. However, the industry workshops hosted during the first quarter of 2016 drove tremendous interest in participation in the Pilot. We leveraged this additional participant pool and asked Where Food Comes From, Inc. (WFCF) to develop and test an on-line self-assessment that mirrored the on-site verification process. The online tool was made available until April 15, 2016.

Purpose

- Engage additional participants.
- Test and measure the benefits and risks of conducting self-assessments to evaluate a producer's ability to demonstrate adherence to sustainable indicators.
- Help inform the CRSB how self-assessments and desktop audits might complement on-site verifications during a multi-year verification cycle.

Structure

The online self-assessment displayed all of the indicators that were assessed as part of the onsite verifications and allowed for feedback directly from the producer. WFCF then used the same third party review process that was used to evaluate the onsite verification checklists, and a score was given for each indicator based on the same scoring matrix used for the onsite verifications. This was not a desk verification, meaning no documents or records were asked to be submitted as part of the process.

Twenty participants completed the online self-assessments as of April 15, 2016. Most of these participants had not engaged in an on-site verification as well; therefore, we could not assess the variance of the self-assessment scores versus the onsite verification scores due to the small sample size.

Participant Feedback

The following are a few comments from one of the participants that engaged in an on-site verification and then subsequently took the on-line self-assessment.

"I was filling out the first couple of questions and I was thinking to myself how much easier I found it to answer the questions in person with the verifier onsite, as I felt I could explain things and get my point across in a discussion format far more easily than trying to type it out in a limited space. For example, I worried that I was really properly discussing everything about our water and riparian management in a few sentences when that is such a huge focus for us."

"When it came to checking the boxes I guess it would be easy to defer to something like an EFP if you have one so that can be just that simple. But outside of that I found myself trying to decide what fit by maybe picking out a part of a sentence like having pictures and figuring that applied to me."

"I also express concern about the potential lack of credibility when a true third-party verifier is not

present, and in a results or outcomes based program I think that necessity remains to have a verifier present to observe said results or outcomes."

"If we are going to do this I would rather do it with maximum credibility and for myself personally I enjoyed the [in-person] verification process much more than the on-line one, and I felt I was able to be much more certain that the desired outcomes were properly understood [through the on-site dialogue]. I'm not sure that cost should be the deciding factor for going the on-line route, for me personally."

Takeaways

Benefits

- This is an additional method to engage participants in learning more about sustainability indicators – it serves as a great educational component. The tool enables producers to think about:
  - The plans, policies, documents and records that they will need to assemble as part of an on-site verification.
  - What they do to support a certain indicator, what they need to show the verifier and how they need to answer verifiers' questions.
- Self-assessments are less expensive than on-site verifications.

Risks

- The self-assessment is less personal and less engaging for the producer when compared to working with a verifier on-site.
- Due to the scope of the sustainability indicators, it takes a significant amount of time to complete an online self-assessment and it is difficult to make sure everything is captured for review.
- It is difficult to determine the accuracy of a self-assessment, and the verification is less credible compared to an on-site third-party verification.
- If documents or records are not submitted to be desk audited as part of the submission, it further inhibits the ability of the verifiers to determine accuracy / credibility.

Conclusion

1st party verifications or self-assessments can be a valuable part of a total quality assurance framework, especially as a supplement to onsite third-party verifications. However, a self-assessment alone would not be a credible method of verifying sustainable outcomes.